**University of Liverpool**

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# Teams and Teamworking: Understanding quality improvement teams in Community Health Services in Kenya - a qualitative study

**Thesis is submitted in accordance with the requirements of the University of Liverpool for the degree of Doctor of Philosophy**

by

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# Abstract

## Teams and Teamworking: Understanding quality improvement teams in Community Health Services in Kenya – a qualitative study

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**Background:** Community health is widely regarded as critical to healthcare. In recent years, countries aspiring to universal health coverage (UHC), including Kenya, have championed community health for its potential to expand access to healthcare. While there is evidence that community health workers are effective and can increase coverage of services, particularly for maternal and child health, questions remain around the quality of community health services. Quality improvement (QI) is a problem-solving approach in which teams of stakeholders use routine data to identify context-specific problems and implement local strategies to address them. Despite growing research on QI for community health in sub-Saharan Africa, the QI team itself and teamworking in complex community health systems have been overlooked. Team theory points to careful consideration of structural, compositional and contextual issues and mediating mechanisms. This study explores the QI team and teamworking to ascertain how to support better QI team practice in the devolved Kenyan health system and advance applicable theoretical models pertaining to QI teams.

**Methods:** Data were collected between October 2017 and August 2018 from 11 QI teams (40 women, 28 men) and 27 key informants (13 women, 14 men) from two Kenyan counties implementing QI for community health (Migori and Nairobi). Focus group discussions and individual interviews were held including: community and sub-county QI teams, the Ministry of Health, NGOs, the UN and QI project staff. A theory-driven qualitative analysis, using team theory, was employed.

**Findings:** Emerging themes highlighted the importance of establishing and supporting QI teams. Good practice in team establishment included attention to team composition; clear terms of reference on the roles and responsibilities in relation to QI; training; and data quality and use. Teamworking was enhanced by attention to staff engagement and relationships, accountability and collaborative leadership. Barriers to QI teams and teamworking at local and national levels included power dynamics and hierarchy. Context, specifically devolution; the 'place' of community health in the devolved Kenyan health system; and donor support mediated teamworking. Team theories developed elsewhere are directly relevant to community health in Kenya, with the addition of volunteerism; and addressing the particular context of operating across formal and largely volunteer community health services. Socially patterned ways of working (e.g. particular power dynamics, traditional roles and expectations around decision-making and financing) influenced engagement and performance of QI teams.

**Conclusions:** Community health provision is a key component of healthcare delivery in many settings, so effective QI teams have a huge potential impact. Team theory can aid our understanding of these teams in the Kenyan community context. By exposing the dynamic relationship between QI teams and local and national contexts, this research addresses research gaps around how QI teams function for community health and supports improved design and implementation strategies. Support should focus on the QI team itself, and teamworking alongside QI tasks and the context and organisation in which the team is situated. In particular, support needs to address the 'place' of community health in the Kenyan context – a context where tangible curative services typically take precedence over less tangible, largely preventative community services. Strategies need to be long term for teams and tasks to be delivered. If successful, QI teams can be pivoted to support various functions and provide a framework for expanding access to services and improving UHC.

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# Research Thesis: Declaration of Authorship

I, Lynne Elliott, declare that the work in this thesis is my own. At no previous time was this work submitted for a degree or qualification.

Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Lynne Elliott

# Dedication

For Bridie and Daniel

# Acknowledgements

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Finally, I am immensely grateful to the participants of this study. Their candour and generosity of spirit made this thesis what it is.

# Definitions and Abbreviations

AMREF..... An international health and development NGO based in Africa (granted ethical approval for this study in Kenya)

ANC ..... Antenatal Care

CAS ..... Complex Adaptive Systems

CBOs..... Community Based Organisations

CEC ..... County Executive Committee

CFGD ..... Community Focus Group Discussion

CH..... Community Health

CHC..... Community Health Committee

CHDU..... Community Health and Development Unit

CHEW ..... Community Health Extension Worker

CHMT ..... Community Health Management Team

CHU ..... Community Health Unit

CHV ..... Community Health Volunteer

CHW ..... Community Health Worker

DHS ..... Demographic Health Survey

FGD ..... Focus Group Discussion

GIZ..... German Agency for International Cooperation

Gov..... Government

HIV/ AIDS ..... Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome

HP..... Health Promotion

HRIO ..... Health Records Information Officer

KEPH..... Kenya Essential Package for Health

KHSSP ..... Kenya Health Sector Strategic Plan

KII ..... Key Informant Interview

KQM ..... Kenya Quality Model

KQMH..... Kenya Quality Model for Health

LE..... Learning Event

LMIC..... Low- and Middle- Income Country

LSTM ..... Liverpool School of Tropical Medicine (lead implementing partner for SQALE)

LVCT Health..... A Kenyan non-governmental and not-for-profit organisation (lead local implementing partner for SQALE in Kenya)

MCA ..... Member of County Assembly

MDG..... Millennium Development Goal

MNCH..... Maternal, Newborn and Child Health

MoH ..... Ministry of Health

M-PESA ..... A money transfer service that enables registered customers to send receive money via their mobile telephone

NaCOSTI ..... National Council for Science and Technology (approved research permit for study in Kenya)

NGO..... Non-Governmental Organisation

NHIF ..... National Hospital Insurance Fund

PHC..... Primary Health Care

PNC ..... Postnatal Care

PDSA..... Plan-Do-Study-Act

QI..... Quality Improvement

QICs..... Quality Improvement Collaboratives

SC ..... Sub-county

SCFGD ..... Sub-county Focus Group Discussion

SDG ..... Sustainable Development Goal

SSA ..... Sub-Saharan Africa

SSI..... Semi-Structured Interview

SQALE ..... Sustaining Quality Approaches for Locally Embedded Community Health Services

TBAs ..... Traditional Birth Attendants

ToR ..... Terms of Reference

UHC ..... Universal Health Coverage

UN ..... The United Nations

URC ..... University Research Co. A US-based public health organisation experienced in implementing USAID QI projects (local SQALE implementing partner in Kenya)

USAID ..... United States Agency for International Development (financed SQALE project)

WASH ..... Water, Sanitation and Hygiene

WHO..... World Health Organization

# Chapter 1 Introduction and Thesis Overview

## 1.1 Introduction

This thesis concerns quality improvement (QI) in the context of community health in Kenya. The study was nested within an intervention aimed at contributing to the reduction of mother and child deaths by improving the quality of community health services using team approaches in Kenya. The name of this intervention is 'Sustaining quality approaches for locally embedded community health services' (SQALE).

Chapter 1 begins with an introduction to community health and explores how the quality of community health is overlooked. Section 1.1.1 sets the scene: while there is increasing global, high-level policy attention paid to health service quality, the quality of community services has largely been ignored. Section 1.1.2 describes the Kenyan community health context and Kenyan community health strategy and the context of its devolution are described. Section 1.1.3 introduces QI and the QI terms used in the thesis. Section 1.1.4 describes the SQALE intervention and the teams studied in this thesis. Section 1.2 clearly summarises the research gap, providing the justification for this study. Section 1.3 illustrates the thesis timeline in the context of key events for community health in Kenya. Section 1.4 presents the thesis aim and objectives. Finally, in Section 1.5, an outline of the thesis structure is presented.

Six key terms come up frequently in this thesis; they are summarised in **Box 1-1**

**Box 1-1: Key definitions**

**Community health services** are delivered in the community to encourage the involvement and empowerment of communities to change health-related beliefs and behaviours, and improve access and uptake of preventative and curative health services (Haines *et al.*, 2007). They typically involve community health workers – both paid staff and volunteers.

**Community health worker (CHW)**

*"[A]ny health worker carrying out functions related to health care delivery; trained in some way in the context of the intervention, and having no formal professional or paraprofessional certificate or degree in tertiary education"* (Lewin *et al.*, 2010, p. 7).

**Typology of community health workers in Kenya**

In Kenya there are two tiers of CHWs: volunteers and salaried government employees. These CHWs are known as community health volunteers (CHVs) and Community Health Extension

Workers (CHEWs), respectively (Republic of Kenya MoH, 2014). CHEWs play a supervisory role for CHVs. The main responsibilities of both cadres are preventative and promotive health, with a focus on maternal and child health outcomes.

**Quality improvement**

QI is a problem-solving approach in which stakeholders are engaged in a *"cyclical process of measuring a performance gap; understanding the causes of the gap; testing, planning and implementing interventions to close the gap; studying the effects of the interventions; and planning additional corrective actions in response"* (Tawfik *et al.*, 2010, p. 2).

**Team**

*"a) Two or more individuals who; b) socially interact face-to-face or virtually; c) possess one or more common goals; d) are brought together to perform organisationally relevant tasks; e) exhibit interdependencies with respect to workflow, goals and outcomes; f) have different roles and responsibilities; and g) are together embedded in an encompassing organisational system, with boundaries and linkages to the broader system context and task environment"* (Kozlowski and Ilgen, 2006, p. 79).

**Teamwork**

*"The ability of team members to work together, communicate effectively, anticipate and meet each other's demands, and inspire confidence, resulting in a coordinated collective action" (Salas and Cannon-Bowers, 2001, p. 15489).*

### 1.1.1 Community health and how the quality of community health services are overlooked globally

CHWs are widely regarded as critical to healthcare, with programmes proliferating worldwide in the 1970s (WHO, 1978). Since then their popularity and use has varied, often motivated by global agendas and financing (Bhutta *et al.*, 2011; Tulenko *et al.*, 2013; Perry, Zulliger and Rogers, 2014; Schneider, Okello and Lehmann, 2016; Rifkin, 2018; Gichaga *et al.*, 2021). Typically, CHWs work with individuals in their home rather than in healthcare facilities. A range of terms are used to describe CHWs globally – these include: CHWs or volunteers (CHVs), CHEWs and lay health workers, among others (Lewin *et al.*, 2010; Haines *et al.*, 2007; Perry, Zulliger and Rogers, 2014; Olaniran *et al.*, 2017). Programmes vary in terms of context, workers involved, training, incentives and tasks.

There is good evidence of well-resourced community health teams delivering high-quality care and extending access to primary healthcare services across a range of settings and diseases, especially maternal health (Lewin *et al.*, 2010; Gilmore and McAuliffe, 2013; Perry, Zulliger and Rogers, 2014;

Lassi and Bhutta, 2015; Chou *et al.*, 2017; Freeman *et al.*, 2017; Jennings *et al.*, 2017; Perry *et al.*, 2017b; Sacks *et al.*, 2017; Schleiff *et al.*, 2017; Scott *et al.*, 2018; Haines *et al.*, 2007; Kok *et al.*, 2015b). The approach of extending access to primary healthcare through CHWs with an aim of universal health coverage (UHC) has long been used, and has recently become a priority in many countries (Wang *et al.*, 2016; Bhutta, 2017; Javanparast *et al.*, 2018). With their proximity to and knowledge of the communities they come from and serve, CHWs are well placed to contribute to UHC and link community and formal health services to improve health outcomes (Bhutta *et al.*, 2011; Perry, Zulliger and Rogers, 2014; McCollum *et al.*, 2016; Kok *et al.*, 2017; Cometto *et al.*, 2018; Woldie *et al.*, 2018).

While there is evidence that community healthcare can be effective in service delivery and expanding access to care, questions around the quality of community health services and the definition of UHC remain (Perry, Zulliger and Rogers, 2014; The United Nations, 2015b; Schneider and Lehmann, 2016; Schneider, Okello and Lehmann, 2016; Olaniran *et al.*, 2017; Woldie *et al.*, 2018; WHO, 2019a). The World Health Organization (WHO) defines UHC as all people having *"access to the full range of quality health services they need, when and where they need them, without financial hardship. It covers the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation, and palliative care across the life course. The delivery of these services requires health and care workers with an optimal skills mix at all levels of the health system, who are equitably distributed, adequately supported with access to quality assured products, and enjoying decent work"* (WHO, 2022). Kenya sees UHC principally as financial protection – a key part of this through the National Hospital Insurance Fund (NHIF). However, the specific package of services and level of the health service is less clear. There is, therefore, no standard operating procedure that the CHWs are working to with regards to UHC. Thus, despite, Kenya championing community health for its potential to extend access to healthcare; questions around defining community health's full role in UHC remain.

Universal health coverage is prioritised in the 2015 Sustainable Development Goals (SDGs). As global policy focuses on the SDGs *quality* UHC (SDG Target 3.8), is prioritised (The United Nations, 2015a; The United Nations, 2015b). There have been calls for 'revolution' in the quality of global health systems (Kruk *et al.*, 2018), underpinned by research on the impact of poor quality services for patients. For example, the lack of good local facilities are key in women's decisions to bypass local health facilities for better quality care, exacerbating health inequalities (Kruk *et al.*, 2014; Salazar, Vora and De Costa, 2016; Shah, 2016; Mubiri *et al.*, 2020; Amoro, Abiiro and Alatinga, 2021). However, amid calls for a 'revolution' in the quality of global health systems (Kruk *et al.*, 2018), in policy and in practice, community health often remains on the side-lines of formal health services, with inconsistency in quality (Otiso *et al.*, 2019). Thus, despite, CHWs being promoted as

part of the solution to achieving quality UHC and deemed well placed to support primary healthcare, the details of what needs to be done – and how – are not clearly laid out.

WHO guidelines for national community health programmes have begun to support operationalisation of the extension of community health services to address quality UHC (WHO, 2018c). But these guidelines have limitations. In fact, in 2018, three global reports on quality health services – including the WHO report on optimising community healthcare – failed to provide practical models for systematically improving the quality of community health or to define how quality should be measured (Kruk *et al.*, 2018; WHO, 2018c; The World Bank, 2018). This study helps to support such guidelines with comprehensive insights around an often overlooked aspect of quality community health – teamwork.

Practical challenges to implementing quality community health services remain. In many health systems, including in Kenya, community healthcare remains marginalised, perceived as an extension of 'formal' primary healthcare rather than a core, integrated service, despite its potential to contribute to health outcomes (Republic of Kenya MoH, 2014; Schneider and Lehmann, 2016; McCollum *et al.*, 2018a; McCollum *et al.*, 2018c; Otiso *et al.*, 2019; Tseng *et al.*, 2019; Republic of Kenya MoH, 2020b; Republic of Kenya MoH, 2020c). Clear definitions of CHWs' responsibilities in advancing quality, appropriate training and support remain unresolved (Lewin *et al.*, 2010; Perry *et al.*, 2017a; Olaniran *et al.*, 2017). While community healthcare can contribute to improving health outcomes, measuring quality is not straightforward. Much of this community care work can be invisible, or at least challenging to link to averted illnesses or deaths (Gilmore and McAuliffe, 2013; Kumar *et al.*, 2019). Preventative work is especially 'invisible'. In their systematic review of CHWs delivering preventative interventions for maternal and child health in low- and middle- income countries, Gilmore and McAuliffe (2013) conclude that, while CHWs provided a range of interventions with some evidence of effective strategies, there was insufficient evidence to draw conclusions for most interventions (Gilmore and McAuliffe, 2013).

The interface role of CHWs between community and formal health services brings advantages and tensions (Kok *et al.*, 2017). At this interface between CHWs and formal health services, CHWs are well placed to link community and formal healthcare services to improve health outcomes (Bhutta *et al.*, 2011; Perry, Zulliger and Rogers, 2014; McCollum *et al.*, 2016; Cometto *et al.*, 2018). Tensions include community expectations around the services delivered and frustrations among community members when expectations are not met due to persistent domestic resource constraints and limitations in capacity and professional roles. With limited domestic funding, community programmes are heavily donor dependent, resulting in a fragmented environment where disease-specific responses dominate (Tulenko *et al.*, 2013). This reliance on piecemeal support and resultant

fragmented approaches potentially jeopardises quality. This study helps provide fresh insights around such contextual advantages and tensions around a neglected aspect of quality community health services – teams working to deliver quality community health services in Kenya.

Globally, the push for quality UHC and the refocus on primary healthcare and the Astana declaration (Alma-Ata 40 Roundtable Group, 2018) provide this study's timely rationale. The Global Conference on Primary Health Care, held in Astana, Kazakhstan in 2018, renewed past promises and principles of healthcare for all, bringing attention yet again to the role of communities in providing primary healthcare (PHC) (WHO, 2018a). At the conference, 40 years after the Alma-Ata Declaration, PHC was defined as "an inclusive, *community-led*, multisectoral approach to promoting population health and preventing illness, as well as a means to provide curative and rehabilitative services" (Alma-Ata 40 Roundtable Group, 2018). For communities to lead the process, they must be recognised and valued as integral parts of the health system, supported by careful implementation, strong policy backing and continual support by managers. Community health provision is, therefore, a key component of healthcare delivery in many settings, so effective QI teams organising around communities have a huge potential impact.

### 1.1.2 Kenyan community health context

A detailed description of the Kenyan context for community health, devolution and community health workers now follows, and should be considered alongside thesis and SQALE timelines (**Figure 1-8**). This section opens with Kenya's poor maternal and child health indices, which provide the logic for the SQALE programme.

**Poor maternal and child health indices in Kenya: the logic for the SQALE programme**

Maternal and child health is a major policy priority in Kenya and one of the core functions of community health. In recent years maternal and childhood deaths have decreased, but indices remain poor (UNICEF and WHO, 2017; WHO, 2019b). In 2014, maternal deaths were 362 deaths per 100,000 live births, unchanged from 2008-09 (UNICEF and WHO, 2017). More recently, maternal deaths have declined however Kenya's maternal mortality ratio remains relatively high at 342/100,000 live births (WHO, 2019b). Kenya has made good progress towards reducing child mortality, with under-five mortality having reduced from 115 deaths per 1000 live births in 2003 to 52 deaths per 1000 live births in 2014 and 49 deaths per 1000 live births in 2016 (UNICEF and WHO, 2017). However, urban child survival gaps have doubled between richest and poorest children in recent years. Just 62 percent of births are attended by skilled health personnel and only 58 percent of women attend at least four antenatal care sessions (UNICEF and WHO, 2017).

Health gains have been made but progress remains uneven across Kenya. According to the most recent Kenyan Demographic Health Survey (2014), Kenyan women have about four children, on average, compared with about eight in 1977 and five children in 2003 (Kenya National Bureau of Statistics, 2014). The decline in fertility is matched by an increase in contraceptive use. By 2014, almost 60 percent of married women used some type of family planning and more recent indices show this has risen to 76 percent (UNICEF and WHO, 2017). But fertility varies widely between counties from a low of 2.3 children per woman in Kirinyaga to a high of 7.8 children per woman in Wajir (Kenya National Bureau of Statistics, 2014). Almost 8 in 10 children (79 percent) age 12-23 months receive all basic vaccinations (BCG, measles, and 3 doses of each of DPT and polio vaccine, excluding polio vaccine given at birth. Basic vaccination has improved only slightly since 2008-09 when 77 percent of children had received all of these basic vaccines. Basic vaccination coverage is slightly higher in urban versus rural areas (83 percent versus 77 percent). There is considerable variation by county, from 36 percent coverage in West Pokot to over 75 percent in Nairobi and between 36 to 55 percent in Migori (Kenya National Bureau of Statistics, 2014). In recent years there have been improvements in women and children's nutrition but indices remain poor. For example stunting in children under 5 has declined from 40 percent in 2005 and just under 40 percent in 2009 to 26 percent in 2014. Exclusive breastfeeding has risen from 32 percent in 2009 to 61 percent in 2014 (UNICEF and WHO, 2017).

Policy and implementation priorities have been introduced to improve maternal and child health services. For example, fees for skilled deliveries were abolished in 2007, but it was not until mid-2013 that free maternal health services in public facilities became a reality (Nyikuri *et al.*, 2015). In 2013, to improve maternal and child health and access to skilled delivery personnel, a national commitment to free maternity care was launched (Pyone, Smith and van den Broek, 2017). The policy and implementation priorities for achieving this included well-established interventions: early, focused and frequent antenatal care (ANC) and attendance at delivery by skilled birth attendants. But maternal mortality has remained high and disparities remain within and across Kenyan counties, especially among younger and poorer mothers (Banke-Thomas *et al.*, 2017; Sharma *et al.*, 2017; UNICEF and WHO, 2017; Gitobu, Gichangi and Mwanda, 2018; Achoki *et al.*, 2019; Okiro, 2019). Despite the commitment to free maternity care abolishment of all of user fees has not been uniform, with some facilities operating at a loss or needing to charge as a result of delayed reimbursement payments (Nyikuri *et al.*, 2015; Lang'at, Mwanri and Temmerman, 2019).

Community health and CHWs have a potential role in the implementation of effective coverage of health services and supporting the Continuum of Care for maternal and child services (Haines *et al.*, 2007; Bhutta *et al.*, 2011; Bhutta, 2017; Woldie *et al.*, 2018). The Continuum of Care, usually referred to as the continuity of individual care, has long been considered key in reducing maternal,

newborn and child deaths and promoting health across these groups, and a cornerstone of delivering UHC (Kerber *et al.*, 2007; UNICEF and WHO, 2017). The Continuum of Care is concerned with reaching mothers, babies and children at the crucial time and place (**Figure 1-1**). The Continuum of Care links caregiving across different times of the life of a mother and a child – from adolescence or pre-pregnancy prevention and planning for the mother, to pregnancy, to childbirth, postnatal period, and infancy to childhood and it links places of service delivery (including households, communities, outreach services, and clinical-care settings/health facilities) (UNICEF and WHO, 2017). With their proximity to and knowledge of the communities they come from and serve, CHWs are well placed to support the Continuum of Care through referrals and healthcare services at household and community levels (Haines *et al.*, 2007; Bhutta *et al.*, 2011; Perry, Zulliger and Rogers, 2014; McCollum *et al.*, 2016; Kok *et al.*, 2017; Cometto *et al.*, 2018; Woldie *et al.*, 2018).

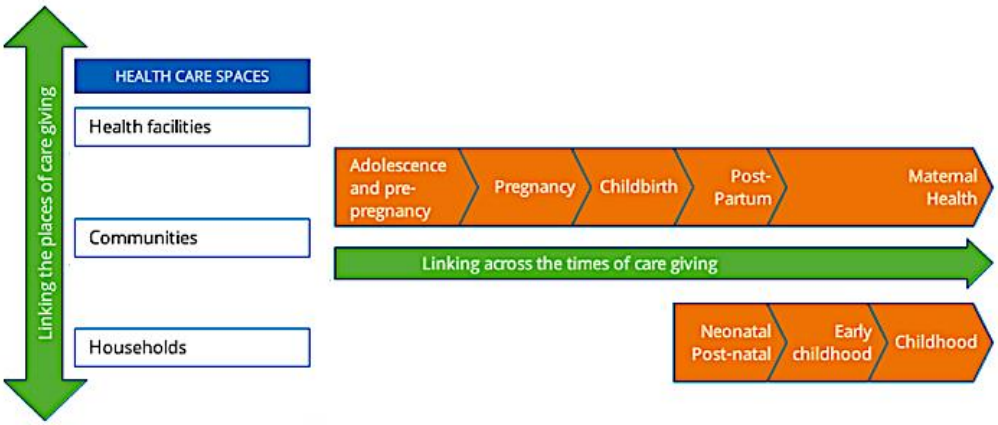



**Figure 1-1 The Continuum of Care for maternal and child health services (adapted from Kerber *et al.*, 2007)**

However, health service coverage is not limited to a particular aspect of service provision but ranges over a whole process from resource allocation to achievement of the desired objective (Tanahashi, 1978). The World Health Organization identified three main conceptual elements of effective coverage: access, utilization and effectiveness (WHO, 2001). Access was defined in terms of availability, accessibility, affordability and acceptability. Utilization was the combination of access and personal health behaviour. Effectiveness was considered a function of several variables, including efficiency, inputs (amount and quality of resources), quality assurance mechanisms (process of service delivery, provider performance), patient compliance and health behaviour, and external factors (e.g. environmental, biological, social) (WHO, 2001). With their focus on supporting quality community health, QI teams are well placed to support health service coverage: access, utilization and effectiveness (WHO, 2001). By way of example, since health service coverage depends on the efficiency and quality of inputs and the ability of a health service to interact with the people who should benefit from it - QI teams that include communities and are focussed on QI

are potentially well placed to support health service coverage.

**Devolution**

The 'new' Kenyan Constitution in 2010 provided the legal framework for devolution in Kenya (National Council for Law Reporting, 2010); a measure taken to address inequity in health indicators and address the inefficiencies of the former centralised government (National Council for Law Reporting, 2010; McCollum *et al.*, 2015; Republic of Kenya MoH, 2020c). Devolution was introduced in 2013. Under the new regime, a two-tiered system of national government and 47 county governments was created from the previous 3 tiers of national government rolling out health services through provincial and district levels established in 1983 (Republic of Kenya MoH, 2005). Counties have autonomy to set their own priorities, with the potential for health services to be more equitable and responsive to the local epidemiology, as incidence and prevalence of disease varies widely across the country. County responsibilities for health include responsibility for community health services.

**Description of the Kenyan policy context for community health**

The launch of the first community health strategy in 2006 set Kenya on a path towards the institutionalisation of community health services. The national community health strategy was revised in 2014 and 2020 (Republic of Kenya MoH, 2014; Republic of Kenya MoH, 2020a). The last five years have been instrumental in policy support for community health, as this period has coincided with key changes globally and in Kenya. Globally, the push for UHC, set out in the SDGs, and the refocus on PHC and the Astana Declaration (Alma-Ata 40 Roundtable Group, 2018) has been instrumental in informing Kenya's recent policy priorities. In Kenya, the recent push for UHC (2017) forms one of the Kenyan president's 'Big Four' policy pledges guiding the country's development agenda between 2018 and 2022. The Big Four Agenda was designed to ensure all Kenyans could access the services they required without experiencing financial hardship. In this way, financial protection and UHC are viewed synonymously, with CHWs enrolling citizens to the NHIF.[1]

Despite the legal mandate to provide community health services across Kenya, since devolution, interest and investment in community health has varied across counties (McCollum, 2017; McCollum *et al.*, 2018c; Abuya *et al.*, 2021). Instead, curative care has been prioritised over less tangible preventative healthcare (McCollum *et al.*, 2018a; McCollum *et al.*, 2018b).

[1] The NHIF is a state parastatal established in 1966 as a department under the Ministry of Health. Financial protection is part of UHC and NHIF provides medical insurance cover to all its members and their dependants.

**Core functions of Kenyan community health services and their place in the health system**

The Kenyan health system is organised around a four-tiered hierarchy of health services (**Figure 1-2**). Community services sit at the first level of health services in Kenya, positioned at the interface between community and formal PHC services. Community health services provide basic promotive, preventive and curative services and referrals, especially for maternal and child health conditions (Republic of Kenya MoH, 2020b; Republic of Kenya MoH, 2020a).

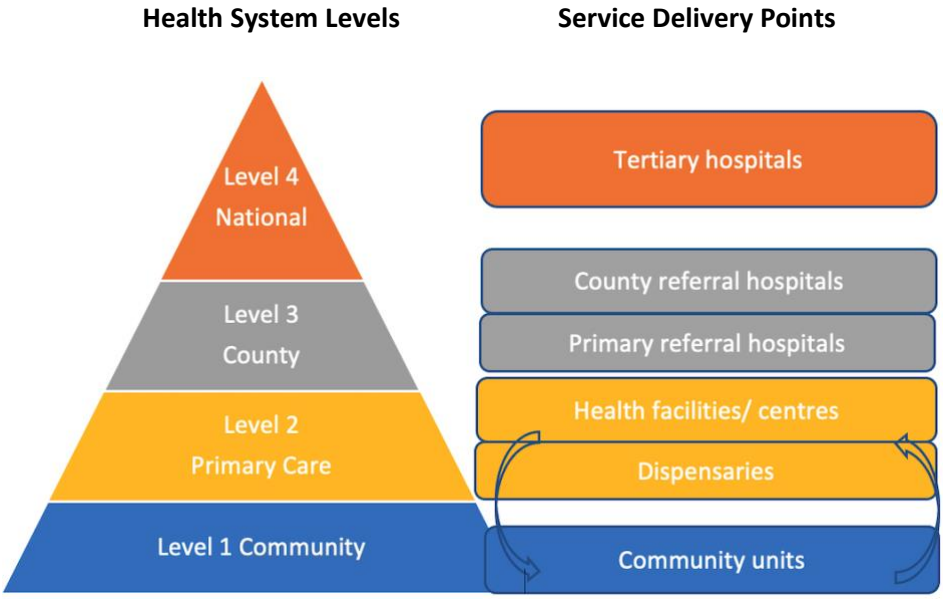



**Figure 1-2 The Kenyan health system structure and service delivery points**

Health services are provided at six service delivery points: community units; dispensaries and health centres; sub-county and county referral hospitals and national referral hospitals. Community health units (Level 1) and primary care facilities (Level 2) are conceptually related in the delivery of PHC in Kenya (Republic of Kenya MoH, 2020c). Services are linked through the referral of patients from the community to the linked primary care facility (or 'link-facility') for a range of services, from preventative (e.g. immunisation and antenatal services) to curative (e.g. management of childhood illnesses). The benefit of community health's unique intermediary position between communities and the formal health sector means community health, if optimised, could be a core component in expanding access to healthcare and achieving UHC (Kok *et al.*, 2017; Otiso *et al.*, 2019).

In Kenya, the current community health strategy includes two tiers of CHWs: CHVs and CHEWs (Republic of Kenya MoH, 2014). Although both are officially recognised, only the CHEWs are salaried government employees, while some counties pay CHVs stipends (Njiraini and Hussein, 2019). By 2018, fourteen out of forty-seven counties provided monthly stipends of between $20-60 USD/ per month (Njiraini and Hussein, 2019). Additional financial and non-financial incentives can be decided by Community Health Committees who govern community health at community level. Further direct payments or allowances may be paid by donor funded programmes like SQALE.

The community health strategy defines CHV roles and responsibilities as disease prevention and control to reduce morbidity, mortality and disability; provision of family planning services; maternal, child and youth services; and the promotion of environmental hygiene and sanitation (Republic of Kenya MoH, 2014). Roles include: promoting healthy lifestyles, malnutrition screening, personal and domestic hygiene (including handwashing, water treatment and latrine use) treating common ailments and minor injuries, responding to disease outbreaks and record keeping. Counties may add additional roles based on current projects and priorities which are largely donor driven. In this way, CHVs may be involved in a range of other tasks, including community-based HIV services (Otiso *et al.*, 2017), a range of behaviour-change initiatives (Aseyo *et al.*, 2018) and emerging health issues like COVID-19 (Chengo *et al.*, 2022).

Community services are delivered primarily through CHVs undertaking individual household visits, often on foot. Alongside household visits, 'community dialogue days' or '*barazas*' (a traditional form of community assembly in East Africa) are used to disseminate important health messages and promote community engagement around local health issues.

CHEWs and CHVs have different roles within the health system. While CHVs promote uptake of essential primary health services through home visits, sensitization, education and referral, CHEWs play a greater role in overseeing the provision of community services. CHEWs are assigned to each local primary health facility to oversee each community unit. CHEWs spend some of their time at the health facility overseeing the day-to-day implementation of community health services, provide health services alongside CHVs in the community and supervise CHVs. CHEWs link households to health facilities, with support from CHVs and the facility in charge. CHVs are expected to extend these links still further between the community, CHEWs and the health facility. In these ways, CHEWs and CHVs have a role in the implementation of effective coverage of health services and supporting the Continuum of Care which is central to delivering UHC, ensuring all people have access to the full range of quality health services they need, when and where they need them.

CHEWs and CHVs are required to have basic levels of education and training. CHEWs are expected to have a certificate from a recognized institution whereas CHVs are required only to be educated to secondary school level. An overview of selection criteria, skill requirements and training for CHEWs and CHVs is provided in **Table 1-1**.

**Table 1-1 Skill requirements and training for CHEWS and CHVs**

| | CHEW | CHV |
|---|---|---|
| **Selection criteria** | Selected by the local sub county. Must have a certificate from a recognized institution in: community health, psychology, counselling, social work or community development | Selected by the communities they come from and serve. Must be: aged 18 or over, a responsible and respected community member, educated to at least secondary school level and literate |
| **Training** | Initial basic two week training and refresher training every three months, as required | There are two phases of training: a two week basic training followed by technical training (approx. three months). |
| **Topics covered by training** | Principles and approaches in health and development and training CHVs<br>Health topics include: pregnancy, childbirth and newborn and child care; care of a sick child; care of chronically ill; TB, disease control; disability; rehabilitation and health promotion | Basic training is provided in six areas:<br>i) health and development in the community;<br>ii) community governance and leadership;<br>iii) communication, advocacy and social mobilization;<br>iv) best practices for health promotion and disease prevention;<br>v) basic healthcare and life-saving skills;<br>vi) management and use of community health information and community disease surveillance.<br>Basic training is followed by one month of field practice.<br><br>Phase two training comprises seven modules:<br>i) integrated community case management;<br>(ii) water, sanitation, and hygiene;<br>(iii) maternal and newborn care;<br>(iv) family planning;<br>(v) HIV, TB and malaria;<br>(vi) community nutrition and<br>(viii) non communicable diseases.<br>Taught elements of technical training lasts approx. two months followed by one month of field practice. |

**Source:** (Republic of Kenya MoH, 2020a; Republic of Kenya MoH, 2020b)

Across Kenya, community health remains grossly under-resourced, with staff shortages commonplace and a community health service largely reliant on volunteers (McCollum *et al.*, 2015; Republic of Kenya MoH, 2020a; Republic of Kenya MoH, 2020b). There are shortfalls of 7% for CHVs (88,403 CHVs out of an expected 95,130) and a 66% gap in CHEWs (3,250 CHEWs out of 9,513 required) (Republic of Kenya MoH, 2020b). Figure 1-3 illustrates the community health structure in place during my study and under the former community strategy (Republic of Kenya MoH, 2006; Republic of Kenya MoH, 2014). The 2014 community health strategy included a proposal to increase the number of paid community health staff however, when community health is funded, a structure heavily reliant on volunteers and proposed in the earlier Community Health Strategy (2006) is used, as it is more cost effective (McCollum *et al.*, 2015; Republic of Kenya MoH, 2006). The 2006 community unit structure requires 2 CHEWs assisted by 50 volunteer CHVs serving a population of 5,000 (**Figure 1-3**). This is in stark contrast to the five paid CHEWs and ten volunteers officially recommended in the 2014 Community Health Strategy (Republic of Kenya MoH, 2006; Republic of Kenya MoH, 2014).

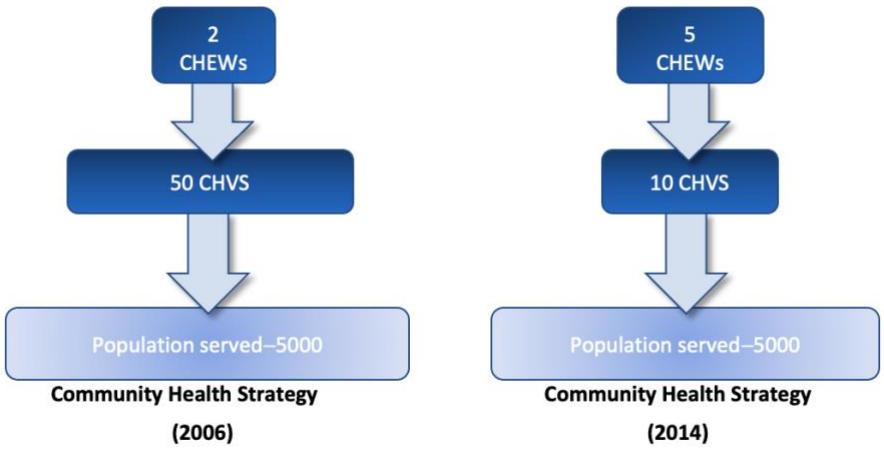



**Figure 1-3 Community staffing structure typically follows earlier community health strategy from 2006**

**Management, supervision and governance of Kenyan community health services**

Community services link to primary care services through supervision. Supervision structures are demonstrated in **Figure 1-4**, from Otiso and colleagues (2017). Supervision for CHEWs and CHVs is provided by the sub-county community health strategy focal person, responsible for the roll out of the community health strategy for each sub-county. CHEWs play a supervisory role for CHVs. The coordination and management of the community health unit and its workforce is done by the community health committee. A community health committee comprised of volunteer community

representatives also conducts supervision and governance of CHVs and encourages community participation in health-related activities (Republic of Kenya MoH, 2014). The CHEW is the secretary and technical advisor to the community health committee.

In addition to supervision, sub-county management team members provide technical support in key areas of health, including maternal and child health, health promotion, nutrition and health records and information. Support and supervision is typically provided alongside NGO-supported programmes. The CHEW and health facility in charge often work jointly on NGO-supported programmes. Through NGO-supported programmes, the head nurse from the local health facility may also be affiliated to CHVs directly (Karuga *et al.*, 2019a; Otiso *et al.*, 2017). Successive community health strategies have attempted to strengthen facility-community linkages providing formal structures for CHEWs to relate to the health facility in charge. For example, CHEWs are assigned to each local primary health facility to oversee each community unit. Further, community and facility committees create opportunities for CHEWs and the health facility in charge to link - community health committees are just one of two types of community-based health committees in Kenya. The other community-based health committee is referred to as the health facility management committee, which is mandated to oversee the delivery of facility-based services (Waweru *et al.*, 2013). The health facility management committee consists of local leaders, health facility staff and lay community members. Kenya's community health strategy envisions collaboration between community health committees, and health facility management committees although in practice links remain weak (Karuga *et al.*, 2019a). The introduction of community QI teams provided a novel structure in Kenya to combine CHEWs and health facility-in charges within the same team in an attempt to link community and formal health services and provide a formal structure for CHEWs and the health facility to relate to one another around QI for community health (described in detail in Section 1.1.4: Descriptions of the SQALE intervention and the functions of QI teams). Other individuals key to facilitating local community activities include community chiefs and their deputies. Their support provides formal community sanctions for any local programmes.

Above local community and sub-county levels, community health is supported at wider national and county levels (**Figure 1-4**)**.** At the national level, the Community Health and Development Unit (CHDU), the lead unit of the MoH in Kenya responsible for community health, provides oversight for community health. CHDU roles and responsibilities include setting national community health policy and strategy and supporting capacity building across Kenya's 47 counties. At county level, the county community health strategy focal person manages county roll out of Kenya's community health strategy. In this way, support for and decision-making around community health occur hierarchically across the different levels of the health system, from the national to the community level.

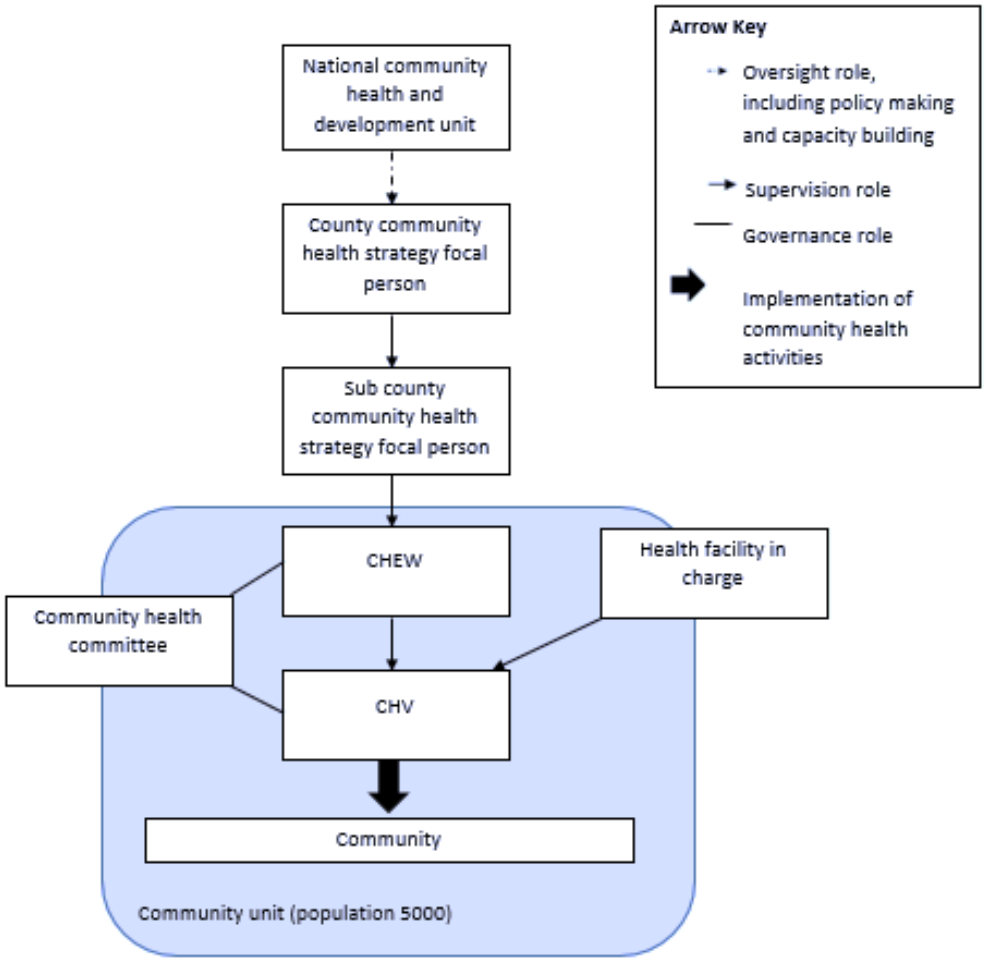



**Figure 1-4 Community health actors and relationships**

Despite the formal structures designed to support community health, implementation remains variable. In practice, there are staff shortages and varied formal government support for funding, training and equipment across devolved counties in Kenya (McCollum *et al.*, 2015; Egan, Devlin and Pandit-Rajani, 2017; Aseyo *et al.*, 2018; Republic of Kenya MoH, 2020b). Thus, despite community health's unique position linking formal health services to the community, without being fully integrated into the PHC system quality could easily be jeopardised.

**Quality of health services in Kenya**

Kenya was an early adopter of QI for formal facility services, having adopted its own 'Kenyan Quality Model' (KQM) and QI department more than 20 years ago. In 2001, the KQM for facility-level QI was launched by the MoH with external support from the German Agency for International Cooperation (GIZ)[2] (GIZ., 2001). However, an assessment of KQM in 2010, revealed significant

[2] GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH). GIZ is an international enterprise owned by the German Federal Government, operating in health and development across more than 130 countries including Kenya. https://www.giz.de/en/worldwide/317.html. (Accessed June 2021).

challenges to implementation (National Coordinating Agency for Population and Development, 2010). The Kenya Service Provision Assessment Survey revealed a persistently low quality of care, particularly within family planning and maternal and newborn services. Shortages of staff, equipment, medication and infrastructure were among the main reasons for poor quality services.

In 2011, KQM was replaced by the Kenya Quality Model for Health (KQMH) (Republic of Kenya MoH, 2011). KQMH established clinical standards and guidelines and a conceptual framework supporting coordination of efforts and investments aimed at improving the quality of healthcare in Kenya. However, until recently, Kenyan CHWs were absent from QI initiatives and the history of implementation for facility-level QI remains chequered. Implementation of KQMH has lacked effective prioritisation, dissemination of guidelines and training (Nzinga *et al.*, 2009; Marx *et al.*, 2018; Nitschke *et al.*, 2020).

In 2015, Kenya launched their first standards governing the quality of community health services (Republic of Kenya MoH, 2015). The quality standards for community health were developed jointly by the national Community Health and Development Unit and the Department of Health Standards, Quality Assurance and Regulations; the lead department of the MoH in Kenya responsible for overseeing national health standards. While national guidelines for QI in community health have been developed (Republic of Kenya MoH, 2015) structures for QI at the community level have not yet been prioritised by the government in Kenya.

As Kenya attempts to operationalise standards governing the quality of health services, community health services are deemed well placed to support PHC and UHC – but PHC needs to be high quality enough for patients to attend local services. So engaging CHWs in QI stands to improve the quality of PHC, which is important, but how might QI for community health be delivered in practice, in a system where historically community health has not been prioritised, where health operates as a devolved service and QI implementation varies even at facility level?

This research is part of attempts to address QI for community health, nested within SQALE – a QI project aimed at sustaining quality improvement approaches for community health services. Before providing a detailed description of SQALE (Section 1.1.4), it is important to introduce QI and define the QI terms used in this thesis.

### 1.1.3 Introduction to QI theory and defining the terms used in this thesis

**Definitions linked to QI**

Definitions of quality have evolved over time. Early definitions, provided by seminal authors in healthcare quality, such as Donabedian (Donabedian, 1966) principally revolved around individual

service users. More recent definitions, such as the one provided by the WHO (WHO, 2022) reflect a public health perspective with concern for outcomes achieved for individual service users and whole communities. For the purposes of this study, the WHO definition of quality healthcare services is set out in **Table 1-2**.

**Table 1-2 WHO definition of quality healthcare services**

| | |
|---|---|
| **Effective** | Providing evidence-based healthcare services to those who need them |
| **Safe** | Avoiding harm to people for whom the care is intended |
| **People-centred** | Providing care that responds to individual preferences, needs and values |
| **Timely** | Reducing waiting times and sometimes harmful delays |
| **Equitable** | Providing care that does not vary in quality on account of gender, ethnicity, geographic location, and socio-economic status |
| **Integrated** | Providing care that makes available the full range of health services throughout the life course |
| **Efficient** | Maximising the benefit of available resources and avoiding waste |

QI refers to a set of strategies to improve processes of care, system effectiveness and ultimately the delivery of better healthcare for individuals and populations. There are no commonly accepted definitions of QI, and this is sometimes seen as a weakness when evaluating such initiatives (Walshe, 2009). In their critical analysis of QI strategies for health, Shojania and colleagues (Shojania *et al.*, 2007) describe wide-ranging, multi-level QI activities: from micro-level activities targeting individual patients to macro-level initiatives addressing national financing and regulations and standards. In theory, well-implemented QI processes can improve all of the elements in **Table 1-2**.

The definition of QI which frames this study is provided by Tawfik et al. (2010), who define quality improvement as a: *"cyclical process of measuring a performance gap; understanding the causes of the gap; testing, planning and implementing interventions to close the gap; studying the effects of the interventions; and planning additional corrective actions in response."* (Tawfik *et al.*, 2010, p. 2). This definition was used because it aligned with the purpose of the SQALE programme within which this study is nested.

**QI theory**

QI is not a new concept. Early approaches to QI commonly focused on inspection to ensure individuals met pre-determined standards rather than focusing on continuous learning and

improvement (Langley *et al.*, 2009; Berwick, Godfrey and Roessner, 2002; Massoud *et al.*, 2001; Juran and Godfrey, 1999; Deming, 1982).

The shift from notions of QI focused on inspection and stabilisation to inquiry, learning and continuous improvement gained traction in the mid-1980s, with work of the US National Demonstration Project on Quality Improvement in Health Care (Institute for Healthcare Improvement, 2022). The Institute for Healthcare Improvement is a global leader in supporting QI initiatives, typically following its collaborative model for QI, using plan-do-study-act (PDSA) cycles.

The problem-solving approach or QI process of PDSA was first used at scale in the 1950s, (Walton, 1986; Deming, 1982) in the automotive industry, and increasingly in health during the 1980s (Donabedian, 1988; Berwick, Godfrey and Roessner, 2002; Best and Neuhauser, 2005). Current concepts and applications applied to health draw principally on management literature and the theories of seminal authors like Deming, which are grounded in the industrial sector in high-income country contexts (Deming, 1982; Walton, 1986; Wilkinson, Godfrey and Marchington, 1997).

The PDSA cycle focuses on adaptive and iterative processes of continuous improvement, where problems are identified and possible solutions and changes are tested (**Figure 1-5**). Three questions underpin PDSA cycles:

1. What are we trying to accomplish?
2. What changes can we make that will result in improvement?
3. How will we know that the change is an improvement?

The PDSA process is to **plan** a change (collect baseline data to help define problems and develop solutions – often called change ideas – to prioritised problems), **do** it (try out the change idea), **study** it (collect and analyse local data and determine if improvements resulted) and **act** on the results ('adapt, adopt or abandon': adapt a change idea before taking it to scale to achieve greater improvements; adopt a successful change idea and bring it to scale, embedding it into routine practice; or abandon an unsuccessful change idea, starting again at 'plan'). PDSA approaches are characterised by local selection, prioritisation and action on quality problems identified from local data (Berwick, 2008; Berwick, 2012; Ramaswamy, 2018).

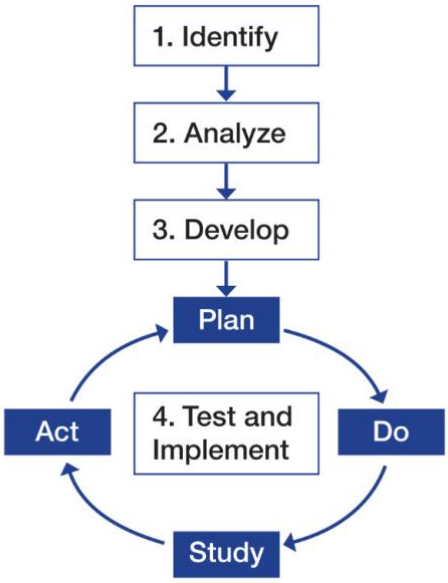



**Figure 1-5 The PDSA improvement cycle**

(adapted from Langley's model for improvement (Langley *et al.*, 2009)

Among the QI strategies available, quality improvement collaboratives (QICs) (also known as learning collaboratives) have been used as an approach to share learning and improvement in healthcare (Nadeem *et al.*, 2013; Barker *et al.*, 2015; Wells *et al.*, 2018; Garcia-Elorrio *et al.*, 2019). QICs typically include QI teams from multiple sites focusing their PDSAs on one area of interest (e.g. the active management of the third stage of labour), being brought together for peer learning, to share best practices and to engage in friendly competition. As teams come together to learn, apply and share improvement methods, they share ideas and data on their performance for a specific healthcare topic. The theory is that change is achieved faster, as learning and best practices can be more easily shared and spread. When collaborating, an opportunity is created for teams to share progress and assess this against other teams. The idea of teams working on a specific shared topic area is designed to create synergy, overcoming barriers linked to the same problems across a system.

**Overview of QI in formal healthcare and in community health**

Much of the empirical evidence around QI in health is concentrated in Europe, the UK and the US (Shortell *et al.*, 1995; Ferlie and Shortell, 2001; Powell, Rushmer and Davis, 2009; Dixon-Woods, McNicol and Martin, 2012; Balasubramanian *et al.*, 2015; McConnell *et al.*, 2015; Klapwijk *et al.*, 2020). One of the most studied areas is QI programmes in hospitals in the Global North, with trained cadres of health staff such as doctors and nurses (Blumenthal and Kilo, 1998; Shortell, Bennett and

Byck, 1998; Øvretveit, 1999; Ferlie and Shortell, 2001; Øvretveit and Staines, 2007; Kamal *et al.*, 2015; Meehan *et al.*, 2015; Green, Bell and Mays, 2017; Cunningham *et al.*, 2018; Curry *et al.*, 2018). QI is increasingly used to improve healthcare in sub-Saharan Africa at the facility level (Bradley *et al.*, 2008; Agha, 2010; Franco and Marquez, 2011; Rawlins *et al.*, 2013; Heiby, 2014; Landry *et al.*, 2014; Ingabire *et al.*, 2015; Makene *et al.*, 2014; Mirkuzie *et al.*, 2014; Kringos *et al.*, 2015; McCarthy *et al.*, 2017; McGivern, Nzinga and English, 2017; Wells *et al.*, 2018). Evidence is growing for incorporating QI approaches into community health programmes in low- and middle- income countries (LMICs), especially in maternal and child health (Colbourn *et al.*, 2013; Cofie *et al.*, 2014; Tancred *et al.*, 2017; Tancred *et al.*, 2018; Limato *et al.*, 2019; Yilma *et al.*, 2020). These community-level approaches appear to have some success in terms of improving quality of services; however, despite QI teams being one of the most visible features of QI approaches, empirical work focused on QI teams and teamworking is missed. Additionally, while current literature at the community level appears to show some success on a project basis, there is limited information on QI teams for community health as a health system-strengthening approach.

In general, across countries of all income levels, QI appears to have had some success in terms of improving quality of services across various levels of health systems, from hospitals to communities (Powell, Rushmer and Davis, 2009; Tancred *et al.*, 2018; Wells *et al.*, 2018; Garcia-Elorrio *et al.*, 2019; Limato *et al.*, 2019). While reported benefits and achievements of QI approaches are positive and wide-ranging, success remains inconclusive, and robust evaluation is often limited, especially in LMICs (Marshall, Pronovost and Dixon-Woods, 2013; Garcia-Elorrio *et al.*, 2019).

The particular relevance of QI approaches in LMICs has been reported, especially at facility levels. In 2008, 30 global healthcare leaders and improvement experts representing 15 countries described the potential contribution of QI approaches to strengthening health systems in LMICs (WHO, 2008; Leatherman *et al.*, 2010). Participants concluded that QI may have even greater potential of improving health outcomes in resource-poor settings, given the sizeable gaps between current and best possible care. Framed around the WHO's six health system building blocks, participants described multiple benefits of QI (p. 239):

1. *Service delivery: QI closes the gap between actual and achievable practice.*
2. *Health work force: QI enhances individual performance, satisfaction and retention.*
3. *Information: QI enhances the development and adoption of information systems.*
4. *Medical products and technology: QI improves the appropriate, evidence-based use of limited resources.*

5. *Financing: QI helps optimize the use of limited resources. QI helps reduce the costs of financial transactions.*

6. *Leadership and governance: QI strengthens measurement capacity, stewardship, accountability and transparency.*

Alongside reports of the relevance of QI approaches in LMICs is evidence of its limitations. For some, major limitations include variable local leadership uptake and commitment; availability and willingness of government staff with relevant QI skills to support programmes and human resources crises for health service staff (Twum-Danso *et al.*, 2012; Colbourn *et al.*, 2013; Hanson *et al.*, 2014; Sibley *et al.*, 2014; Stover *et al.*, 2014; Tesfaye *et al.*, 2014; Twum-Danso *et al.*, 2014; Waiswa *et al.*, 2017; Baker *et al.*, 2018; Tancred *et al.*, 2018; Manzi *et al.*, 2020). In the short term, implementation constraints meant inconsistent leadership and participation in QI activities – often from senior staff overburdened with other work. Longer term, variable uptake of QI and local leadership jeopardises sustainability of QI as an integral activity in health service delivery.

Those testing community approaches have shown some positive results (Horwood *et al.*, 2015; Tancred, Schellenberg and Marchant, 2016; Stover *et al.*, 2019). Research has focused on locally based projects and explored what work is done (Colbourn *et al.*, 2013; Cofie *et al.*, 2014; Horwood *et al.*, 2015) and exposed some of the barriers to and facilitators of local practice (Tancred *et al.*, 2017; Tancred *et al.*, 2018).

Despite the growing body of literature around QI in community health, the underlying evidence around the utility of QI approaches – in particular, QI teams – teamworking and team theory remains a gap in the current literature in sub-Saharan Africa (Horwood *et al.*, 2015; Horwood *et al.*, 2017; Tancred *et al.*, 2017; Tancred *et al.*, 2018).

Practical questions around implementation of QI teams in the community health context remain. Limited insights around what it might take to operate QI team approaches – traditionally used in high-income settings and health facilities at community level – remain unanswered (Shortell *et al.*, 1995; Blumenthal and Kilo, 1998; Barker *et al.*, 2007; Øvretveit and Staines, 2007; Schouten *et al.*, 2008; Youngleson *et al.*, 2010; Webster *et al.*, 2012). For example, it may be insufficient to simply translate QI practices based on data and planning to paper-based community data sets – often of poor quality – used by community volunteers (Massoud *et al.*, 2012; Øvretveit, 2018; Øvretveit *et al.*, 2018). High-quality community-level health data is an essential first step in improving the quality of care at the community level, yet there are barriers related to poor community health data. Defining and measuring quality at the community level in low-resource settings can be challenging but essential to understanding performance and improvement (Otieno *et al.*, 2012; Prytherch *et*

*al.*, 2016; Regeru *et al.*, 2020). Low-quality data has led to limited demand and use of community data in decision-making (Wagenaar *et al.*, 2016) and decision-makers do not easily take to community QI for health due to these issues and the perceived start-up costs (Kumar *et al.*, 2019; Kumar *et al.*, 2021). With limited research around implementation, of QI teams and teamworking for community health, the reasons for their success or failure often remain unclear. This research addresses current research gaps taking advantage of the opportunity presented by the SQALE project, to consider team approaches to addressing QI in community health in situ, in Kenya.

### 1.1.4 Description of the SQALE intervention and the functions of teams studied in this thesis

**Background of the SQALE project in Kenya**

SQALE (USAID-SQALE, 2016b) was designed in response to identified gaps in implementation of community health services in Kenya (Mireku *et al.*, 2014). Gaps included infrequent supervision focused on fault finding; poor linkages between community and formal health services; limited community engagement and coordination between partners; poor patient referrals; poor quality; and lack of trust in community health data systems. A group supervision intervention for community volunteers and a community QI intervention (SQALE) followed from these findings (McCollum *et al.*, 2015; Karuga *et al.*, 2019b). SQALE's logic model is presented in **Appendix A**

SQALE was established in April 2016. The three-year US Agency for International Development (USAID)-supported SQALE project (April 2016 to July 2019) was designed as an approach to embedding QI for community health in Kenya. It was the first initiative in Kenya to focus on using facility-community linked QI teams at community level to build capacity around local data collection, analysis and use, ensuring common health problems were identified and community quality standards adhered to. The project built on an existing partnership between the Liverpool School of Tropical Medicine (LSTM, lead partner for SQALE), and LVCT Health, a Kenyan non-governmental, not-for-profit organisation and the project's lead local implementing partner in Kenya.

**SQALE goal and objectives**

SQALE's goal was to contribute to the reduction of maternal and child deaths through increased access to high quality maternal, newborn and child health (MNCH) services at the community level, and to increase use of MNCH services at the facility level through QI for community health (USAID-SQALE, 2016c). Planned outcomes included:

- improving the quality of standard Ministry of Health (MoH) community data;

- measurement of MoH data-focused quality indicators for maternal, neonatal and child health; and
- local decision-making to improve MNCH outcomes.

Planned impacts were:

- leadership and coordination of QI strengthened and embedded at four distinct levels: community, sub-county, county and national; and
- stronger community participation in decision-making around community health priorities through 'bottom-up' approaches championed through community QI.

This was done through training, setting up and mentoring QI teams at the community and sub-county levels and strengthening county and national coordination of QI for community health. In this way, the SQALE model worked at four distinct levels (national to community) to ensure the QI processes were led by the MoH (**Figure 1-6**). National and county QI teams already existed, and were responsible for facility-based and, to a lesser extent, community-based services. Sub-county and community QI teams were added and supported under SQALE. Prior to SQALE, some QI teams existed at sub-county level, and were responsible for overseeing facility-level QI; however, these did not include community representation. At the community level, CHVs and CHEWs existed, but not QI teams for community health. At the national level, the National Quality Improvement Committee and Community Health Strategy Interagency Committee were engaged in developing and testing the QI training manuals for community health used in SQALE. The approach included an internal coaching and mentoring strategy provided by managers and QI coaches supporting QI roll out. National and county level actors met regularly to assess the programme and develop operational plans and were encouraged to prioritize community health services in national and county planning. QI guidelines and standards were disseminated by counties. At sub county and community levels QI teams linking community and formal health services provided platforms for increased community participation in decision-making.

**SQALE's guiding principles**

SQALE's guiding principles are outlined in **Box 1-2** (USAID-SQALE, 2019b; USAID-SQALE, 2016b). These principles were deliberately designed for CHVs who typically had low levels of literacy and numeracy skills, had multiple data-collection responsibilities, often lacked clear roles and had fewer support structures than formal health workers (Kok *et al.*, 2017; Cometto *et al.*, 2018; Scott *et al.*, 2018). SQALE aimed to address these issues by focusing on simple, jargon-free training materials and using existing, standard MoH data collection tools and linking QI roles and responsibilities with newly developed national guidelines for QI for community health (Republic of Kenya MoH, 2015).

With a specific focus on standard MoH data collection and supporting newly developed national guidelines for QI for community health, SQALE often differed from previous community health QI initiatives in sub-Saharan Africa which focused around a specific project (Colbourn *et al.*, 2013; Horwood *et al.*, 2015; Tancred *et al.*, 2017; Tancred *et al.*, 2018). SQALE's guiding principles emphasized incorporating community voices and strengthening QI at multiple levels. The multi-level design of SQALE was underpinned by evidence of poor linkages between community and facility services in Kenya (Mireku *et al.*, 2014).

**Box 1-2 SQALE's guiding principles**

- Alignment with existing Ministry of Health standards, models and tools
- Data collection for data use
- Focused, small set of quality indicators
- Simple, jargon-free training materials
- Clearly defined roles and responsibilities for quality improvement at all levels
- Recognition of good practice and celebration of success
- Incorporating community voices

SQALE focused on MNCH. Examples of QI priorities addressed included: improving timeliness of reporting by community health providers; improving follow-up of pregnant women referred for antenatal care; antenatal care attendance; home deliveries referred for postnatal care (PNC) services; identification of malnutrition; and referral for immunisation or malnutrition care. SQALE had seven indicators linked to these priorities (see **Box 1-3**), bringing QI teams together to review them. Community voices were incorporated through community-level representation on QI teams (see **Table 1-3**), and through regular community and service user dialogues (e.g. community dialogue days and community interactions as CHVs made their regular visits to community households).

**Box 1-3 SQALE MNCH indicators**

SQALE's MNCH indicators included three indicators for skilled delivery, antenatal care (ANC) and postnatal care and four indicators focused on child health. Child health indicators included mid-upper arm circumference (MUAC) indicators as part of the nutritional assessment of children.

***Skilled delivery/ ANC/ PNC indicators***

- Delivered by skilled attendant
- Pregnant women referred for ANC

- Home delivery referred for PNC services

***Child health indicators***

- 0-11 months referred for immunisation
- 6-59 months participating in growth monitoring
- 6-59 with MUAC red, referred for severe malnutrition
- 6-59 months with MUAC yellow, referred for moderate malnutrition

Indicators were monitored by SQALE using lot quality assurance sampling (LQAS) and the routine health information system. Data quality was assessed through calculating data verification ratios for priority indicators.

**SQALE structure and systems, team composition and terms of reference**

SQALE operated in three counties: Kitui, Migori and Nairobi (see **Figure 3-1**). In each county, SQALE supported one third of all sub-county and community units, equating to three sub-county and nine community QI teams per county. Across all 3 counties, a total of 9 sub-county and 27 community QI teams were supported, alongside assistance to county and national levels, summarised in **Figure 1-6**. For this thesis, data were collected in two counties, Migori and Nairobi.

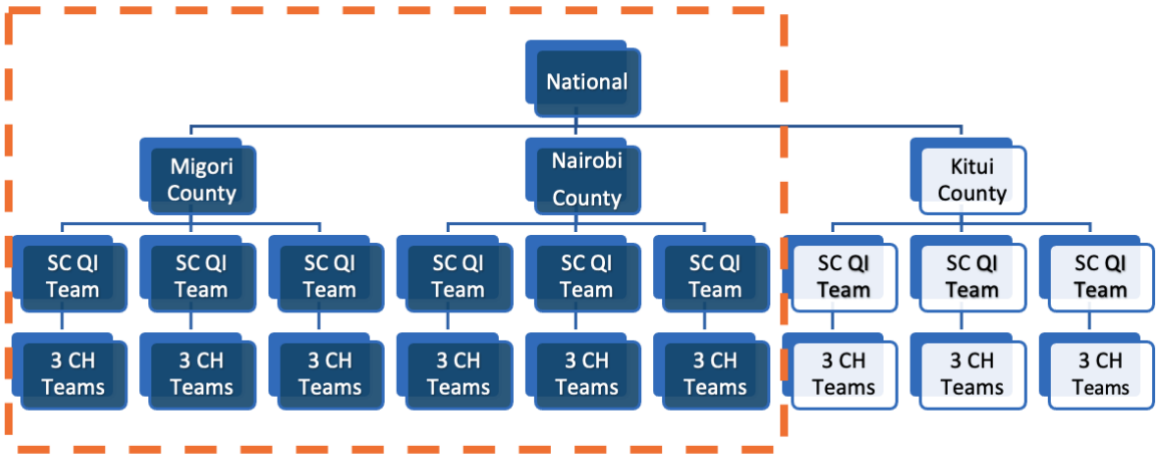



**Figure 1-6 SQALE activities by level**

SC = Sub-county QI team, CH = Community health QI team. The area within the dotted line (_ _ _) indicates the counties, sub-counties and communities where this research was conducted: Migori and Nairobi.

Sub-county and community QI team composition and respective roles and responsibilities are explained in **Table 1-3**. Terms of Reference (ToR) were provided to each team setting out their roles and responsibilities **(Appendix B)**. QI team membership was jointly defined by the SQALE project

team in conjunction with the CHDU and sub-county level staff. Teams were multi-level, with between 8 and 12 members from community and formal health services, designed to support partnership as teams worked towards common goals.

Team membership was deliberately structured to enhance community–facility linkages and to create opportunities for two-way feedback between the community and sub-county levels. For example, CHEWs were members of both sub-county and community QI teams to support feedback across the community and sub-county levels. Community-facility linkages were further strengthened by the nurse in charge of local primary care facilities included in community QI teams.

Sub-county QI teams included, in order of seniority, the community health focal person (Chair), the MoH focal persons for QI, reproductive MNCH promotion, nutrition, a health records information officer and, finally, the sub-county CHEWs. All sub-county team members were paid MoH employees.

Community QI team membership combined paid and volunteer workers. Team members ranged in seniority from the nurse in charge of the health facility followed by the CHEW, village chief or deputy chief, all of whom were formally paid in their existing roles and community volunteers (CHVs and Community Health Committee members) whose pre-existing roles were unpaid. Community QI teams were chaired by the CHEW.

Recruitment of team members varied for community and sub-county teams. For community QI teams CHEWs were usually central to identifying community team members (CHVs and community health committee members), while at sub-county level, membership comprised some pre-existing representatives of the sub-county senior management team.

**Table 1-3 Typical QI team composition, roles and responsibilities**

| Sub QI team county<br>*(Formal paid health workers only)* | Community QI team<br>*(Mix of paid and volunteer workers)* |
|---|---|
| **Chair** | **Chair** |
| Community health focal person | **CHEW**<br>*(member of community and SC QI team)* |
| **Team Members** | **Team Members** |
| • Focal person for QI and officers for: reproductive MNCH, nutrition and health promotion<br>• Health Records Information Officer<br>• **CHEWs** *(member of community and SC QI team)* | • Nurse in-charge from the primary health facility (called throughout 'the facility in charge')<br>• Local village chief or deputy chief<br>• CHVs, Community Health Committee members ***(volunteers)*** |
| **Roles and Responsibilities** | **Roles and Responsibilities** |

| | |
|---|---|
| Using the structured problem-solving methodology, PDSA cycles, QI teams:<br>• Provide leadership and support consistent goals for quality of community health services at sub-county and community level<br>• Review quality and performance data and provide quarterly progress reports to the sub-county health management team / QI team<br>• Ensure accurate recording and reporting of community health data<br>• Monitor and support CHUs to meet community health standards<br>• Provide regular coaching and supportive supervision to community QI teams<br>• Identify, analyse, develop and implement solutions for problems related to CH services<br>• Encourage innovation and highlight success stories<br>• Identify priorities for community health services, manage QI budget and advocate for resources<br>• Ensure QI is factored into sub-county annual workplans and CHU quarterly plans | Using the structured problem-solving methodology, PDSA cycles, QI teams:<br>• Provide leadership for QI at community level<br>• Identify and mobilise key stakeholders to participate in QI activities<br>• Identify, analyse, develop and implement solutions for problems related to community services<br>• Ensure accurate recording and reporting of community health service data<br>• Complete and analyse monthly community health service statistics<br>• Give feedback to the community, service users and local primary health facility staff |

SQALE used the structured problem-solving methodology, PDSA cycles. This approach was combined with an adapted form of the collaborative model for QI, (variously called training/ learning events within SQALE); summarised below and illustrated in **Figure 1-7**.

**QI team training**

In each county, a common approach to locally led QI comprised three phases of facilitated capacity development events, each building on one another. Formal capacity development events were interspersed with periods of implementation and ongoing support for the new QI approach in the field, as illustrated in **Figure 1-7**. The three phases of training were implemented over a period of 9 to 12 months for each county. Each training lasted between two and three days. Periods of implementation followed each training.

The training curriculum employed materials adapted for community health which were simple and jargon-free, adapted in line with the guiding principles. Phase 1 training (**Figure 1-7**) involved an introduction to QI concepts, data quality for community health, monitoring community perceptions of community health services and establishing QI teams. Tools and associated methods to track progress were all introduced, including creating bar graphs and run charts (simple line graphs of

data assessing the effectiveness of change over time) and working with percentages. Phase 2 training involved data presentation and review, analysis of data and QI problem-identification based on root cause analysis and developing change ideas and plans using local data and knowledge. Phase 3 training involved learning and exchange focused on review of change plans, sharing experiences and reflections of best practices and future QI plans.

In the time between phases 1 and 2, QI teams focused on improving data quality and working with community members to measure community experience and satisfaction with community health services using a community follow-up tool (a questionnaire capturing community perceptions of, and satisfaction with, CHV household visits). Over the implementation period scheduled between training phases 2 and 3, QI teams tested their change ideas on a small scale and collected data to evaluate them. These change ideas were then adapted and tested again or scaled up and monitored if successful.

Training sessions 1 and 2 used collaborative approaches to learning with opportunities for peer presentation and review alongside more traditional didactic teaching sessions. Phase 3 trainings were called 'learning events' and focused on sharing and advocacy between peers and different levels of the health system (USAID-SQALE, 2019a). Learning events created opportunities for senior managers (e.g. from national and county levels) to interact with QI teams and to learn first-hand about the QI approach. In the three training/learning sessions held for each county, QI teams reviewed progress and received information about new topics related to QI and maternal and newborn health. QI teams had the opportunity to present their own data and exchange it with one another at training sessions. At these sessions, change ideas were developed, each with change plans outlining exactly how they would be tested. Regular, phased training built momentum for QI interspersed with opportunities for practical implementation in the field. A summary of each phase is illustrated in **Figure 1-7**, replicated from Otiso *et al.* (2018).

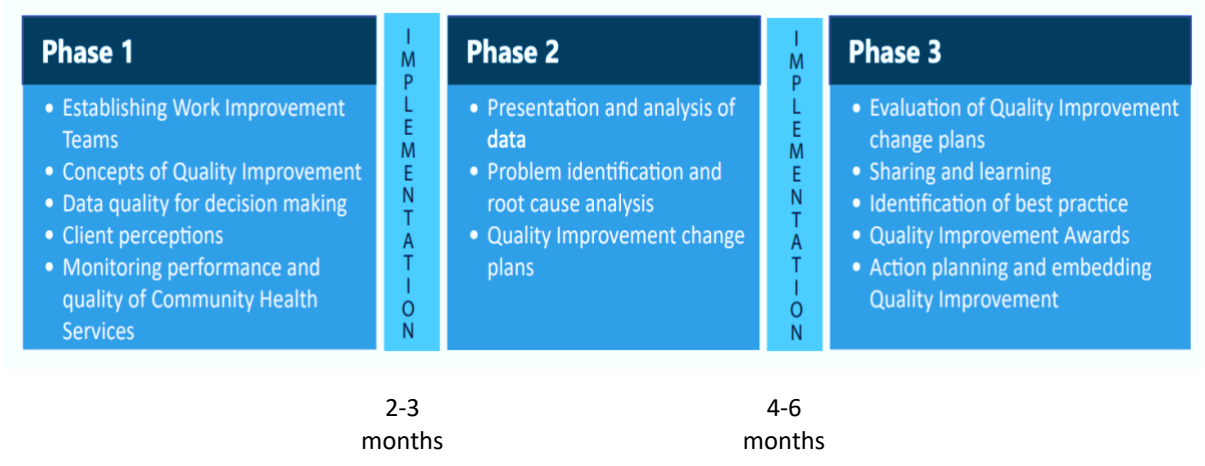



**Figure 1-7 Phased approach to QI capacity-development programme**

**QI team support during periods of implementation**

Periods of implementation of change ideas were supported by project-funded mentors and MoH coaches and supervisors. Project-funded mentors were staff employed by SQALE who met monthly with QI teams to support QI skills and activities. MoH coaches were also team members and included the sub-county community health and QI focal persons and health records information officers. Longer-term QI coaching from MoH supervisors was designed to reduce reliance on technical support from SQALE project staff and to develop MoH capacity in supporting and embedding quality into community health services.

**Embedding and sustaining the approach**

Regular support from the MoH to QI teams was expected to continue after the conclusion of training. Similarly, the work of QI teams, supported by mentors, was advocated as a systematic long-term approach to providing quality community health services that could, in theory, continue after SQALE training and post-SQALE. Embedding and sustaining the QI approach long-term was incorporated into programme design. SQALE took a long-term, whole-system approach, acknowledging that change could only come about and be sustainable with support and alignment elsewhere in the health system. Kenya had already developed the Kenyan Quality Model for Health which included standards and guidelines for community health. SQALE supported dissemination of these. Further, SQALE aligned with and augmented pre-existing QI structures or created new ones where gaps were identified. It aligned with existing MoH standards, models and tools. Activities reflecting SQALE's long-term approach included the following:

- QI teams were tasked with collecting, analysing and using local MoH data on MNCH using existing standard data collection tools, identifying gaps and creating solutions (change ideas) to local health issues.
- QI teams met monthly to assess progress against change plans and modify plans if required. Monthly QI meetings were designed to increase decision-making space and ensure community involvement in local selection and implementation of interventions to improve quality.
- Locally defined change ideas were implemented over time and assessed by QI teams using locally available MoH data sources.
- During QI team meetings, teams continually assessed outcomes of their interventions, making decisions on whether to continue addressing the same quality problem or move to a new priority.
- Sub-counties were encouraged to provide financial support for QI as part of annual workplans.

- Learning events were designed to promote the QI approach and provide advocacy opportunities to develop the approach.

Across all phases, training participants included a mix of policymakers, managers, QI coaches and supervisors, health providers and community members. This joint approach to training was a novel approach in Kenya. The approach was designed to create 'buy-in' and support for QI as a long-term approach (this is discussed further in Section 4.2).

## 1.2 Study justification

This thesis is set in the context of shifts in global discourse on UHC, where coverage and quality of health services are increasingly prioritised and come amid calls for a 'revolution' in the quality of global health systems (Kruk *et al.*, 2018). The Global Conference on Primary Health Care, in 2018, renewed past promises and principles of healthcare for all, bringing attention yet again to the role of communities in providing PHC (WHO, 2018a). Additionally, with the launch of three global reports on quality healthcare in 2018, quality health services remain centre-stage in the current global policy discourse. It is this renewed emphasis on community health – and the focus on quality services more broadly – which provides part of this study's rationale for the timely examination of QI for community health.

While there is evidence that CHWs are effective and can increase coverage of services, questions around the quality of community health services remain, particularly for maternal and child health. Despite growing research on QI for community health in sub-Saharan Africa, the QI team itself and teamworking in complex community health systems have been overlooked, especially in Kenya.

In Kenya, the recent push for UHC forms a key policy pledge and, for the first time (in 2015) standards governing the quality of Kenyan community health services were developed. But how might quality standards be delivered in a system where, historically, community health has not been prioritised, where health operates as a devolved service and even at facility level QI implementation varies? Reflecting on these issues raises many important questions that merit examination. For example, with community health on the fringes of the formal health system and with weak links between community and formal health services, what impact might this have on attempts to create multilevel QI teams which rely upon community and formal health sector participation? Further, in the context of years of donors coming and going supporting community health projects, how will QI for community health, an approach designed to improve the quality of community health over time, be perceived? This study sets out to address these questions and concerns. QI teams are important in community QI but remain poorly understood. Therefore, they

present a missed opportunity to enhance an approach that can contribute to strengthening the quality of primary healthcare and, ultimately, UHC. It is hoped this research will contribute to a deeper understanding of QI teams in Kenya, and potentially more widely, as more countries focus on CHWs to support quality UHC.

## 1.3 Thesis timeline in context

The thesis timeline is presented in the context of the main changes in community health in recent years in Kenya **(Figure 1-8).** It is these shifts in national and global agendas and priorities, combined with gaps in current research around QI teams (outlined above), that provide this study's timely rationale for the examination of QI teams and teamworking for community health.

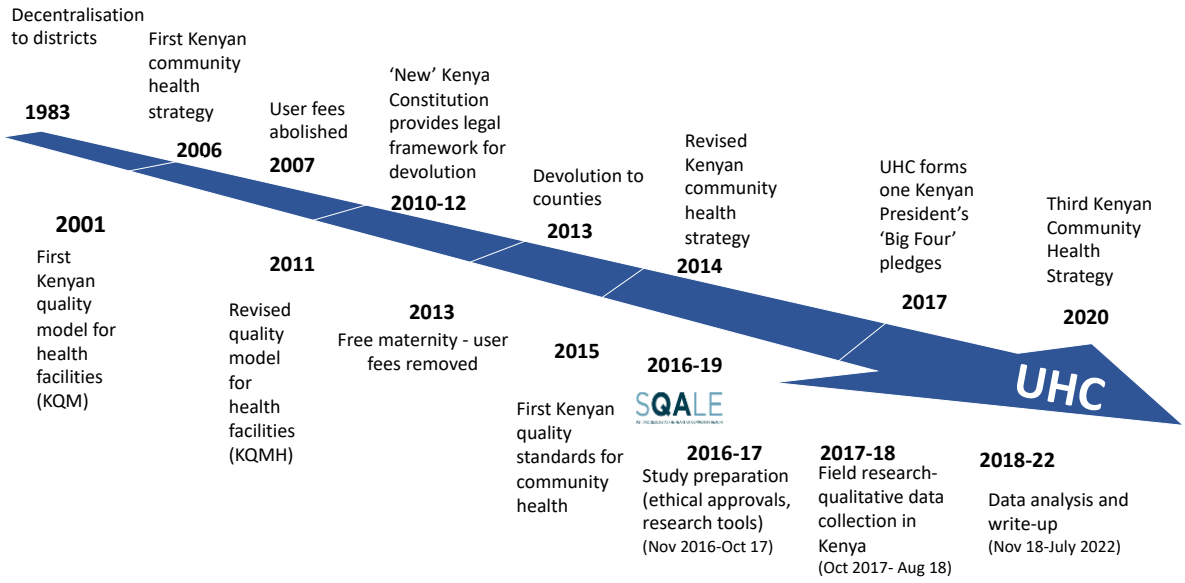



**Figure 1-8 Kenyan community health context and thesis timeline**

## 1.4 Thesis aim and objectives

The aim of this thesis is to address the question: how can QI teams for community health best be established and supported in the devolved Kenyan health system?

The research has three objectives:

1. To analyse the effect on teamworking of QI team composition and task structure and to determine how these can best be modified for community health in Kenya.

2. To explore the contextual and interpersonal barriers and facilitators to teamworking at community level in the devolved Kenyan health system.

3. To test and advance applicable theoretical models pertaining to QI teams and teamworking based on the experience of implementing QI teams in Kenyan community health services.

In relation to the last objective, a critique of teams theory will be presented in Section 2.4.3.

The study provides evidence of how QI teams function for community health and support improved design and implementation strategies. Findings provide insights into the experiences of QI teams for community health from the perspectives of practitioners implementing QI on the ground and managers, policymakers and QI experts supporting QI in Kenya. It is therefore hoped that the study will contribute to practical guidance for community health services, policymakers and QI leaders, informing policy, practice and research questions and contributing to improvements in PHC quality and, potentially, QI more broadly.

## 1.5 Thesis outline

This thesis comprises five chapters, including this one. **Chapter 1** set the context of the study in community health globally and in Kenya. It identified the research problem, justified the research and described the study's aims. Key concepts around community health and QI were described. The chapter provided contextual background to the subsequent literature review in Chapter 2, providing details of the Kenyan health system and current policy around community health.

The literature review in **Chapter 2** establishes the need for this research and highlights where it is situated in the broader literature. It identifies that, while there is growing research on QI for community health in sub-Saharan Africa, there persists a significant evidence gap with a lack of focus on the QI team itself, teamworking and how QI teams were understood in relation to their wider contexts and the devolved Kenyan health system. Theoretical perspectives on teams and teamworking (Section 2.4) are then presented in response to current knowledge gaps. The chapter concludes by drawing together the different sections on the community health context in Kenya (Chapter 1) which might affect team dynamics, highlighting the overall significant gap in knowledge which this thesis aims to address (Section 2.5).

The methodology is set out in detail in **Chapter 3.** The chapter justifies the use of qualitative methods before describing the study sites, sampling, data gathering and analysis as well as the measures taken to ensure quality. Ethical considerations are discussed. Reflexivity and positionality are then addressed.

**Chapter 4** presents the study's findings, answering the overall research question. Findings are organised in four sections (4.2–4.5). Each section focuses on one of the main themes evident within the data, explaining key factors in establishing and supporting effective QI teams. By drawing on

emerging findings, a fresh conceptualisation of factors critical in establishing and supporting QI teams for community health in the devolved Kenyan health system is presented (**Figure 4-1**). Figure 4-1 demonstrates the interrelationship of the four themes embodying key factors that support effective QI teams and teamworking which are described in this chapter.

The concluding **Chapter 5** considers the findings and discusses their meaning in light of the literature. Overall, the findings address the establishment of and support provided to QI teams in the Kenyan context. The study's strengths and limitations are then examined. The thesis concludes by considering the possible implications of the study's findings for policy, practice and research in supporting QI teams for community health.

# Chapter 2 Literature Review

## 2.1 Introduction

Having established the position of this thesis within the Kenyan context and community health in an era hailed as a time for 'revolution' in the quality of healthcare, the aim of this chapter is to critically review the available evidence around quality improvement (QI) for community health in sub-Saharan Africa.

The purpose of this review was twofold. First, to examine what is known about QI for community health in sub-Saharan Africa; and second, to identify a key gap in this evidence that will be addressed in this thesis.

The review methods are set out in Section 2.2. The review results are presented in Section 2.3. Results begin with an overview of the scope of the published literature and study characteristics. Critical QI-related issues emerging from the experiences of those delivering QI for community health are identified and knowledge gaps in the current evidence are highlighted – namely a focus of the QI team itself: teamworking, functionality and team theory (Sections 2.3.1 and 2.3.2). Theoretical perspectives on teams and teamworking are examined in the penultimate Section 2.4, with frameworks to help define functionality and provide a theoretical lens to analyse data collected as part of this thesis. Section 2.4 is presented not as a product of the literature review but rather in response to significant knowledge gaps in the literature. The chapter concludes by drawing together the different sections on the community health context in Kenya (Chapter 1) and the literature review that might affect team dynamics, highlighting the gap in knowledge which this thesis aims to address (Section 2.5).

## 2.2 Review methods

A narrative review of published literature for QI in community health was conducted. This review was used to map the available evidence around QI for community health in sub-Saharan Africa, particularly around team approaches used within QI, and to identify knowledge gaps. The review addressed two key questions:

1. What is known about QI for community health in sub-Saharan Africa?
2. What is a key gap in this evidence that will be addressed in this thesis?

### 2.2.1 Search strategy

Databases searched included CINAHL, EMBASE, Global Health, MEDLINE/ PubMed, Web of Science and SCOPUS. The review drew on a diverse base of literature from QI in community health in sub-Saharan Africa.

The following search terms were used: 'quality improvement'; 'quality improvement team'; 'quality improvement collaborative'; 'quality cycles'; 'quality management'; 'continuous quality improvement' and 'community health' or 'community health partnerships', 'community programmes', 'village health workers', 'village health programme', 'village health partnership', 'health' or 'primary health' and 'LMICs' or 'sub-Saharan Africa' were used, accounting for variation in the subject index terms specific to each search engine.

The search strategy examined extensive literature from health, community health and development disciplines to examine what was known about QI in sub-Saharan Africa for community health.

**Inclusion and exclusion criteria**

The search strategy used the following inclusion criteria:

- sub-Saharan Africa;
- QI interventions identified by authors as QI, continuous QI or quality management which explicitly mentioned the methods used. Methods needed a component of: problem identification, solution generation, implementation of solutions and testing and monitoring of solutions. Methodologies such as using plan-do-study-act (PDSA) cycles or 'participatory action cycles' (local problem-solving approaches, almost identical to PDSAs, to identify and respond to context-specific problems) or the collaborative model for improvement, which typically uses PDSA cycles and brings together learning collaboratives for peer-learning and exchanges.
- inclusion of a community QI component.

In order to obtain papers that provided historical as well as contemporary relevance, no dates were set as part of search criteria but instead databases were searched to the extent of their temporal limits.

Exclusion criteria included non-English language papers and papers that were not peer reviewed.

**The process of screening**

The process of screening included scanning titles and reading the abstracts. Reference lists of papers were examined for any further studies that had not been identified to-date. Articles included after the first stage were then retrieved and the full papers were reviewed. The process of screening titles and review of articles was undertaken by myself (one reviewer, n=1).

### 2.2.2 Data extraction and analysis

Study characteristics were extracted and then a thematic analysis was carried out to generate key findings (Braun and Clarke, 2006). Two sets of data were extracted from the selected papers into Microsoft Word. The first details extracted included: the characteristics of the QI programmes such as the health area addressed and geographical location; aims of the QI intervention, including what level the activities were aiming to improve (e.g. communities, health facilities, multi-level interventions), and who carried out the QI work (e.g. community health workers (CHWs), health facility staff, administrators). Overall study objectives were extracted alongside study methods (e.g. qualitative and quantitative methods) and whether there was an explicit focus on the QI team, teamworking or use of team theory. Study findings were then elicited from each paper and categorised into three broad areas:

- descriptions of QI approaches adopted;
- key outcomes/ findings/ lessons learnt by implementers; and
- facilitators and barriers to QI for community health.

The various categories of data were captured in columns, and each row represented an included paper. The data extraction sheet is presented in **Appendix C**. A thematic analysis of extracted data was carried out, eliciting descriptive and analytical themes while drawing out commonalities, divergences and associations across themes and papers. This was completed manually in Microsoft Word.

## 2.3 Results

The review results aimed to address the first question of the literature review: what is known about QI for community health in sub-Saharan Africa? The results begin with a descriptive overview of study characteristics (Section 2.3.1), followed by the results of the detailed thematic analysis of the key findings from the literature.

### 2.3.1 Overview of study characteristics

A total of 19 peer-reviewed articles were identified describing QI in community health in sub-Saharan Africa (**Appendix C**). Articles covered 13 separate QI projects. Nine projects focused exclusively on community level QI (Sibley *et al.*, 2014; Stover *et al.*, 2014; Tesfaye *et al.*, 2014; Horwood *et al.*, 2015; Lunsford *et al.*, 2015; Horwood *et al.*, 2017; Stover *et al.*, 2019; Yilma *et al.*, 2020) and one on community and facility QI (Colbourn *et al.*, 2013). The remaining three projects were multi-level interventions, with QI occurring synergistically across communities, health facilities and district health management teams (Twum-Danso *et al.*, 2012; Singh *et al.*, 2013; Cofie *et al.*, 2014; Hanson *et al.*, 2014; Twum-Danso *et al.*, 2014; Singh *et al.*, 2016; Tancred *et al.*, 2017; Waiswa *et al.*, 2017; Tancred *et al.*, 2018; Manzi *et al.*, 2020). The most common areas for improvement were the scaling-up of treatment and care for HIV-positive individuals and the prevention of mother-to-child transmission of HIV (eight projects) and maternal and newborn and child health (five projects). Increased community referrals and the provision of health information formed a major focus of much of this work.

Projects were carried out from 2008 to 2020 across seven countries: Ethiopia (four), Ghana (two), Malawi (two), Mozambique (two), Tanzania (three), Uganda (one) and South Africa (two). Studies were published between 2012 and 2020. The last five years in particular have witnessed an increase in QI for community health in sub-Saharan Africa. Of the QI projects listed in **Appendix C**, four projects had mixed QI teams comprising health facility and community members, like SQALE (Stover *et al.*, 2014; Sibley *et al.*, 2014; Horwood *et al.*, 2015; Stover *et al.*, 2019; Yilma *et al.*, 2020). Two multi-level projects included QI teams with exclusively community-based and facility-based members at community and facility levels, respectively (Waiswa *et al.*, 2017; Tancred *et al.*, 2017; Tancred *et al.*, 2018; Manzi *et al.*, 2020). However, individuals from different levels came together at learning sessions and monthly meetings (e.g. a member of the local health facility QI team attended monthly community-level QI team meetings, similar to the way CHEWs in SQALE would sit across community and sub-county teams). Two projects included QI teams with community-based members[3] only (Horwood *et al.*, 2015; Lunsford *et al.*, 2015).

While all studies summarised used team approaches, studies with a focus on the QI teams themselves or that commented on teamworking were striking by their absence – only one considered well-functioning teams (Yilma *et al.*, 2020), though all described their intervention using QI teams, primarily in background sections of their publications. While Yilma and colleagues place

[3] Horwood *et al.* (2015) reports four case studies in the same study, including three mixed QI teams and one QI team made up exclusively of community members.

explicit focus on the QI team itself (Yilma *et al.*, 2020), consistent with other studies in QI in sub-Saharan Africa described here, operational aspects of 'how' teamworking occurred in practice (e.g. team relationships, decision-making and power dynamics) were overlooked. For example, background intervention details frequently emphasised 'bottom-up' approaches or projects carried out by community members for community members. But how this worked in practice was missed. None of the studies explicitly employed team theory as part of their research methods.

**Study design and samples**

Quantitative, qualitative and mixed methods were used across the 19 articles identified for synthesis. Early research was more heavily weighted towards quantitative methods, typically demonstrating proxy indicators of health outcomes (e.g. referrals, antenatal care attendance; maternal and child health knowledge and skilled delivery).

While early impact reviews often demonstrated some positive results of community QI approaches on proxy measures such as referral, studies were often inconclusive, raising questions about what accounted for these differences and pointing towards methods that could explain them (Singh *et al.*, 2013; Tesfaye *et al.*, 2014; Singh *et al.*, 2016). Even for Colbourn and colleagues (Colbourn *et al.*, 2013), who considered health outcomes in their cluster randomised control trial of the effectiveness of community mobilisation through women's groups (at village level) and health facility QI, results were inconclusive: reductions in neonatal and perinatal mortality were observed between intervention and control sites, but similar reductions were not found for maternal mortality. Further, with only a description of the community intervention, questions about what accounted for these differences from the perspective of those implementing the initiative remained, highlighting the need for methods that could explain the differences. Subsequently, qualitative studies including post-hoc descriptive case studies and mixed-methods process evaluation emerged, providing further detail on QI approaches examining the feasibility of QI at community level and the barriers and facilitators to the approach, (Sibley *et al.*, 2014; Horwood *et al.*, 2015; Lunsford *et al.*, 2015; Tancred *et al.*, 2017; Tancred *et al.*, 2018).

While post-hoc descriptive case studies provided details of the QI approach, these typically focused on operational issues (e.g. type of staff involved and type and intensity of training and mentoring). Further, there is rarely equipoise in QI, so interventions are hard to evaluate by trial design as the assumption is that improving quality is a good thing regardless. In Malawi, Mozambique and South Africa, Horwood *et al.* (2015) present four case studies describing basic principles of the QI approach and the adaptations used. Given there are no commonly accepted definitions of QI, case studies describe important operational details (Walshe, 2009); however, the voices of those implementing QI approaches were missed. Without these implementer narratives, a deeper

understanding of success and failure of QI approaches was absent. Qualitative studies giving a voice to those implementing QI projects began to emerge. Where outcomes were considered, in several cases these were chiefly QI capacity-related examining the feasibility of QI at community level and focused on the processes of the QI approach, such as knowledge of QI concepts (Sibley *et al.*, 2014; Stover *et al.*, 2014; Tancred *et al.*, 2017; Tancred *et al.*, 2018).

Evaluation of the QI team itself was absent in the studies identified for synthesis, except in the one recent case study in Ethiopia (Yilma *et al.*, 2020), mentioned briefly in the overview of study characteristics above. Study methods included document review, qualitative analysis of the experiences of a select group of what the project classed as well-functioning QI teams and observations of improvement teams. Four QI teams were purposively selected to demonstrate how the team achieved outcomes and why the intervention worked well. Yilma and colleagues conclude that QI interventions can be an important tool to facilitate health services. They identified four critical factors supporting QI intervention, including QI team commitment, regularity of team meetings, engagement of all staff and community groups and emphasise integration across community and facility levels. However, details of teamworking were missed, e.g. how local data were used to inform QI or how QI targets were identified and how cultural shifts towards data use and improved integration across community and facility levels were supported. The case study described only those teams judged as well-functioning. Further, of those sampled, no details about numbers of participants (e.g. whether all or only some team members participated in what were described as 'discussions') are provided. The study is highlighted for its specific mention of well-functioning teams, although it misses the opportunity to gather a range of participant experiences: in particular, poorer-functioning teams.

Rather than a focus on the QI team, participants of studies identified for review were heavily weighted towards individual QI team members and project and health staff closely linked to QI implementation on the ground in villages and health facilities. Despite this, sampling did not always include community team member perspectives, and individual interviews predominated over team interviews. For example, Ghana's project 'Fives Alive!', with community- and facility-level activities, was weighted towards the facility-level component, with facility-led and focused teams that included community representation and change plan activities (Twum-Danso *et al.*, 2012; Singh *et al.*, 2013; Cofie *et al.*, 2014; Twum-Danso *et al.*, 2014; Singh *et al.*, 2016). 'Fives Alive!' involved community outreach activities to raise awareness of maternal and child health services and cultivate community involvement in QI activities (Cofie *et al.*, 2014). A qualitative case study design was adopted, using interviews with individual QI team members – but exclusively at the facility level. In this way, while facility participants' views were sought on community engagement, community perspectives were absent. Similarly, in Ethiopia, Stover and colleagues (2014) employed

surveys and in-depth interviews to assess the extent to which the Maternal and Newborn Health in Ethiopia partnership (MaNHEP) developed improvement capacity. A survey evaluated district (woreda) culture, leadership support, motivation and capacity for improvement activities and interviews focused on respondents' understanding and perceived value of the MaNHEP improvement approach. While questionnaires and in-depth interviews included QI team leaders and coaches, regular team members were excluded. More recently, the Expanded Quality Management Using Information Power (EQUIP) project in Tanzania and Uganda adopted individual and focus group discussion (FGD) approaches, capturing community perspectives and views from other levels of the health system (e.g. health facility and district levels). FGDs included participants from one level only – the community – rather than mixed teams, although multi-level team perspectives were captured in meetings and learning events where community and facility member interactions took place, which were observed.

There was very little literature on the QI team as a health system-strengthening intervention at community level (as opposed to improving the quality of community health as part of a project). One recent study by Manzi and colleagues provided an example of how health system strengthening happened through the EQUIP project in southern Tanzania (Manzi *et al.*, 2020). Using multiple sources (theoretical literature, a document review and previous project reports) Manzi and colleagues concluded that opportunities that support skill- and confidence-strengthening are essential in optimising QI, and thus, to maximising health systems strengthening through QI. However the contributions of the QI team itself – and teamworking – to health systems strengthening were missed.

**Intervention components and settings**

All the included papers used methodologies such as PDSA cycles or 'participatory action cycles', like SQALE. Studies were weighted towards QI in HIV (Horwood *et al.*, 2015; Lunsford *et al.*, 2015; Horwood *et al.*, 2017; Stover *et al.*, 2019; Yilma *et al.*, 2020) – a pattern reflected at the facility level in sub-Saharan Africa, where early QI approaches were often first funded by vertical programmes and the Global Fund (Barker *et al.*, 2007; Doherty *et al.*, 2009; Ngongo Bahati *et al.*, 2010; Youngleson *et al.*, 2010; Webster *et al.*, 2012). Historically, HIV is a relatively well-resourced area of health and, arguably, team members and those supporting the interventions at community level may have been better resourced than departments and individuals working in QI for community maternal health. Although papers included in this synthesis hailed from 7 sub-Saharan African countries, 4 of the 19 studies were linked to 2 projects in Ethiopia (Sibley *et al.*, 2014; Stover *et al.*, 2014; Tesfaye *et al.*, 2014; Lunsford *et al.*, 2015). Comparison across countries can be challenging due to contextual variations. For Ethiopia, it is a particular challenge – not least due to the

longstanding traditions of support for community health and a well-established community health system compared with other sub-Saharan African counties. In Ethiopia, QI models were applied in a context of a strong government-supported community provider programmes. In other countries, QI was applied in the context of a weaker volunteer community provider programme, more akin to Kenya (Colbourn *et al.*, 2013; Singh *et al.*, 2013; Cofie *et al.*, 2014; Horwood *et al.*, 2015; Singh *et al.*, 2016; Horwood *et al.*, 2017). Results from Ethiopia or from well-resourced fields like HIV may not so easily transfer to the Kenyan context or to maternal health.

### 2.3.2 Themes

Drawing on the 19 studies, a thematic analysis of their key findings aimed to capture what is known about QI implementation in community health. Thematic analysis was used to examine these barriers and facilitators. Three major themes emerged revolving around individual team member characteristics, the QI project and the local community context. Several barriers and facilitators were identified for each theme, summarised in **Table 2-1** and discussed in detail afterwards.

**Table 2-1 Barriers and facilitators to QI for community health in sub-Saharan Africa**

| | Barriers | Facilitators |
|---|---|---|
| **Individual** | - Poor literacy, and numeracy skills<br>- Unfamiliarity of QI tasks for CHWs | - Individual skills and knowledge of: QI and health topic e.g. maternal and child health<br>-motivation derived from using local data |
| **Project** | - Availability/ willingness of government staff with relevant QI skills. Government staff shortages, competing priorities, workloads, and high staff turnover. For senior staff (e.g. nurses) workloads often precluded participation.<br>- Data collection and presentation often persistent challenge for village volunteers (due to unfamiliarity of tasks for volunteers and low levels of education). Limitations in understanding the meaning of QI methodologies.<br>- Can take several months to obtain reliable data.<br>- Intensive follow-up required on QI methods and to verify activities are carried out.<br>- Limited ownership; poor linkage between facility and community members (especially in one project were QI teams comprised community members only). | - Adapting materials and training to education and first language skills of CHWs.<br>- Intensive continuous mentoring and coaching with qualified QI mentors strengthening QI teams, and supporting ongoing collaboration with community members.<br>- QI 'champions'.<br>- Clear objectives; commitment from leadership and team members to regular team meetings.<br><br>- Representatives of formal health facilities should ideally be included in community QI teams or closely linked to them.<br><br>- Intensive external project support required. |
| **Local context** | - Large geographical distances between health facilities and communities creates barriers for community–facility working.<br>- Fuel shortages and lack of vehicles | - Good links with local primary health care (PHC) facility.<br>- Alignment of tasks between community and facility QI teams. |

| | | |
|---|---|---|
| | - Poor road conditions.<br>- Seasonal migration due to famine or work.<br><br>- Limited integration with government finance and technical assistance .<br>- MoH resources allocation remained problematic. High burden of HIV/ AIDS; limited drug supplies.<br>- Working in context where poor quality data is common.<br><br>- Cultural barriers amongst community members hampered implementation e.g. cultural beliefs prevented some patients disclosing pregnancy until second trimester. | - Local community leadership and support. |

**Facilitators and barriers for individual team members**

A major emerging theme was the focus on individuals within teams rather than the QI team itself—a theme reflected elsewhere in wider teams and QI research (Øvretveit, 1999; Mathieu *et al.*, 2017; Rowland *et al.*, 2018). A number of barriers and facilitators to participation for individual team members emerged. Barriers frequently revolved around team member attributes, such as poor literacy and numeracy skills, the mix of languages spoken within teams and limited experience of QI approaches – all of which were linked to volunteer CHWs and community members (Horwood *et al.*, 2015; Tancred *et al.*, 2018; Stover *et al.*, 2019; Yilma *et al.*, 2020). Poor literacy and numeracy skills created challenges in working with data – calculating percentages and documenting quality improvements in simple charts. There were examples of these challenges being addressed by community programme advisors and projects. In Malawi, Mozambique and South Africa, Horwood and colleagues (2015) describe adapting QI tasks and processes, particularly data reporting, to the education level and first language of community members, while in Ethiopia, simple ways to explain data, comparing numbers rather than percentages, were employed (Stover *et al.*, 2019). The motivation derived from using local data, when it was available, was described as an important factor in engaging community members (Tancred *et al.*, 2017).

Corresponding barriers to individual member engagement included competing priorities, existing workloads and staff shortages, especially among health facility staff (Stover *et al.*, 2019; Yilma *et al.*, 2020). In Mozambique, despite health facility nurses being trained as coaches to help community QI teams, nurses' workloads precluded their participation in multiple community QI meetings (Stover *et al.*, 2019). Instead of nurses attending community QI meetings, high-level improvement teams were created at each health centre – which included the nurse (who was a QI coach) and representatives from each community QI team, so that delegates could participate and

communicate back to the health centre. This raises questions around hierarchy and the extent to which decision-making using bottom-up approaches were being followed – a question which Stover (2019) and others detailed in **Appendix C** leave unanswered.

**Project level facilitators and barriers**

Studies revealed a number of project-level facilitators and barriers to the implementation of QI. A principal facilitator was intensive training and continuous mentoring and coaching to address persistent challenges of data collection and presentation for village volunteers. Training and mentoring reinforced that QI techniques and tools and were deemed high priority across a majority of studies (Colbourn *et al.*, 2013; Tesfaye *et al.*, 2014). Training packages frequently comprised initial training alongside regular (monthly or fortnightly) mentoring and support (Colbourn *et al.*, 2013; Horwood *et al.*, 2015; Tancred *et al.*, 2017), and team members from across districts or counties came together every three to six months to participate in learning sessions (Horwood *et al.*, 2015; Tancred *et al.*, 2017). Progress would be reviewed at these sessions and training and information about health topics (e.g. new issues related to maternal and newborn health) was disseminated. At learning sessions, team members usually had the opportunity to present and exchange their own data with one another. QI 'champions', played a role in supporting QI (Stover *et al.*, 2019). Stover and colleagues found one health centre nurse and a few community groups who were highly motivated, and seemed able to move QI activities along more quickly. They were used as QI champions to motivate other teams. A barrier to intensive individual mentoring and coaching was the availability of staff to provide the support due to government staff shortages or shortages of staff with right skills. There was, instead, a reliance on project mentors rather than government staff who were ultimately responsible for long-term sustainability (Colbourn *et al.*, 2013). This reliance on external support raised concerns over the levels of ongoing support, which may be a challenge to match in some contexts (Tancred *et al.*, 2017).

Some facilitators were more generic and challenging to interpret, such as supporting district culture and leadership that supports improvement work. Several studies mentioned the importance of building organisational culture (at all levels) and leadership to create an environment that enables improvement through engagement of all stakeholders, but how this influenced QI teams and teamworking was unclear (Colbourn *et al.*, 2013; Stover *et al.*, 2014; Yilma *et al.*, 2020). Further, while facility–community linkages were deemed important, there is little detail of how linkages were established beyond the inclusion of clinic staff on improvement teams.

**Facilitators and barriers in the local context**

None of these studies were from Kenya, and none reflected in-depth on contextual influences such as the 'place' of community health within the wider health system, healthcare reforms such as decentralisation by devolution or constraints such as political interference. Instead, working at community level, research emphasised more visible structural and operational challenges of implementing QI approaches. Key local contextual factors which weakened QI for community health often included a mix of financial, geographical and some limited health systems issues (Twum-Danso *et al.*, 2014; Tancred *et al.*, 2017). Challenges included long distances between communities and health facilities, limited road networks, scarce transportation, fuel shortages and limited staffing. These all had implications for undertaking ongoing support in the field (Colbourn *et al.*, 2013; Cofie *et al.*, 2014). Resource shortages, such as vehicles and fuel needed to travel to the field, meant interrupted mentoring visits (Cofie *et al.*, 2014). Facilitators included strong social networks of CHWs and good community–facility linkages alongside local community leadership. Stover *et al.* (2019) reported how community team members were to provide education on the importance of HIV testing and retention in care to their own social networks. Messaging from a familiar and credible source was thought to have inspired more community members to seek services. Tancred *et al.* (Tancred *et al.*, 2017) emphasised support from village executive officers, who have a very clear role in villages in Tanzania. While several studies reported an integrated community facility approach was likely to be best for improving patient outcomes (Colbourn *et al.*, 2013; Stover *et al.*, 2014; Sibley *et al.*, 2014; Tesfaye *et al.*, 2014), developing linkages was a challenge – especially in one project were QI teams comprised community members only (Horwood *et al.*, 2015). Even in Ethiopia, with government-supported community health services, researchers concluded that there was a need for more formal recognition of the value and contribution of community health. Other systems-level barriers included delivering QI within a system with traditionally weak data systems, with one report of community data being completely absent, restricting the potential to track improvement through QI (Singh *et al.*, 2016).

Thus far, as this review illustrates, despite growing research on QI for community health in sub-Saharan Africa, the QI team itself, teamworking and dynamic team relationships in context and as they operate in complex community health systems have received limited scholarly attention, especially in Kenya. Team theory was missed and merited further consideration, and so is discussed in the following section.

## 2.4 Theoretical perspectives on teams and teamworking

### 2.4.1 Introduction

Reflecting on the absence, in the literature, of QI teams, teamworking for community health and team theory, it became clear that teams theory might offer a useful approach to exploring QI teams. In this way, 'theoretical perspectives on teams and teamworking' is not a part of the review results, but rather is provided in response to identified research gaps. The purpose of this section is to examine teams and teamwork with frameworks that help define functionality and provide the underpinning theory for this thesis. The section begins with a definition of a team and its particular utility in QI methods (understood as a cyclical problem-solving approach) (Section 2.4.2). Conceptual frameworks underpinning functional teams are examined (Section 2.4.3). The section concludes by drawing together how learning about teams relates to QI teams for community health in sub-Saharan African countries like Kenya (Section 2.4.4). This concluding section considers what it may take to translate QI from facility- to community level, and how the community context in Kenya might influence a QI team.

The definition of a team often escapes consensus. Existing definitions draw on expertise and concepts from a variety of fields, rather than QI-specific definitions (areas included draw from health and QI and management and psychology). The management and organisational literature provided the most comprehensive definitions of the team construct, and indeed, QI leaders and practitioners have traditionally drawn their definitions from management literature.

In their work 'A Modern Paradigm for Improving Healthcare Quality' (Massoud *et al.*, 2001), Massoud and colleagues adopt Francis and Young's 1992 definition of a team from business and management literature. Francis and Young define a team as a *"high performance task group whose members are interdependent and share a common performance objective"(Francis and Young, 1979).* The idea of common purpose and commitment is similarly reflected by Katzenbach and Smith, (1993) who in their work on well-functioning teams define a team as *"a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable".* Yet both definitions focus on individual teams, rather than teams within larger systems of teams – something which was relevant given that SQALE QI teams were designed to interlink at community and sub-county levels and operate within a multi-level system (linked to county and national levels). A more useful definition in this context and the one adopted in this study is offered by Kozlowski and Ilgen (2006, p. 79)who define a team as:

> *a) Two or more individuals who; b) ) socially interact face-to-face or virtually; c) possess one or more common goals; d) are brought together to perform organisationally relevant tasks; e) exhibit interdependencies with respect to workflow, goals and outcomes; f) have different roles and responsibilities; and g) are together embedded in an encompassing organisational system, with boundaries and linkages to the broader system context and task environment*.

Kozlowski and IIgen's definition captures the multifaceted and dynamic nature of team concepts better than other definitions. They incorporate the importance of context – something identified as a current gap in QI teams research in health (Rowland *et al.*, 2018) and wider teams research (Mathieu and Chen, 2011; Mathieu *et al.*, 2017). Their definition provides a good fit with SQALE and the objectives of this research. It aligns with the aim of SQALE improvement teams to bring together staff from different levels, with varied roles and responsibilities and linkages to the task environment, including community and the formal health sector. Given the emphasis of this study on QI teams and how teams support and sustain QI in community health, this definition provided a broad lens through which to interrogate study data.

### 2.4.2 Teams and their importance to QI approaches

Teams and teamwork are critical to the success of QI, providing the potential for reach and input across different parts of organisations to improve quality, learning and diffusion of change ideas (Øvretveit, 1999; Massoud *et al.*, 2001; Massoud *et al.*, 2018; Wells *et al.*, 2018). With quality gaps often occurring between people carrying out different functions, teamwork is designed to improve opportunities for identifying these gaps and leveraging and sustaining change (Massoud *et al.*, 2001; Langley *et al.*, 2009). Teamwork is designed to cultivate a culture of cooperation, a platform for capacity development through peer learning and support and a sense of common purpose and joint responsibility, rather than individual blame (Donabedian, 1996; Massoud *et al.*, 2001; Batalden and Davidoff, 2007). Similarly QI collaboratives (called 'learning events' as part of SQALE) promote the idea of bringing together individuals and teams who understand how processes and systems work to provide different insights from across an organisation. Often, these teams come from different levels of the organisation to promote shared understanding and synergy across the organisation (Nadeem *et al.*, 2013; Wells *et al.*, 2018; Hulscher and Wensing, 2020).

QI collaborative theory promotes ideas of teamwork, boosting confidence, and fostering 'healthy competition'. After their review of 64 studies of QI collaboratives worldwide, Wells and colleagues (Wells *et al.*, 2018), argue the core elements of QI collaboratives to be: having a clear aim, utilising QI methods and providing a set of structured activities that engaged multiple teams. However, they go further, predicting, "It may be that the components are not as important as how they affect

teams and institutions" – a call to take the "lid off" and understand teams and teamworking and their role in spreading the long-term sustainability of QI interventions in their contexts.

From the teams literature around QI team functionality in healthcare, much of which has historically hailed from facility levels in high-income country health settings, there is good agreement on the highly contextual nature of team function alongside common features of functionality. Hallmarks include inter-disciplinary teams; flattened hierarchies; effective communication; leadership support; alignment of team goals with organisational goals; appropriate team composition and positive perceptions around the credibility of the intervention in context (Berwick, 1996; Øvretveit, 1999; Cunningham *et al.*, 2018; Massoud *et al.*, 2018; Øvretveit, 2018; Øvretveit *et al.*, 2020; Kearns *et al.*, 2021).

### 2.4.3 A critique of teams theory: conceptual frameworks underpinning functional teams

The last 20 years have seen shifts in thinking on team behaviours: from a focus on individuals within teams to the team itself and the larger system within which it sits. Similarly, conceptual frameworks have shifted from linear models to more dynamic ones, reflecting the changing views on factors underpinning teamwork. Early linear models of teamworking proposed by Steiner (1972), Magrath (1984) and Hackman (1987), namely the inputs-processes-outputs model, proposed inputs, which led to processes, which in turn led to outcomes. With more recent emerging consensus of teams as complex adaptive systems (CAS) (Cohen and Bailey, 1997; Arrow, McGrath and Berdahl, 2000; McGrath, Arrow and Berdahl, 2000; Ilgen *et al.*, 2005; Ramos-Villagrasa *et al.*, 2017) and the importance of context, more cyclical and dynamic models emerged. Complex adaptive systems support a nonlinear dynamic system theory to facilitate better understanding of teams (Arrow, McGrath and Berdahl, 2000; Ilgen *et al.*, 2005). CAS are open systems characterized by uncertainty about their evolution over time, due to interaction of their components. In the seminal work of Arrow and colleagues (Arrow, McGrath and Berdahl, 2000) teams are characterized as (a) *complex*, because they are entities embedded in organisations showing complex behaviour; (b) adaptive, because they behave dynamically in dealing with environmental changes; and (c) systems, due to their functioning being dependent both on the team's history and on its anticipated future. In their review, Ilgen *et al.* (2005) proposed the input-mediator-output-input model. Ilgen *et al.* use the term 'mediator' instead of 'processes', which they suggest provides scope for a broader range of influences on teamworking. The additional variable (input) at the end of the model denotes the cyclical nature of the model, and causal feedback. The input-mediator-output-input variables are neither linear nor conditional.

Mathieu *et al.* (2017) in their review of a century of teams research, take the input-mediator-output-input model further, setting out a complex conceptual framework of factors associated with team and individual outcomes underpinning teamworking (**Figure 2-1**). They consider team tasks and structures, members' characteristics and team composition, team processes and emergent states as dynamic entities with likely reciprocal relationships with one another and team outcomes over time. Mapped to these primary domains and their overlaps are three general categories, namely 'structural features', 'compositional features' and 'mediating mechanisms'. Structural features consider team tasks (scope and complexity) and team structure (how a team breaks down a large or complex task). Compositional features relate to QI team composition (team diversity and a shared sense of team values and goals). Mediating mechanisms include team processes that support or block effective teamworking (goal specification, monitoring progress, decision-making, relationships, conflict management and confidence building) and the impact of these on emergent team states (commitment, morale, conflict). The construct domain framework for teams research (**Figure 2-1**) provides an illustration of the simultaneous and interrelated relationships among factors associated with teams and individual outcomes (adapted from Mathieu *et al.*, 2017).

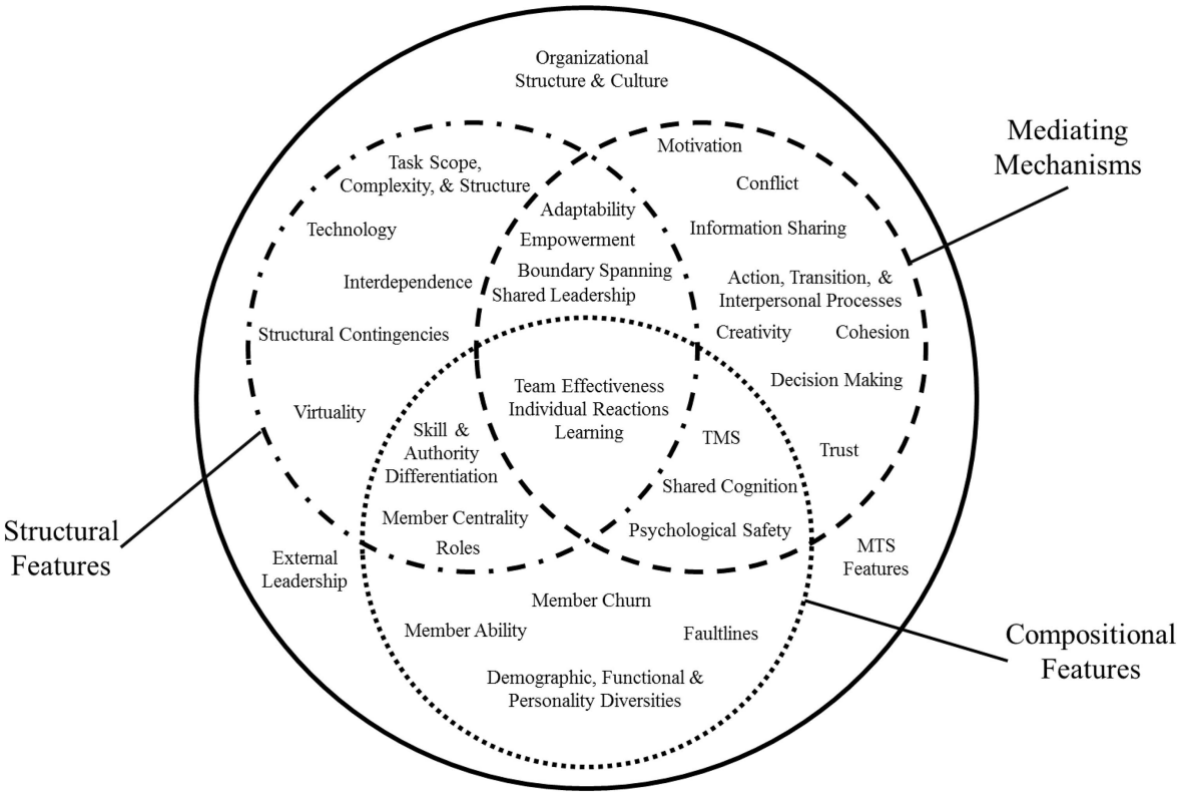



**Figure 2-1 Construct domain framework for teams research (original model Mathieu *et al.*, 2017)**

Mathieu *et al.* (2017) provided a detailed view on factors associated with effective teams and teamwork; however, as part of the decision-making process around models that might provide a good fit for this study, there were other health-specific models that merited further attention.

Drawing on literature from high-income hospital and primary care settings, Lemieux-Charles and McGuire (2006) developed an integrated healthcare team effectiveness model (ITEM). Like Mathieu, ITEM draws attention to the interrelationships between task type and task features, team composition, team processes and organisational contexts on effective teamwork. However, in contrast to Mathieu, ITEM assesses the effect of a more streamlined set of teamwork practices on addressing QI teamwork effectiveness adapting earlier models, such as Cohen and Bailey (1997), which are still relatively linear in comparison to the more dynamic model proposed by Mathieu and colleagues.

The intention was to use a theory to help define team functionality and provide a theoretical lens to analyse data collected as part of this thesis. The rationale for the use of the Mathieu *et al.* construct domain framework are considered here. The advantages over Lemieux-Charles and McGuire's model, and why it provided a good fit for this study, were threefold. First, the model distinguishes wide-ranging factors linked to teams and teamwork reflected in 100 years of social psychology literature. In contrast, while the Lemieux-Charles and McGuire model provided a good overview of generic factors of teamworking, Mathieu *et al.* appeared a better fit for this study to focus on the QI team itself. The breadth of factors provided by Mathieu *et al.* looked likely to provide a more comprehensive scope to examine QI teams in community health, which is important given the dearth of information in the current literature. Second, the model identifies potential 'mediating mechanisms' – 'the how' of teamworking – something identified as a gap in current community QI literature. Moreover, the model looked likely to provide the scope to examine QI teams concepts and experiences for community health across varied sociocultural, economic and political contexts. Finally, Mathieu *et al.* illustrate the overarching, overlapping and more dynamic quality of factors contributing to teamwork alongside the detail for each theme. The shape of the model, featuring overlapping circles combined with factors such as 'Member Churn', 'Decision-Making' and 'Adaptability' depicts teams and teamworking as a dynamic and interactive process with scope for fluidity, change, overlap and interplay between factors. This configuration looked likely to be helpful in examining relationships between factors deemed critical to functional QI teams and how they might be realised in the context of community health. For example, QI team philosophies of flatter management structures and 'bottom-up' approaches to decision-making – how might these be realised in the Kenyan health system where community health is the lowest level of healthcare within an entrenched hierarchical health system? The shape of the model reflects the dynamic nature of teams and sits in contrast to early research focused on formal linear

models of teamworking proposed by Steiner (1972), Magrath (1984) and Hackman (1987) – namely the inputs-processes-outputs model, in which inputs led to processes, which in turn led to outcomes.

In sum, with their focus on teams and teamworking, the Mathieu *et al*. (2017) construct domain framework looked likely to provide the granular focus needed to interrogate study data and help explain emergent findings. For the purposes of this study, this model was used.

### 2.4.4 Context and how learning about teams might relate to QI teams for community health in Kenya

Theoretical team frameworks reveal the importance of multiple factors in supporting teams and teamworking, including structural, compositional and contextual issues and mediating mechanisms (Mathieu *et al.*, 2017). Having considered team theory here and the context of community health in Kenya (Section 1.1.2) a number of important issues emerge around QI teams for community health services in Kenya. CHWs navigate a complex system located between communities and the formal health service. From research in five countries in Africa and Asia, including Kenya, CHW performance faced a number of implementation challenges determined by a wide range of policy, programme, contextual and relationship factors (Kok *et al.*, 2017). Reflecting on this and how learning about teams relates to the Kenyan context raises many important questions that have been missed in previous literature on community health QI initiatives, and these questions merit examination. For example, given that decision-making and priority setting is traditionally heavily skewed towards facility services, and made through hierarchies in Kenya, how might this affect team dynamics designed to promote flatter, less hierarchical team structures and 'bottom-up' decision-making (McCollum *et al.*, 2015; Nyikuri *et al.*, 2017)? Considering the wider Kenyan context, how might devolution and national mandates around QI for community health and other specific policies for community health impact QI teams for community health and teamworking? Finally, considering QI team composition, what might occur for mixed teams of formal health workers and volunteers or for team members who already know each other – how might existing roles and relationships and power dynamics among team members and in the community affect the team?

## 2.5 Chapter summary

**What is known about QI in sub-Saharan Africa**

The primary objective of this systematically conducted review was to understand what is known about QI for community health in sub-Saharan Africa and to identify the gaps in current research.

An overview of the literature was presented with an analysis of QI studies found. Three recurring themes emerged around barriers and facilitators to support QI approaches overall: a focus on individual team member characteristics; project inputs; and contextual enablers. Project inputs – especially those related to capacity building (e.g. training and mentoring) – were identified as important facilitators to QI approaches. However, there was a dearth of research focused explicitly on the QI team itself, despite their central role within QI for community health. Additionally, despite the centrality of the wider context emphasised in teams research across a range of sectors, including health (Mathieu *et al.*, 2017), major barriers were largely based around individual team members and their immediate context (e.g. individual staff skills, workloads) rather than focused on dynamic QI teams as they operated in complex community health systems and wider social and political contexts. In this way, questions around how QI teams can work in relation to their wider social and policy contexts of community health persist.

Much of the research on QI centres on quantitative descriptive case studies focused on impact. While these studies present several planned inputs important to impact, the 'black box' of processes and mechanisms needed to achieve shared goals by teams remains largely unpacked – something which would benefit from qualitative investigation. A handful of studies usefully buck this trend, using qualitative approaches in QI work with community health, identifying selected barriers and facilitators to community improvement (Cofie *et al.*, 2014; Tancred *et al.*, 2017; Stover *et al.*, 2019). However, the current qualitative evidence still revolves around individual team members over the QI team itself; for instance, individual training and knowledge of the teams' shared understanding of the QI approach or group mechanisms for decision-making. Key questions remain around the utility of QI approaches: how do team conceptual models (usually from organisational scholars in management and psychology literature in the Global North) apply to under-resourced volunteers operating at the fringes of the health system in LMICs?

**A significant research gap**

Given the current interest in community health in supporting quality UHC and the centrality of teams in delivering QI, the relative absence of published studies explicitly focused on the QI team itself, and on teamworking for QI in communities, represent a significant gap in current literature. Limited qualitative research informs the central research question for this study, to consider how QI teams for community health can best be established and supported in the devolved Kenyan health system.

This research benefits from and builds on previous scholarship but differs from earlier accounts of QI in LMICs. I hope to present a broader perspective on QI for community health, with an explicit focus on QI teams and teamworking using teams theory (Mathieu *et al.*'s construct domain

framework (Mathieu *et al.*, 2017)); greater attention to contextual facilitators and barriers; a fuller sense of the perspectives of a range of actors involved in QI in community health at different levels of the health system; and the voices of those at each level. If successful, then much is owed to many of the scholars whose literature is described and discussed here.

# Chapter 3 Methodology

## 3.1 Introduction

This chapter aims to provide a comprehensive overview of the study design and the methods used to gather and analyse data.

The chapter begins with an ontological and epistemological positioning of the study procedures. A clear rationale for using qualitative research and a description of the study setting follow.

In the second half of the chapter, a detailed description of study procedures is presented, including sampling; data gathering; quality assurance and trustworthiness; data management; analysis; and ethical considerations. Reflexivity and positionality are then addressed.

By demonstrating how the overall research aim and objectives guided the methods chosen, a coherent rationale for the research design is established.

## 3.2 Philosophical underpinnings: ontology and epistemology

The ontological and epistemological positioning underpinning this study are addressed in this section, along with how these were reflected in the methods used. Ontology refers to philosophical assumptions about the nature of reality (what is/what can be known) (Creswell, 2017). Epistemology addresses the interrelated theories of knowledge and how we come to know and learn about the world, gathering information from different sources (how we can know/how you study this) (Creswell, 2017; Barbour, 2014).

A constructivist/interpretivist stance underpins this research (Crotty, 1998; Ritchie *et al.*, 2014; Creswell, 2017; Brown and Dueñas, 2020). Its ontological assumptions are that 'what is' is a construct, derived from multiple meanings. Its epistemological assumptions surround making sense of these meanings (how we can know/how you study this) using constructivist and interpretivist approaches. This position acknowledges that multiple realities exist, each socially constructed by and between individuals, and therefore research participants each develop subjective meanings of their experiences which the researcher then interprets through the lens of their own understanding and experiences (Brown and Dueñas, 2020; Creswell, 2017). Constructivist and interpretivist paradigms aligned with the study purpose, to understand QI teams and teamworking from the perspectives of key actors, and explore their interpretations of establishing and supporting QI teams in the devolved Kenyan health system (Bryman, 2012).

Ontological and epistemological constructivism recognises that individuals shape their perspectives and understanding through their relationships with others, and that they are, thus, constructed. It acknowledges "the critical importance of participants' own interpretations…and belief that their varying vantage points yield different types of understanding," (Ritchie *et al.*, 2014, p. 21).

This philosophy influenced study procedures. A research strategy which aimed to capture the reality of QI teams for community health from diverse perspectives was selected. This covered national through to community levels, from QI experts and policymakers and from team members implementing the approach. In this way, the study aimed to capture the reality of QI teams and teamworking in all their complexity.

The philosophical underpinnings impacted the design of data collection instruments (e.g. using open-ended questions, having a semi-structured approach to enable flexibility to dig deeper into areas identified by the participant as being important) and, of course, how data were analysed. Framework analysis aligned with an interpretivist epistemology by allowing, for instance, opportunities to compare and contrast data by themes across cases (individuals and teams) to easily understand multiple perspectives (Gale *et al.*, 2013). Further, framework analysis connected with an interpretivist epistemology by, allowing both deductively and inductively coding data. While, arguably, deductive coding (use of, for instance, a pre-existing framework) may not quite align with constructivist/interpretivist approaches, this was used as a starting point for the inductive coding (which aligns more clearly with constructivism/ interpretivism) used to refine this framework as coding progressed.

## 3.3 The rationale for qualitative research

Qualitative methods offered a convincing fit with the research questions in four ways. First, they gave a voice to those implementing QI at different levels of the health system, including QI team members. This provided an opportunity to examine what mattered to people in situ about QI team tasks, structures, team dynamics and how teams functioned in what was a relatively new approach for most participants. Qualitative methods are renowned for their particular suitability to researching and understanding meanings and experiences of phenomena that are not well understood, as well as dynamic and complex issues inherent in QI (Pope, van Royen and Baker, 2002; Ritchie *et al.*, 2014). Second, they could describe and demonstrate team processes and mechanisms in achieving effective teamworking (Pope, van Royen and Baker, 2002). They provided opportunities to gain a deeper understanding of particular contexts, including what it meant for QI team members and QI and community health experts to work in that setting, and what meanings they attached to experiences, so an 'emic' or insider's perspective become possible (Pope and

Mays, 1995; Silverman, 2017). Third, qualitative methods were able to explore unintended consequences of the QI intervention and offered scope to demonstrate these (Mays and Pope, 2000; Ritchie *et al.*, 2014). Finally, they allowed for practical recommendations and the exploration of future sustainability.

Given the gap in current literature in understanding and supporting QI teams and teamworking in the context of community health alongside the dynamic nature of QI and the novelty of the approach in Kenya, a qualitative approach was well-suited to this study.

## 3.4 Study setting

SQALE operated in three Kenyan counties: Kitui, Migori and Nairobi (Section 1.1.4). For this thesis, Migori in western Kenya and Nairobi in southern Kenya were selected, since their community health programmes mirror those of other Kenyan counties. Kitui, which had its own distinctive community health approach, was excluded.

A map of Kenya (**Figure 3-1**) and the two selected study counties is shown below, followed by a description of both study counties.


The study counties, Migori and Nairobi, are quite different in terms of geography, climate and disease profiles. Malaria prevalence varies greatly, ranging from <1% in low prevalence areas such as Nairobi to 19% in Migori, where malaria is endemic (Republic of Kenya MoH, 2020c). According to the latest demographic health survey, live births delivered by a skilled provider ranged from 89.1% in Nairobi to 53.4% in Migori (Kenya National Bureau of Statistics, 2014).

**Figure 3-1 Map of Kenya showing the two selected study counties: Migori and Nairobi**

HIV prevalence varies greatly from 3.8% in Nairobi to 13% in Migori (National AIDS and STI Control Programme (NASCOP), 2020). Health decision-making and financing have been largely devolved to the county level since 2013. Free maternal healthcare was introduced by the Kenyan government in 2013, though the reality of implementation is mixed.

Nairobi county lies in the centre of Southern Kenya at an altitude of 1,795 m (5,889 ft) with a subtropical highland climate. Nairobi is the capital city of Kenya, covering a diverse urban socio-demographic spectrum, with vast economic disparities across a population of just over 4 million (Kenya National Bureau of Statistics, 2019). The economy in the Kenyan capital is based on informal and formal business sectors. Housing in Nairobi is a mixture of formal and several informal settlements in low-income areas served by SQALE. Nairobi is served by tarmac roads (including some highways), although earth roads and paths are typical in informal settlements. At the time of this study, CHV stipends were not paid in Nairobi county.

Migori county borders with Tanzania to the south and Lake Victoria to the west. It has a tropical wetlands climate, which means diseases such as malaria are prevalent. Migori has a mix of urban and suburban, but mainly rural, populations, and the overall population is over 1 million (Kenya National Bureau of Statistics, 2019). Migori's main economic activities include agriculture, fishing, manufacturing and mining. The road network consists of a few tarmac or gravel roads and smaller earth roads and paths. Accessibility of health facilities can be difficult with poor road conditions, especially in the rainy season. At the time of the study, community health volunteer (CHV) stipends had just been introduced by the county, but only one month's payment had been made and there was uncertainty around when subsequent payments were due.

## 3.5 Sampling: participant selection and recruitment

**Introduction**

A multi-method data collection strategy was used. The predominant data sources were focus group discussions (FGDs) and interviews with existing, sub-county and community QI teams established under SQALE. Teams (n = 11) were selected from the wider SQALE teams (n = 30) based on functionality – an approach designed to provide a mix of well- and poorer-functioning teams. Key informant interviews with experts with unique knowledge of community health and/or QI at national and county levels in Kenya, and SQALE staff, were used to provide further detail about how QI teams could be supported from the perspectives of policymakers and those supporting community health service provision and QI. Purposive sampling was used across all participants. In qualitative research, sample selection has a profound effect on study quality and rigour (Patton,

2002; Barbour, 2014). The advantage of purposive sampling was the opportunity it provided to identify and select information-rich cases in relation to the study aim (Patton, 2002).

A detailed description of sampling procedures is presented, including teams-based sampling for well- and poor-functioning QI teams; sampling for QI and community health experts; sample size and saturation; and finally the recruitment and informed consent process. Study participants by sample are illustrated in Table **3-1**–Table **3-3**. The section opens with teams-based sampling of QI teams and a definition of the criteria used to rank well- and poor-functioning teams.

**Sampling for QI teams for focus group discussions and semi-structured interviews**

Sub-county and community QI teams were sampled based on team functionality. At each level, 'well-functioning' and 'poorer-functioning' teams were selected to reflect the potential differences between each in relation to QI team function and supporting QI teams. This approach to sampling enabled a detailed understanding of QI as it relates to community health services from diverse perspectives of sub-county and community QI team members in Nairobi and Migori. Definitions of 'well-functioning' and 'poorer-functioning' teams were based on existing SQALE criteria (described below, and critiqued as part of the final discussion in Chapter 5). Given the aim was to interview established QI teams, there was no deliberate attempt to purposively sample based on sex; however, team samples included a mix of women and men (**Table 3-1**). In Migori and Nairobi county QI team membership was identical except for a youth representative which appeared in Migori QI teams only. In Migori, in attempts to reach younger community members some QI teams had opted to include a youth representative. Since the aim of teams sampling was to interview all participants from established QI teams youth representatives were included in team interviews in Migori county. A total of two youth representatives participated in interviews (**Table 3-2**).

**Definitions of 'well-functioning' and 'poorer-functioning' teams**

SQALE aimed to embed QI approaches into community health services, ensuring data were collected, analysed and used by QI teams to generate local solutions to local health issues. The team approach was designed to create opportunities to discuss, review, plan and implement local improvements, fostering local monitoring and evaluation, management and ownership. The extent to which these were being achieved were reflected in the criteria for well- and poorer-functioning teams and were explored during participant interviews with QI teams.

Initial concepts of well- and poorer-functioning teams were drawn from SQALE programme tools and documents including QI team Terms of Reference (ToR) (**Appendix B**); SQALE team QI Maturity Index (USAID-SQALE, 2016a); and planned programme outcomes and agreed in discussions with the SQALE project team. The SQALE team QI maturity index included factors such as whether teams

met, their use of QI tools and evidence of the team planning together, not only at training sessions, but on a regular basis.

A range of functions were considered and scored. These scores were largely based on whether processes were adhered to. At a basic level, QI teams were expected to demonstrate evidence of routinely meeting to review the quality and performance of community health services. For example, if an active team meeting was held once per month, and if community health services programme data were reviewed monthly (using MoH data reporting tools: MoH 100, MoH 514, MoH 515). Better functioning teams were expected to demonstrate evidence of planning for QI (e.g. problem identification, analysis of community health services and programme data and monitoring changes in performance over time using basic progress run graphs and/or bar graphs). A team's knowledge and use of specific QI techniques covered during training was considered as part of reflections on team functionality. For example, problem-solving techniques and/or QI tools, including brainstorming techniques designed to reveal root causes of local problems (e.g. 'Fish bone' analysis, 'Why, why, why' approaches); PDSA cycles and whether data were used for decision-making. QI team members were expected to describe what changes were made through the QI activities they had been trained in and the impact of these changes. All team members were expected to actively engage in a QI team meeting once per month. For well-functioning teams, indications of the team's commitment to sustaining the approach were considered (evidenced by an annual QI plan and systems/processes to embed QI team structure, including using data displays and seeing QI as integral to their work (e.g. having regular time allocated to QI work). Additionally, well-functioning teams might identify additional quality problems and demonstrate an ability to develop new change plans with minimal support from a QI coach.

Criteria were applied for well- and poorer-functioning teams, and teams were labelled in discussion between the sub-county and the SQALE team at LVCT Health in Nairobi and Migori (**Appendix D**). Minutes of QI meetings were used alongside SQALE programme reports to consider how teams were meeting planned programme outcomes and achieving impact. A balance between 'well-functioning' and 'poorer-functioning' teams was sought at community and sub-county levels through purposive sampling in each county.

**Purposive sampling of QI and community health experts at national and county levels for key informant interviews**

Experts in QI and community health were sampled based on experience, location and sex. This approach to sampling enabled a detailed understanding of QI and community health as it relates to community health services from diverse perspectives of experts working at national and county levels in Nairobi and Migori. Amongst key informant interviews (KIIs), male and female participants

were included to reflect potentially gendered differences in perception and experiences of QI for community health.

An initial sampling frame was developed jointly by my supervisors and I drawing on the knowledge and expertise of SQALE staff. The sampling frame included policymakers and implementers, varying from those with first-hand experiences of establishing community health and QI programmes to lead technical advisors and MoH employees with specialist roles in QI or community health. The initial sampling frame comprised several individuals already working directly with SQALE or identified by supervisors, SQALE staff and myself as occupying unique roles – for example NGOs expert in QI with first-hand experiences of QI programmes in Kenya. Snowball sampling was then used to include other key individuals based on recommendations from participants themselves.

Final participant selection was undertaken jointly with supervisors. Participants sampled at national level included senior government employees from the national Community Health and Development Unit (CHDU) and the Department of Health Standards, Quality Assurance and Regulations. CHDU is the lead unit of the MoH in Kenya responsible for community health policy and strategy. The Department of Standards oversees the development of national quality standards for health; including the latest standards for community health (Republic of Kenya MoH, 2015). QI and community health experts were sampled from international NGOs and leading organisations experienced in working in community health and QI, for example, the African Medical Research Foundation (AMREF)[4], GIZ[5] and Living Goods.[6] Each NGO selected was well-established in Kenya and widely recognised for their work in QI or community health. Additionally, UN agency representatives (a community and maternal health expert) and two SQALE staff – one from each local programme implementing partner, LVCT Health and the University Research Company (URC) – were sampled. For government departments such as the Community Health and Development Unit or the UN – where there were a number of potential individuals – sampling focused on those with first-hand experience of rolling out national or county QI and community health programmes, especially in maternal health.

Participants sampled at county level included senior government employees from the county MoH and County Executive Committee including: County Directors of Health or County Deputy Directors of Health; technical health leads in QI and community health; and County Executive Committee members for health. All individuals were significant for their leadership and support roles in QI and

[4] AMREF Africa – community health is at the centre of their work. https://amref.org/vision-and-mission/ (accessed January 2017).
[5] GIZ has been working on behalf of the German Government in Kenya for over 45 years https://www.giz.de/en/worldwide/317.html (accessed January 2017). QI is one of the key services delivered by GIZ in Kenya.
[6] LivingGoods: An international NGO working in Kenya in Community Health empowering CHWs empowering them with technology. https://livinggoods.org/what-we-do/ (accessed January 2017).

community health at county level. County Directors for Health were responsible for oversight of county rollout of health strategy and policy. Technical health leads in QI and community health (the County QI and Community Health Strategy Focal persons) managed county rollout of Kenya's quality health standards and community health strategy, respectively. The County Director for Health and county technical leads were members of the County Health Management Team (CHMT), providing technical oversight to guide county health priority setting in the MoH. The CHMT provides guidance to the County Executive Committee (CEC) Member for Health (county health lead) – a political role negotiating between the CHMT and the CEC (also referred to as the county cabinet). The CEC, headed by the Governor, were responsible for identifying leading county health priorities and were therefore well-placed to provide insights around county priorities.

**Sample size and saturation**

Out of 24 QI teams with 192 possible participants, 11 QI teams were sampled for the study, with 88 possible participants. A total of 9 FGDs were carried out with 58 participants and SSIs were conducted with 10 individuals from these teams and the 2 remaining QI teams for a total of 68 participants (77% of all potential QI team members sampled and participants represented a full range of QI team members) (**Table 3-1**). This number of teams and participants was justified because it provided adequate diversity within this population and the opportunity to make use of varying contexts in examining QI teams.

Out of 30 possible QI and community health experts, 27 were sampled for the study (19 national and 8 county-level participants). All individuals were able to provide information on QI and/or community health, and the process of establishing and supporting implementation and embedding these programmes from different institutional perspectives: MoH (national and county levels), NGOs, UN agencies and SQALE project staff in Kenya (**Table 3-1**). This provided adequate diversity within this population and the opportunity to make use of varying perspectives from county and national levels and from various institutional perspectives.

**Table 3-1 Study participants by sample**

| Sample/participant type and total number of QI teams | *Female* | *Male* | *Total* |
|---|---|---|---|
| ***QI Team Sample*** | | | |
| ***Community QI teams*** | | | |
| Community level participants | | | |
| CHVs | 15 | 7 | 22 |
| CHEWs | 1 | 4 | 5 |
| Community health committee members | 2 | 4 | 6 |
| Youth representatives | | 2 | 2 |
| Community chief | | 1 | 1 |
| Health facility level participants | | | |

| | | | |
|---|---|---|---|
| Nurse in charge of primary health facility | 3 | | 3 |
| Total community QI team sample (6 teams) | 21 | 18 | 39 |
| | | | |
| ***Sub-county QI teams*** | | | |
| Sub-county level participants | | | |
| Community health focal person | 2 | 1 | 3 |
| QI focal person | 4 | | 4 |
| MNCH; health promotion; nutrition officers | 2 | 5 | 7 |
| Health records information officer | 2 | 1 | 3 |
| Community level participants | | | |
| CHEWs | 9 | 3 | 12 |
| Total sub-county QI team sample (5 teams) | 19 | 10 | 29 |
| | | | |
| **Total QI team sample** (11 teams) | 40 | 28 | 68 |
| | | | |
| **QI and Community Health Expert Sample** | | | |
| | | | |
| County level | | | |
| County senior management team | 4 | 2 | 6 |
| County Executive Committee member | 1 | 1 | 2 |
| National level | | | |
| Government employees | 1 | 3 | 4 |
| Non-governmental organisation | 4 | 6 | 10 |
| United Nations | 2 | 1 | 3 |
| SQALE project staff | 1 | 1 | 2 |
| | | | |
| **Total QI and Community Health Expert Sample** | 13 | 14 | 27 |
| | | | |
| **Total No. QI team and KII participants** | 53 | 42 | 95 |

The selected QI teams were mixed in terms of team function. Six QI teams were well-functioning, and five were labelled poor or well-/poor-functioning or poor-/well-functioning. Teams were dynamic, and the labels of well-/poor-functioning or poor-/well-functioning acknowledged that teams made this transition and were not always static. For example, a team may have been considered well-functioning - meeting regularly and collecting community data and then changed. Changes in staffing and the regularity of data collection may have occurred and the team subsequently considered poor-functioning. The composition and functionality of each QI team (well- and poor-functioning) are illustrated in **Table 3-2** (community-level QI teams) and **Table 3-3** (sub-county level QI teams).

From a total of 6 sub-county QI teams across Migori and Nairobi, data were collected from 5 teams, and from 6 out of 18 community improvement teams (**Figure 1-6**). Among community teams, three were sampled in each county: Nairobi and Migori. Three community teams were labelled well-functioning, two were well-/poor-functioning and one was poor-functioning (**Table 3-2**). Among sub-county level improvement teams, three were sampled from Nairobi county and two from

Migori county. Three sub-county teams were labelled well-functioning, one was well-/poor-functioning and one was poor-/well-functioning (**Table 3-3Table 3-3**).

**Table 3-2 Community QI teams—study participants and functionality of each team**

| Participant Type | Nairobi | | | Migori | | | Total |
|---|---|---|---|---|---|---|---|
| | *C1 Well-/poor-functioning | C2 Well-functioning | C3 Poor-functioning | C4 Well-functioning | C5 Well-functioning | C6 Well-/poor-functioning | |
| Community level | | | | | | | |
| CHVs | 3 | 4 | 4 | 4 | 4 | 3 | 22 |
| CHEW | 1 | 1 | | 1 | 1 | 1 | 5 |
| CHC member | | 1 | | 1 | 2 | 2 | 6 |
| **Youth Representative | | | | | 1 | 1 | 2 |
| Community Chief | | | | | 1 | | 1 |
| Health facility level | | | | | | | |
| Facility in-charge | | 1 | 1 | | 1 | | 3 |
| Total | 4 | 7 | 5 | 6 | 10 | 7 | 39 |

*SQALE staff described team as having started well-functioning and become poor-functioning
**Position only used in Migori county; CHC = Community Health Committee member

**Table 3-3 Sub-county QI teams: study participants and functionality of each team**

| Participant Type | Nairobi | | | Migori | | Total |
|---|---|---|---|---|---|---|
| | *SC1 Well-/poor-functioning | SC2 Well-functioning | **SC3 Poor-/well-functioning | SC4 Well-functioning | SC5 Well-functioning | |
| Community level | | | | | | |
| CHEW | 4 | 2 | 5 | 1 | | 12 |
| Sub-county level | | | | | | |
| CH focal person | 1 | 1 | *** | | 1 | 3 |
| QI Focal Person | 1 | 1 | 1 | | 1 | 4 |
| MNCH; HP; nutrition officer | 3 | 1 | 1 | | 2 | 7 |
| HRIO | | 1 | 1 | 1 | | 3 |
| Total | 9 | 6 | 8 | 2 | 4 | 29 |

*SQALE staff described team as having started well-functioning and became poor-functioning
**SQALE staff described team as having started poor- functioning and became well- functioning
***Deceased; SC = Sub-county; MNCH = maternal new-born and child health; HP = health promotion; HRIO = health records information officer

At the community level, almost all team members were included in FGDs. For sub-county teams it was typically more challenging to bring the team together due to other commitments. At sub-county level, on average, at least half of all QI team members of sampled QI teams participated in FGDs or an SSI. At the community level, from a potential total of 48 team members, 38 were interviewed (79%). At sub-county level, out of a total of 40 potential team members, 30 were interviewed (75%).

The intention was to conduct FGDs, where possible, with members of the same QI team. Team-based sampling strove to include all QI team members within one FGD. However, where, for practical reasons, it was challenging to bring improvement team members together, a one-to-one semi-structured interview (SSI) was offered as an alternative. These reasons included the availability of participants or that holding an FGD would disrupt health services. Competing work schedules was the most common reason for participants being unavailable for an FGD, followed by team members being relocated to other jobs or geographic locations. In Migori county, limited availability of sub-county QI team members meant SSIs, rather than FGDs, were used. One SSI was conducted with a sub-county QI team member in Migori who, two weeks prior to interview, had been transferred to a new post. Because staff changes were commonplace, and due to the proximity of the transfer and the endeavour to speak to all team members, an SSI was sought.

Two types of saturation are commonly discussed: data saturation and theoretical saturation. Both concepts involve continual sampling until, either no new information is obtained, or no new themes are identified (Walker, 2012). Sampling and analysis was done iteratively to consider whether additional or supplementary samples were required, including more data from one group or another, dependent on what extra material was required to answer the research question (Malterud, 2001; Manson, 2010; Ritchie *et al.*, 2014). Data collection was carried out until theoretical saturation had been reached and no new themes emerged from the data.

**Recruitment and informed consent process**

Participant selection was undertaken jointly with supervisors and initial participant lists shared with the LVCT team in Kenya. Once selected, potential participants were approached and introduced to the study directly either by myself, LVCT staff or by another study participant who worked directly with them and had shown an interest in participating.

All members of QI teams included in this study were approached to take part in an FGD as a team. Where participants were unable to attend an SSI was carried out instead. QI team participants were identified and recruited with the support of the LVCT Health teams in Nairobi and Migori counties. Contact was made with members of the county and sub-county health management teams, nurses in charge of the local facility or with CHEWs and CHVs involved with the QI team, using established lines of communication between the SQALE project and partners. Communications were by telephone and email.

From the 27 KIIs with experts in QI and community health, 24 key stakeholders were already known to LSTM and LVCT Health. Relevant stakeholders were contacted initially by the LVCT Health team or by myself, to seek permission to carry out an interview. Two key informants were recruited via snowball sampling, based on recommendations from participants themselves. In one case, the individual making the recommendation made the initial contact and in the other I made contact to seek permission to carry out an interview. Interview timings were then agreed.

The research took advantage of the opportunity the SQALE programme provided. QI team members and most KIIs were known to LVCT staff with existing relationships between participants and LVCT/ SQALE teams. During recruitment, steps were taken to reduce coercion. LVCT/ SQALE teams were not present at interviews and it was made clear that the research team were not SQALE employees. The consent process underscored the clear distinction between the research and the SQALE project and emphasised the voluntary nature of participation. Written assurances were provided in participant information circulated prior to interview that interview content was anonymous and

that participants could withdraw or choose not to participate at any time without any consequence. The full process of obtaining consent is addressed next.

Informed consent is enshrined in research practice, and mandates that prospective participants be given sufficient information that enables them to make an informed decision on whether to participate (Ritchie *et al.*, 2014; Bryman, 2012). Study information and consent forms were provided in written form for all participants two to three weeks prior to interview and revisited before the interview (**Appendix E**). On the day of interview, the study purpose and consent process was explained individually to participants. Information sheets included details on the purpose, methods and intended and possible uses of the research and what participation in the research involved, including any risks. Participants had an opportunity to read through the participant information sheet and consent form and ask questions in a one-to-one discussion with the researcher before deciding to participate. As all participants were literate, once a respondent indicated they would like to participate, written informed consent was obtained (both for participation in the study and for audio recording) as a formal indication of their expressed willingness to participate. It was explained that this could be withdrawn at any point.

## 3.6 Data gathering

Data for this study was gathered during October 2017 and August 2018. Data gathering for QI teams used FGDs and SSIs. KIIs were used to gather data from experts in QI and community health. This section provides a comprehensive justification for the three methods used; alternative methods considered; a description of the data collection tools and how data were recorded.

**Focus group discussions**

FGDs were used with sub-county and community QI team members. FGDs in structured teams were selected for the opportunity they provided for individual and team insights (Leask, Hawe and Chapman, 2001; Brown, 2015). FGDs provided opportunities to investigate the behaviour and decisions of QI teams. FGDs created opportunities to explore team dynamics and understand different group interactions influencing the operation of the team, identifying group norms and highlighting cultural values and social processes and operations (Kitzinger, 1995; Mays and Pope, 2000; Leask, Hawe and Chapman, 2001; Ritchie *et al.*, 2014; Brown, 2015; Krueger and Casey, 2015). The study aimed to examine teams in real life, thus, using FGDs meant a more 'natural' environment for QI teams, where participants were influencing and influenced by others, as they would in real life (Leask, Hawe and Chapman, 2001; Brown, 2015; Krueger and Casey, 2015). In this way, FGDs were well-suited to examining QI team establishment and support.

**Semi-structured interviews**

SSIs were used with sub-county and community QI team members. The intention was to conduct FGDs, where possible, with QI teams. However, where, for practical reasons, it was challenging to bring improvement team members together, a one-to-one SSI was offered as an alternative. SSIs provide a flexible structure – the researcher defines the area to be explored (at least initially), but there is flexibility for the interview to elicit perspectives of salience to participants (Barbour, 2014). In this way, interviews acknowledge individual experiences and different versions of reality, providing space for these to be expressed.

**Key informant interviews**

KIIs were used with senior national- and county-level participants to bring insights in community health and QI systems that other participants were unlikely to share. KIIs presented an opportunity to gain insights from a diverse range of participants. Individual interviews were conducted with MoH employees at national and county levels, NGO representatives (expert in QI and working in Kenya), UN staff (community and maternal health experts) and SQALE project staff with expertise in QI and community health systems. KIIs were designed to combine structure with flexibility: pre-defined questions with the opportunity to probe and allow participants to voice issues and perspectives of importance to them. Therefore, like the SSIs, the structure was sufficiently flexible so participants could raise issues and shape the content of the interview, at least to some extent (Mays and Pope, 2000; Ritchie *et al.*, 2014).

**Alternative methods**

Before data collection tools are discussed it is worth considering other methods which could have been used including: direct observation and realist evaluation. Realist evaluation methods could have provided an alternative to KIIs, SSIs and FGDs. Similarly direct observation could have been used either alone or in combination with interviews. I begin with an explanation of each method (observation and realist evaluation) and how they could have been useful here. I conclude with an explanation of why each approach was not used.

Observational methods include: observing participants naturally occurring behaviours and interactions in context (Ritchie *et al.*, 2014; Creswell, 2017; Pope and Mays, 2020). In summary, instead of asking questions about behaviour, the researcher watches people and events to observe people's everyday behaviours and interactions. These methods involve systematic, detailed observation of behaviour and talk. The researcher may watch physical setting, participants, activities, interactions, conversations and their own behaviours during the observations (Ritchie *et al.*, 2014; Creswell, 2017; Pope and Mays, 2020).

Observations may have assisted in a number of ways. First, to sensitise all researchers to the research topic and setting before undertaking qualitative interviews. Second, observations might have exposed influences and behaviours that participants may not have been explicitly aware of and verify or further explore generated data (Ritchie *et al.*, 2014). In this way direct observation could have been used in combination with KIIs, SSIs and FGDs to provide further opportunities to study teams in situ. However, the main advantage of FGDs in comparison to participant observation was the opportunity to observe a large amount of interaction on a topic in a limited period of time via one FGD session. Observations could have been used to sensitise all researchers to the research topic and setting and as an opportunity to further explore generated data – these issues were addressed in other ways. First the use of local research assistants and training for all researchers on the SQALE programme and context improved understanding of the research topic and setting (**Section: 3.7**). Additionally, as part of a formative visit, I undertook observation visits to two Nairobi-based QI teams and one large SQALE QI training event. Whilst observations were not used as part of data collection itself, the visit was used to develop the study design and help finalise study tools and sensitise myself to the research topic (discussed in **Section: 3.7**). Finally, during the study regular meetings were established with research assistants and LVCT staff bringing local knowledge and nuance to discussion of initial findings and agreeing areas for further exploration as interviews progressed.

Realist evaluation methods could have provided an alternative to KIIs and FGDs. Realist evaluation is based on the assumption that the same intervention will not work everywhere and for everyone. The focus is on *"what works, for whom, under what circumstances and how"(Wong et al., 2016)*. The key questions in realist evaluation concern causation (the act of causing something) and attribution (the act of attributing something). The term 'realist evaluation' was first used by Pawson and Tiley (1997). Pawson and Tiley argue a given programme embedded in different contexts-with different people, different institutions, different providers, different settings, and so on- will play out differently, with potentially different effects. Realist approaches are appropriate for evaluating complex intervention such as community based public health programmes, like SQALE. The three key concepts in realist evaluation are context, mechanisms and outcomes (Pawson and Tilley, 1997; Westhorp *et al.*, 2011; de Souza, 2013; Jagosh, Tilley and Stern, 2016). The researcher develops a Context-Mechanism-Outcome (CMO) hypotheses, that is, a hypothesis about which mechanisms are likely to operate in different contexts and the outcomes that will be observed when they do. In this way realist evaluation is tailored to uncover mechanisms (M) and to elicit the conditions (C) in which they occur and the resultant outcomes (O) they generate (Pawson and Tilley, 1997).

Realist evaluation is a very appropriate approach, given that ultimately this study synthesised learning about teamworking (for QI) and then assessed this against a framework (Mathieu *et al.*,

2017), which was ultimately refined to incorporate key learning from this study. This approach loosely follows what a researcher might do in a realist evaluation (synthesise insights, generate an initial hypothesis about which mechanisms are likely to be operating and the outcomes that will be observed when they do, and refine this against findings). However, there are a number of things which made the approach of collecting qualitative data and undertaking a framework analysis around the Mathieu framework more appropriate to meet study objectives. The first is that realist evaluation works best when you can have several iterations of theory refinement (which inevitably means collecting data at different points over a longer period of time). Using a cross-sectional approach, as I have here, would have meant *'testing'* any theory once and would have been less robust. Second realist evaluation is useful when trying to develop theory (especially where one may not exist), while theory does not exist for community QI teams per se, I believe the Mathieu framework, in synthesising 100 years of insights around teamworking, does provide a robust framework against which I could apply my own findings. In sum, it was judged more useful to do this than to try to generate my own (likely much less robust) theory for teamworking for QI using a realist evaluation.

The classification of well-functioning and poor-functioning teams within the SQALE programme was based on the teams reaching developmental milestones and is clearly subject to change over time. An objective cross-sectional assessment after a period of implementation could have been undertaken to improve clarity on the categorisations of well- and poor-functioning teams. However, the approach was deemed unsuitable for this study for practical reasons including the duration of SQALE project, the timelines required for ethical approvals and resources required for additional data collection phases. In the absence of a long-term study, temporal issues were incorporated in research questions which encouraged participants to reflect on prior experiences of QI and look ahead to sustainability of QI teams for community health. I return to classifications of well- and poor-functioning QI teams again in Chapter 5, **Section 5.7** (Thesis strengths and limitations and **Section 5.8.3** (Recommendations for further research).

**Data collection tools**

Data collection for QI teams following FGD and SSI topic guides, covered how QI teams were composed and how they functioned and were supported. Guide contents covered, for example:

- team tasks and structures;
- member characteristics and team composition;
- how QI was implemented; and
- how teams functioned in practice in the community health context.

Questions prompted exploration of barriers and facilitators to QI teamworking and sought recommendations for future improvements in establishing and supporting QI teams in practice. Individual KIIs with QI and community health experts covered their perceptions of QI tasks for community health and how best to implement and support these. Perceptions of QI team tasks for community health and how these aligned with/were supported by strategy, policy and financing were explored at national and county levels.

Data collection aligned with ontological and epistemological positioning; for example, while these broad topic areas helped guide conversations during FGDs and interviews, there was openness to changes in sequencing and wording of prepared questions and flexibility to ask different questions based on participant responses. This openness meant participants and the researchers could pursue an idea, story or other response in more detail. So, while prior reading and theory naturally informed interview tools (Langley *et al.*, 2009; Doyle and Taegtmeyer, 2010; Mathieu *et al.*, 2017), understanding QI teams and teamworking from the perspectives of participants remained of primary importance.

**How data were collected and recorded**

Data collection was undertaken by myself and three research assistants. The majority of data collection including all KIIs and sub-county level FGDs and SSIs with QI team members were conducted by me, in English, while the remaining local community team FGDs were led by Kenyan research assistants in Swahili and Luo. Three experienced Kenyan research assistants, fluent in the local languages used by participants, were recruited in February and August 2018. The research assistants' roles were in data collection, transcription, translation and contributing to interim analyses and discussions of findings. Each assistant lived and worked in Kenya. All were educated to university degree level, and one was a doctoral researcher with LSTM.

All data were collected face-to-face, enhancing rigour and trustworthiness as relationships were established (which supports transparency and slightly reduces bias in how the participant responds). Face-to-face data collection helped ensure non-verbal communication was captured and aspects of the environment (e.g. work setting) were noted.

All FGDs took place at the local health facility, while almost all interviews took place in the participants' offices or in a designated meeting room at their place of work. In a few cases, to accommodate participant schedules, interviews took place in a separate private area of a local conference hotel. This typically arose where the participant was attending training or a conference.

Participants were not paid for their participation, but a transport and refreshment reimbursement was given in line with the LVCT Health policy to acknowledge the time spent and cover costs

incurred. CHVs were reimbursed with £3.70 (500 Kenyan Shillings). For MoH officials and other stakeholders participating in FGDs and SSIs (CHEWs upwards), participants were reimbursed for transport and refreshment at the LVCT Health standard rate of £7.40 (1,000 Kenyan Shillings). No reimbursements were made to key informants for travel or refreshments since interviews took place in participants own offices and no additional transport costs were incurred as a result of participation in interviews. Reimbursements were given using either an electronic payment via mobile (Mpesa money transfer) or cash.

All interviews were audio recorded. KIIs and SSIs took 50–90 minutes, while FGDs took 60–100 minutes.

## 3.7 Quality assurance and trustworthiness

Trustworthiness and rigour through data collection was enhanced in three ways. First, sample selection decisions and the combination of three data collection approaches added rigour, breadth, complexity and richness to this inquiry (Silverman, 2017; Ritchie *et al.*, 2014; Denzin and Lincoln, 2003; Mays and Pope, 2000; Flick, 1998). Two principle aims of the purposive sampling approach were: first, to ensure sufficient diversity with use of 'well-functioning' and 'poor-functioning' teams, and second, to capture perspectives from different levels of the health system (Ritchie *et al.*, 2014). This study was concerned with understanding team and individual experiences, beliefs and behaviours around establishing and supporting QI teams and teamworking at different levels of the community health system (national-to-community). Within interviews and FGDs at each level of the health system, there were opportunities to identify key similarities and differences in the analysis. Further, FGDs with both poor- and well-functioning teams provided an opportunity to gather a range of insights into team functionality and into the facilitators and barriers of each team's approach from the perspectives of those implementing QI. There was, therefore, an opportunity to reflect on the potential differences between each group in relation to QI team function. In these combined ways, attempts were made to minimise selection bias, not relying solely on one source of information but rather taking account of multiple sources on which to base final participant selection.

Second, during FGDs and interviews, paraphrasing was used to ensure ongoing understanding was correct, and that key findings resonated with participants, thus increasing their trustworthiness. At important points during the interviews – for example after a discussion of a key issue for participants or at the end of the interview – key findings were summed up (verbally) and the participants were invited to provide any clarifications or confirm the findings (Ritchie *et al.*, 2014). Learning events gave further opportunities for 'member checking', where findings were presented

through informal and formal interactions to determine the accuracy of the analysis with participants involved in QI teams (Birt *et al.*, 2016).

One final way trustworthiness and rigour were enhanced included instrument design and testing. I turn to this next.

**Instrument design and testing**

Data collection tools were jointly developed by me and my supervisory team (**Appendix F**). After initial review with supervisors, tools were shared with local LVCT staff, and through discussion, adapted to the Kenyan context to ensure inclusion of cultural nuance. The tools drew from the teams and QI literature, including the WHO Framework for QI in HIV/ AIDS which had supported SQALE design (Doyle and Taegtmeyer, 2010) (**Appendix G**). They also drew from established SQALE intervention documents and protocols outlining team tasks, the structure and QI processes, tools, training and coaching (USAID-SQALE, 2016a) and Mathieu's framework (Mathieu *et al.*, 2017). Additionally, a formative visit to Kenya helped identify and understand the operations of SQALE and the characteristics of QI teams. This formative visit, undertaken by me in March 2017, included discussions with LVCT Health and URC (local SQALE implementing partners), observation visits to two Nairobi-based QI teams and one large SQALE training event. The visit was used to complement other approaches to develop the study design and helped finalise tools.

Once developed, all tools were piloted to ensure quality and acceptability within the Kenyan context. Quality and acceptability of my own interview facilitation skills were assessed prior to field visits in mock interviews with two supervisors. Supervisors continued to play an invaluable role in discussing and addressing questions on interview tools and skills which emerged as data collection progressed. Once in the field, the quality and acceptability of my interview skills and those of research assistants were assessed through piloting. The three Kenyan research assistants and I participated in piloting in the field.

Piloting took place at the start of this study and as the study moved to a new county. Piloting included two individual interviews in each county (in Nairobi and Migori) and three FDGs (one at the sub-county and community levels in Nairobi and one FGD at the community level in Migori). Repeating the piloting process in each county ensured contextual appropriateness was maintained.

The piloting process created valuable opportunities to use the tools, assess the quality of questions, and develop our qualitative interviewing approaches as a team. To ensure quality, consistency and common understanding, topic guides were translated and back-translated, confirming terms were understood in the same way. The quality of questions was assessed by considering participant responses where questions elicited rich and relevant answers to QI team functionality questions.

Piloting was used to identify questions that were not understood, or questions that appeared to make participants uncomfortable (Ritchie *et al.*, 2014). For example, for community FGDs, one question, '*What are your roles and responsibilities for quality improvement?*' produced a fairly brusque opening and elicited some brief responses, which, after further prompting, produced richer responses. With some minor rewording the opening question, '*Tell me about the work of this improvement team*' elicited richer responses. Beyond these minor adjustments, pilot testing worked well, producing quality data in line with this study's objectives. For this reason, pilot interviews were included within the analysis.

For the whole research team, the quality and acceptability of our interviewing skills was a priority. Although the research team were experienced in qualitative interviewing, it is an art that requires training and practice and, as a team, we approached the inquiry with this in mind (Ritchie *et al.*, 2014). Piloting meant the team could gain confidence in using the interview tools and could develop an accomplished style with these particular tools (Silverman, 2017). As part of training, the whole team was involved in practical interview sessions to practice using the interview tools prior to field visits. Once in the field we used peer observation and note-taking. Once transcribed there was joint review of pilot transcripts by researchers (me and the Kenyan researchers) and a proportion of transcripts were reviewed remotely by my supervisors. Checks included determining if we had all:

- re-confirmed consent/ assured confidentiality;
- ensured conversations were kept focused during the interview and participants were brought back to focus where necessary;
- demonstrated consistent and highly relevant use of probes and prompts;
- ensured questions were well sequenced and flowed clearly and coherently from participants' responses;
- attempted to verify interpretation of the participant's answers during the interview; and
- ensured that the participant talked more than the researcher.

At all focus groups there were two or three researchers in attendance, and for several KIIs there were two researchers present. Working as a research team meant there were opportunities for me and the Kenyan researchers to be observed and act as observers.

## 3.8 Data management

**Transcription and translation**

With the consent of participants, all FGDs and interviews were audio-recorded. All recorded interviews were uploaded onto secure, password-protected study master files to ensure safe

internal data management and storage. Once uploaded and transcribed, the original files were deleted from the recording device. I undertook data transcription alongside two research assistants: I am fluent in English; one Kenyan research assistant was fluent in English, Luo and Swahili; and one research assistant was recruited only for data transcription who had not been involved in data collection and was fluent in English. Recordings were transcribed by me (20%) and the research assistants (80%). The decision to use research assistants was twofold. First, language skills – knowledge of local Kenyan languages was required to transcribe community FGDs. Second, to support efficient turnaround times for transcriptions to support prompt decisions around ongoing data collection. All members of the team (myself and the research assistants) underwent training in how best to provide quality transcription. One UK-based assistant (undertaking transcription only) was trained in October 2017 using the study tools. Although experienced in transcription, this specially designed training reinforced verbatim transcription processes. In addition, formatted templates were established and used with all interviews. These templates established uniformity and enhanced clarity of interview data.

For all audio data from community FGDs conducted in a local language, transcripts were generated and translated from either Luo or Swahili into English. Particular efforts were made to ensure transcription and translation were of high quality. The research assistants who carried out all data collection were fluent in English, Swahili and Luo. All transcripts were checked against the original recordings for accuracy, and files were corrected until they agreed with the translation. Transcripts also drew on notes taken by interviewers and other members of the research team present to provide further insights on non-verbal cues. For quality assurance purposes and to address risk of any potential bias, 5% of all transcripts were re-checked for accuracy of translation and transcription by myself and the two Kenyan research assistants fluent in English, Luo and Swahili.

Where possible, translation and transcription was completed immediately after each FGD and interview. The exception was where interviews or FGDs were held in quick succession. Daily research meetings were held during data collection to review the day, deal with any issues – logistical or technical – and to provide a window of opportunity to begin transcribing. Early transcription of at least some interviews and FGDs provided an opportunity to review probes together. Research meetings were further used to discuss interviews and identify key emerging themes. During transcription, data were anonymised by giving each interview and participant a unique code and redacting any identifiable information.

## 3.9 Analysis

Data were analysed using a 'framework approach' (Gale *et al.*, 2013; Ritchie *et al.*, 2014). The approach blended inductive and deductive coding. A priori codes ('deductive coding') served as a starting point for the inquiry, with 'inductive coding' used to expand and refine this framework as analysis progressed (Ritchie *et al.*, 2014). The approach aligned with the theoretical underpinnings of this study, with a priori codes drawn from the construct domain for teams research framework (**Figure 2-1**) (Mathieu *et al.*, 2017) ('deductive coding'). The construct domain for teams research (Mathieu *et al.*, 2017) was used as a lens for the analysis with its four main constructs – 'structural features', 'compositional features', 'organisational structure, culture and wider environmental factors' and 'mediating mechanisms' – as guiding themes.

The framework approach followed five phases (Ritchie *et al.*, 2014):

1. Familiarisation.
2. Construction of a thematic framework.
3. Indexing and sorting (coding).
4. Reviewing data extracts.
5. Data summary and display and interpretation.

The first phase involved familiarisation and immersion with the complete data set through a mix of transcription and repeated reading of transcripts and research diary notes. During this process of immersion, transcripts were read and reread. Initial notes and records were made of features which seemed interesting or significant – ideas, meanings, recurring issues and emerging patterns which allowed key emerging themes to be identified. These notes were kept in ongoing research diaries. The second phase involved constructing a coding frame. An initial coding frame was devised based on the construct domain for teams research (Mathieu *et al.*, 2017); its four main constructs were used as guiding themes. The data were then coded, with new codes added as they arose, inductively, during the coding process. Inductive coding arose from novel and unexpected insights encountered in the data. The thematic framework was systematically applied to each transcript manually (using printed copies of interview transcripts) to sort the data.

In analysing the data, each file was reviewed line by line to explore perceived roles and responsibilities for quality improvement and the nature of facilitators and barriers to effective teamworking. The four themes from the construct domain framework from Mathieu and colleagues were used to appraise the extent to which they applied to my data. Coding involved labelling sections of text to the corresponding theme or sub-theme.

In the fourth phase, data were further analysed and 'charted' in themes and sub-themes and summarised in draft narratives. This charting process enabled me to understand and interpret connections in the data to recognise patterns of association where similar themes reoccurred in connection with each other. An example of this was the recurring link between the theme of 'context' and the 'place' of community health in the Kenyan context and the influence on the workability of QI teams for community health linked to 'structural' and 'compositional' features and 'mediating' mechanisms. During the process of developing the draft narratives, I met regularly with my academic supervisory team to review, challenge and interrogate the evolving analysis. Detailed narratives were then developed for each theme and sub-theme. The draft narratives supported open discussion with supervisors and challenges to emergent ideas, concepts and patterns, supported by extracts from the original data. During this process, linkages between findings and the research question, existing literature and current practice were systematically examined. Explanatory accounts were formed as linkages between parts of the data were mapped and patterns in the data accounted for. The output of draft narratives were intended to inform the fifth and final phase of the analysis – defining candidate themes and writing up the findings. The analytical themes and sub-themes form the basis of the results in Chapter 4.

**Maintaining and enhancing rigour to generate trustworthy findings**

Steps were taken prior to field research and processes established during the study to maintain and enhance rigour of the analysis.

Prior to the field research I completed a three-month Masters-level course in qualitative research practice at LSTM alongside a short web-based certificate course in ethics from the US National Institutes of Health. These courses reinforced previous academic qualifications (MPhil and MBA degrees) and practical application of qualitative methods while working in LMICs, including Kenya, for almost 25 years.

To maintain and enhance rigour of the analysis during the study regular meetings were established with research assistants and Kenyan-based LVCT staff over six months in Kenya and routine academic supervisory meetings (typically held on a monthly basis). Local Kenyan based LVCT/ SQALE staff and researchers brought local knowledge and nuance to discussions of initial findings while working with supervisors highly experienced in qualitative research offered robust challenge and questioning of the analysis process. Immersion in a few early transcripts by three supervisors, combined with continued attention to my analysis of participants' voices (through quotes presented in draft results chapters), all helped ensure findings remained rooted in participants' narratives.

With regards to rigour the use of local research assistants' supported this in another way. Kenyan research assistants were fluent in the local languages used by participants. English and Kiswahili are the official languages spoken in Kenya, alongside numerous indigenous languages – including Luo, the local language spoken in Migori county. As Green and Thorogood (2009) note, language is central to qualitative data generation and analysis (Green and Thorgood, 2009). The use of local research assistants, fluent in the local languages used by participants, increased clarity of questioning, ensuring participants responded to the questions that were intended. Fluency was key to ensuring research assistants understood idiomatic expressions, as well as non-verbal communication styles. Further, while English is almost universally used in formal MoH communications and often used between health professionals, working with local researchers meant opportunities to continuously ensure accuracy.

To ensure rigour, research assistants underwent a short training at the start of the research. Training was prepared and conducted by me and an experienced Kenyan qualitative researcher from LVCT Health to ensure content was firmly rooted in the local Kenyan context. Training on the study tools, the importance of respectful attitudes, probing and non-leading questions and reflexivity and positionality were covered. Opportunities for reflection on the research process and positionality provided important opportunities for research assistants to consider their own personal backgrounds, beliefs and intellectual biases and mitigation strategies and their role as research assistants, thus helping to ensure research quality and rigour. Rigour was therefore ensured through joint reflection sessions and in the analysis.

## 3.10 Ethical considerations

Ethical considerations relate directly to the integrity of a piece of research and are central to research from early design stages and approvals to reporting and beyond (Bryman, 2012). Strong ethical practice meant I was continually thinking through what the research meant for participants. Supervisors, LVCT staff in Kenya and research assistants also helped reflect on ethics and make relevant and helpful ethical decisions. Ethical issues discussed include formal ethical approval; potential risks of harm to participants and ensuring confidentiality.

Formal ethical approval

Ethical approval was sought and secured in Kenya and the UK. Kenyan approval was granted by the AMREF Ethics and Scientific Review Committee in Nairobi, Kenya (Protocol 371) while the LSTM Research Ethics Committee granted UK approval (Protocol 17-023) (**Appendix H**). Additionally, the research received approval from the National Council for Science and Technology (NaCOSTI) in Kenya (NaCOSTI/P/18/53443/21097)

**Potential risk of harm and the risks and benefits to participants and the community**

Good ethical practice encourages researchers to anticipate and guard against any harmful causes that can be predicted (Bryman, 2012). Several potential safeguarding issues were identified and measures were adopted to address these and protect participants to the greatest extent possible. First, despite anonymisation efforts there was the potential that key participants could still be identified given the very nature of participants involved in KIIs being perhaps the only one or two people in their role. Second, in FGDs, there is no privacy between participants in the same group. Finally, in FGDs there was a risk that questions may cause, expose or exacerbate tensions within QI teams; for example, the study might raise particular emotions around the volunteer role of CHVs versus paid MoH employees.

Risks were addressed in a number of ways. First, considerations around the inherent struggle of KII confidentiality and FGD participant privacy and confidentiality. The issue of confidentiality stems from the same ethical principle as minimising risk of harm (Bryman, 2012). These risks were communicated to prospective participants on their respective participant information sheets and reiterated in interviews and FGDs. For KIIs, the risks around anonymity were conveyed and, where questions around anonymity emerged, a way forward was agreed with participants. For example, where required, senior professional titles such as 'County Director of Health' were replaced with broad titles such as 'County Health Management team member'. For QI teams, the risks were reiterated in FGDs so that participants did not feel compelled to make any disclosures they were not happy making in front of the group. There were opportunities at the end of an FGD for individuals to come forward to discuss anything privately that they did not want to say in front of the group. Finally the risks around potential sensitive issues in FDGs and interviews were addressed in several ways. For the researchers and I, this meant incorporating the potential for any raised emotions into our interview styles, approaching sensitive topics carefully and thoughtfully, pre-emptively reiterating that participants should not feel compelled to make any disclosures and reassuring participants they would receive a considerate and empathetic response should they become upset or wish to stop. Participant information sheets stated directly that, should participants face any discomfort as a result of the questions asked, they were free to stop at any time. No requests were made to stop any of the interviews.

**Ensuring confidentiality and anonymity**

All participants were assigned a personal identifier number during the process of taking informed consent. All data were kept confidential, and any identifiers were excluded to protect participants and their respective institutions. In transcripts, analysis, reports and presentations of study findings,

participants have been identified by descriptor codes. Transcripts and audio recordings were securely stored in password protected computers, with access limited to the study team.

During transcription, any other identifiable information specific to the location of the participants health facility, community or organisation were removed.

## 3.11 Reflexivity and positionality

The aim of the researcher is to achieve 'empathetic neutrality' as research is conducted. This requires attention to avoiding obvious conscious or systematic bias in data collection, interpretation and presentation. Yet it is accepted that there is no completely 'neutral' or 'objective' knowledge (Ritchie *et al.*, 2014; Berger, 2015; Saldaña, 2016). With the acknowledgement of neutrality as an aspiration comes the requirement for reflexivity: sensitivity to the ways in which the researcher and the research process might have shaped data collection (Mays and Pope, 2000; Ritchie *et al.*, 2014). I reflect on the research process and the dimensions of my own identity shaped by personal and intellectual biases and make explicit the mitigation strategies used to address these biases. Reflecting on my own positionality, I considered dimensions including background, values and beliefs and my own position as a researcher. Reflexivity, therefore, provided important opportunities to be explicit about myself as a researcher and be continuously aware of this as I collected and analysed data to minimise bias and thus help to ensure research quality and rigour.

I am a British female consultant in international public health and have managed health and development programmes in Kenya and elsewhere in Africa and Asia and could easily establish rapport with participants. Prior to my research on SQALE, I had over 20 years' experience in delivering health and development programmes, including working for three years as Director of International Training and Development with the African Medical Research Foundation. In fact, working in primary health care (including community health) and capacity building in Kenya gave me some understanding of delivering quality health services and issues such as integration between different levels of the health system and formal and informal power relations. While this experience helped reduce the 'outsider' stance which might have existed between myself and participants and meant I could use my networks to reach some senior key informants, I recognised the potential for bias from prior knowledge. Several mitigation strategies were developed to support neutrality and objectivity. I kept a personal research diary alongside data collection and analysis in which I recorded reactions to events. I regularly shared data and emergent findings with my supervisory team through meetings and joint transcript reviews and discussions of emergent findings. Supervisors not only encouraged reflexivity and interrogation of the multiple perspectives of QI for community health but provided opportunities for this. Further, Kenyan-based research assistants

provided opportunities for further reflection on potential sources of bias, discussing these and agreeing a mitigation strategy as a team.

I had no relationship with SQALE prior to the research, nor was I employed or engaged in implementing SQALE. However, considering I was introduced to most participants by the programme, I was conscious of the perceived power relations that could result from this. My study could have been perceived as a SQALE evaluation, casting me as an outsider coming to evaluate the programme. A number of strategies were employed to mitigate this. First, at the start of each interview I emphasised that this inquiry sought to examine QI teams for community health and generate learning to inform future initiatives, rather than an evaluation of this programme and participants' work. I reassured participants I did not represent SQALE or any of the implementing or funding partners. As indicated previously, as part of the consent process, I stressed participation was entirely voluntary and that there would be no consequences for decisions taken to participate. The focus on learning aimed to minimise any perceived power or other disparities and facilitated active participation. Further, participation (as an observer) in SQALE activities, such as training events, meant opportunities to engage with some participants. This increased openness and developed a relationship of trust during the data collection process. Meeting some participants prior to interview helped to establish a rapport during the interviews.

I recognised the duality of my position as an 'outsider' with pre-existing knowledge of context and the topic area, while my knowledge about other topic content was completely nascent. I made efforts to maximise the advantages and minimise the disadvantages; striving to achieve neutrality in the conduct of this inquiry meant continual reflection and timely identification and appropriate mitigation strategies. Pre-existing knowledge of the local context and topic supported my own interview skills and the analysis. By way of example, knowledge of bureaucracy and the competing demands on health staff and volunteers helped me probe and prompt participants during interviews for how QI was perceived in relation to existing work. Additionally, local knowledge provided nuance to discussions of initial findings and ongoing questioning of the analysis process together with Kenyan researchers and supervisors. By contrast, as a white female, participants perhaps perceived me as an outsider, limiting the willingness of some respondents to be fully open, and it was important to continually check this through diary notes and debrief sessions with research assistants and supervisors. Participants were forthcoming perhaps – because they felt freer to speak about their experiences of the programme given I was not employed by the project, project funders or their government. Further, when local Kenyan research assistants conducted interviews unaccompanied, they reported receiving similar responses on their own compared to days when I accompanied them.

Two supervisors provided links to SQALE. One supervisor was the UK-based lead and principal investigator of SQALE and another, a consultant and QI advisor to SQALE. While links to SQALE were useful in setting up the research there was the potential for bias. We discussed this at supervisory sessions and agreed ways to address any potential bias. First, the supervisory team comprised two further supervisors with no links to SQALE. Second, all supervisors encouraged and provided robust challenge to the data. For example, regular meetings with the full supervisory team sought to review, challenge and interrogate all aspects of the research design, data generation and the developing analysis. With varied supervisory expertise, with some members being very familiar with SQALE and the SQALE context and others with no links to SQALE open and varied discussion was made possible and encouraged. In this way, regular and robust supervisory feedback created an instructive and supportive learning environment, in which biases were recognised, and addressed. Finally, my independent position as neither an employee of SQALE or recipient of scholarship funding created sufficient independence from the programme. This meant that whilst the research took advantage of the opportunity that SQALE provided I had scope to set the research objectives and take complete ownership of the research and was encouraged to do so by all supervisors.

## 3.12 Chapter summary

This chapter provided a comprehensive account of the methodology underpinning this study and the practical methods used in data generation and analysis. It has illustrated how theoretical perspectives of constructivism have guided the applied qualitative research practice and addressed the ethical considerations that the methods demanded. Chapter 4 presented the empirical findings, focusing on the four major themes resulting from data analysis and the experience of establishing and supporting QI teams and teamworking for community health in the devolved Kenyan health system. The four themes embodied key attributes for effective QI teams and teamworking from the construct domain framework of Mathieu *et al.* (2017): 'structural features', 'compositional features', 'organisational structure, culture and wider environmental factors' and 'mediating mechanisms'. Chapter 5, summarises key findings and discusses these in light of the research question. The concept of transferability is considered as part of discussions on implications for policy and practice alongside study limitations.

# Chapter 4 Results

## 4.1 Introduction

This chapter addresses the study aim and objectives (Section 1.4). The aim was to ascertain how quality improvement (QI) teams for community health could best be established and supported in the devolved Kenyan health system. Four key themes emerged from the data analysis: 'structural features', 'compositional features', 'organisational structure, culture and wider environmental factors ('positioning' for short)', and 'mediating mechanisms'. The themes map onto Mathieu and colleagues' construct domain framework (Mathieu *et al.*, 2017) which in turn link to the research objectives. The first research objective was 'to analyse the effect on teamworking of QI team composition and task structure and to determine how these can best be modified for community health in Kenya' addresses compositional and structural themes. The second objective, 'to explore the contextual and interpersonal barriers and facilitators to teamworking at community level in the devolved Kenyan health system', addresses 'positioning' and 'mediating mechanisms'. 'Structural features' (Section 4.2) considers the complexity of QI team tasks in the context of community health and explains how, through training and ongoing support, tasks were structured and supported and a common understanding of the QI task developed. 'Compositional features' (Section 4.3) relate to QI team composition and the advantages and drawbacks of multi-level teams. 'Organisational structure, culture and wider environmental factors' (Section 4.4) illustrates contextual influences on QI teams and teamworking; a shorthand used for this theme is 'positioning'. 'Mediating mechanisms' (Section 4.5) considers teamworking and dynamic interpersonal team relationships in context and as they operate in complex community health systems. **Table 4-1** illustrates the four themes and sub-themes addressed in this chapter (Sections 4.2–4.5). Factors linked to team function potentially overlapped - most significantly, the 'place' of community health in the Kenyan context (addressed principally in Section 4.4 Positioning: Organisational structure and culture).

**Table 4-1 Four themes and key sub-themes which embody the key factors in supporting QI teams and teamworking**

| Theme | Key sub-themes |
|---|---|
| **Structural Features (Section 4.2)** | ▪ Understanding task scope, complexity and novelty in community health |
| | ▪ Mechanisms of learning (QI training, support and supervision) - developing basic technical QI skills and the confidence to use them |
| | ▪ Creating opportunities for improved shared understanding of QI and community health - training not simply about developing QI skills |
| | ▪ Improving the legitimacy and credibility of the QI approach and overcoming low expectations around community health |
| | ▪ Regular support and supervision is required in the field (occurs formally – external support and informally within teams themselves). |
| **Compositional Features (Section 4.3)** | ▪ Key team members with clear roles and responsibilities |
| | ▪ Multi-level QI teams, demographic diversity and the option to select team membership |
| | ▪ Consider varied motivational influences of team members to engage in QI |
| | ▪ Practical supports to team member roles: clear terms of reference; an active committed membership with a history of teamworking; adaptability in the face of changing team membership and tasks ('staff churn' and 'task churn'); understanding the kudos of undertaking QI tasks versus existing community health roles |
| | ▪ Terms of engagement: Consider the differences in terms and conditions for formal employees and volunteers |
| **Positioning: Organisational structure, culture and wider environmental factors (Section 4.3)** | ▪ Context: How community health was overlooked historically in Kenya and the implications for QI teams - could jeopardise community health as a long-term approach |
| | ▪ Support for QI linked to support for institutionalising community health |
| | ▪ Leadership e.g. using political leadership to leverage change |
| | ▪ Policy and addressing the disconnect with funding and implementation |
| | ▪ Overarching contextual facilitators and barriers to effective teamworking including: QI for community health an especially dynamic task; supportive versus punitive approaches to QI; limited resources |
| | ▪ Task-based approaches to QI – a barrier and facilitator to QI |
| **Mediating mechanisms (Section 4.4)** | ▪ Power dynamics hierarchy and their impact on QI decision-making |
| | ▪ Building team trust, cohesion and shared understanding: the significant role of relationships in supporting multi-level QI teams and teamworking |
| | ▪ Shared leadership: supporting teamworking including - shared decision-making |

Themes describe and interpret participants' accounts, capturing differences and similarities between QI teams - between counties or the different levels of the health system (national-to-community). The most significant differences occurred between health system levels, focused around differences in power and hierarchy. Findings offer evidence and explanations of the range of team features and circumstances required for effective QI teams and teamworking. Facilitators and barriers are considered for each theme. The types of barriers and facilitators are described, with reflection on where they hold the most influence (e.g. at a systems level, within or between teams or at the individual level).

Links are drawn between findings and the construct domain framework **Figure 2-1** (Mathieu *et al.*, 2017). However, factors critical to establishing and supporting QI teams for community health that are not well captured in Mathieu *et al.*'s model are added to existing dimensions and considered. Prominent in this regard was the perceived dilemma of combining a largely volunteer workforce with formal health employees, which fell under 'compositional features'. The mixed team composition drove a number of differences, not only in terms of team composition, but in other areas such as 'structural features' and 'mediating mechanisms' supporting teamworking. For example, given the role of CHVs and the fact they are not remunerated, multiple factors affected their engagement and performance within the QI teams. First, study findings demonstrate collaboration and connection, held greater significance for CHVs. In this way, the benefits of mixed training (with formal health and community QI team members) went beyond technical skills and knowledge for CHVs. Additional benefits included the fresh opportunities provided for connection and joint planning between community and formal health services - where previously there had been none. For community services, positioned on the fringes of formal health services, connection between community and formal health services provided motivation for CHVs to participate in QI teams (**Section 4.2**). Further, given the separation between formal and community services and variable supervisory support informal support within QI teams themselves became more important for community QI teams (**Section 4.2**). Second, context (**Section 4.4**), specifically devolution; the 'place' of community health in the devolved Kenyan health system; and donor support mediated teamworking. Findings expose socially patterned ways of working affecting engagement in QI teams and teamworking. For example, in a context where QI was predominantly donor funded - donor support was influenced by social meaning linked to short-term projects, perceptions that, if continued, could challenge participation in QI for community health as a long-term approach. This was especially significant in engaging CHVs - reliant on short-term projects and resources. Finally, of particular note is the significance of relationships (**Section 4.5** mediating mechanisms) for a largely volunteer workforce. Positive relationships supported participation among volunteers and

smoothed hierarchies and power imbalances within teams. Supportive team relationships were especially critical for community-level QI teams and community volunteers working without formal pay who may not have 'signed up' for QI tasks such as data collection, but were instead motivated by high-status roles (e.g. providing health advice and distributing supplies). These factors are addressed in detail as part of the findings in Chapter 4.

## 4.2 Structural features

Structural features consider the scope and complexity of QI tasks in the context of community health, and how these influenced QI teams and teamworking. The theme 'structural features' links to the inner circle of the Mathieu's framework described by the same name.

### 4.2.1 Task scope, complexity and novelty in community health

QI for community health services was a novel approach in Kenya, and when combined with important structural task features, added to task complexity when compared for example to QI at facility level.

To summarise, the planned outcomes and impact of SQALE was embedding QI approaches into community health services, ensuring data were collected, analysed and used by community and sub-county improvement teams to identify local solutions to local health issues. Completing QI tasks relied on interdependence between team members with different individuals responsible for implementing several different component parts of the task (data, collection, meeting to analyse and review data, coaching). While QI teams did meet and undertake their roles, this was not always straightforward to achieve at community level. For example, in contrast to facility QI, where data collection might typically occur during patient visits; data collection for community QI meant working (and often walking to community homes) across different geographical settings rather than collecting data and addressing QI in one central health facility. Similarly, QI team meetings meant often dispersed staff (commonly Community Health Extension Workers [CHEWs]) travelling for monthly meetings to a central location, sometimes quite a distance from their central base. Accounts of resource shortages, including transport and data collection tools, were widespread and – alongside staff shortages and competing priorities – meant for some teams that data collection and review was not straightforward to complete.

> "P3: Sometimes you go to visit a community member and you find they are not at home. You might have walked all the way there… now you need to plan another visit."

> "P5: There are shortages of Ministry [MoH] tools too so you need to photocopy or write on pieces of paper. Although now SQALE is helping with [providing] MoH tools."
>
> **(P3: CHC, female; P5: CHV, female; well-/poor-functioning community QI team, CFGD_06, Migori)**

QI had been implemented at the facility level, so for a few QI team members there was some familiarity with QI methods (e.g. facility staff and sub-county QI focal persons), but for most this was a novel task. Given the newness of the approach and interdependence between QI team members, important facilitators of effective teamworking were the opportunities for shared understanding of tools and concepts and planning around QI for community health. Training was, for most team members, their first introduction to SQALE and it is to training that I now turn.

### 4.2.2 Mechanisms of learning: QI training, support and supervision

**Overview of multi-level training**

SQALE had a deliberate strategy to intersperse formal training and learning events with opportunities for field practice, supported by coaching and mentoring (**Figure 1-7**) – an approach that, even for experienced Ministry of Health (MoH) QI focal persons, was new, intensive and motivating.

> **"**SQALE has really supported us especially the structure of training whereby you go to workshop one then you go and do it [in the field]. Then you go to workshop two. That one was very well arranged and we really learnt a lot from that. If I compare it with the facility Kenya Quality Model for Health [training] I would say they can borrow from SQALE whereby you learn, go and implement and then that close monitoring and the sharing part… [also the] support visit…that [was] very encouraging."
>
> **(QI focal person, well-functioning sub-county QI team, female, SSI_02, Nairobi)**

The phased approach, linking training and practice and involving participants from multiple levels of the health system, was highly regarded in three ways for its positive influence on teamworking: i) enhanced knowledge and skills; ii) joint planning and improved connection between various levels of the health system; and iii) enhanced legitimacy and credibility of the QI approach for senior decision-makers and QI teams. These three factors are dealt with in turn.

**Basic technical skills, QI knowledge and confidence to use skills**

Skills and knowledge developed through multi-level training were commonly linked to effective teamworking for community-, county- and national-level participants. Basic technical skills and QI knowledge were developed, and the confidence to use these skills enhanced. For example, completing MoH data collection tools correctly; using QI tools and techniques; and creating QI change plans. MoH data tools – previously used but not fully understood – were now widely understood by community health workers (CHWs) responsible for using the tools in the field. CHWs frequently contrasted poor prior knowledge and confidence in using data collection tools with positive post-training accounts of skills and knowledge having been strengthened, including feeling confident in compiling field reports. The first participant demonstrates how training led to more extensive use of tools and increased the focus on quality of reporting for community health volunteers (CHVs), while the second CHEW admits that, even for them, understanding of data collection tools has improved. For both, reporting of community health data were improved.

> **"**…The way we used to bring reports in our meetings is very different from how we are doing it now. Since SQALE came in February we have really improved because initially we used to bring reports for the sake of just bringing but since SQALE we have been bringing quality reports. We never used to use the MOH 514[7] but since SQALE now we use the books and fill in whatever is needed to be filled and that one has helped us to bring quality reports."
>
> **(CHV, well-functioning community QI team, female, P1, CFGD_05, Migori)**
>
> "…It has helped me and also my colleagues …my fellow community health workers. Because initially we never used to understand the indicators of the MoH 514 well but now I see most of us have understood. Even when we go to the field it is easier to take reports."
>
> **(CHEW, well-functioning, community QI team, female, P6, CFGD_02, Nairobi)**

Knowledge and technical skills around data collection were commonly improved for all teams, suggesting that, while technical skills and knowledge were important, there were other factors contributing to teamworking.

[7] The MoH 514 Service Delivery Log Book is a paper-based data collection tool to record the services provided during a household. It is completed by CHVs during household visits.

**Opportunities for improved shared understanding of QI and community health**

Significantly, multi-level training provided a platform for joint planning, improving shared understanding between community and formal health workers around the challenges of operating at community level – something CHEWs and CHVs perceived as being grossly misunderstood. Joint, multi-level training marked a shift from previous experiences of segregated training for CHWs and typical accounts of working in isolation in the community. Opportunities for joint action planning contributed to improved cohesion and understanding between community, facility and sub-county staff and was important in exposing potential blocks and supports in implementing QI.

> "In the beginning my feeling was that the sub-county was not aware of what goes on in the community. They had some ideas but not the exact problem in the community because they were relying on data from the facility… [community data went] from the community to the facility, then facility to the community. But ever since the sub-county QI team formed and we as the CHEWs, we go to the community so the information comes straight from the community to the sub-county. So even the community now feels like the sub-county now knows their problems. And we have some activities which through the sub-county they reach directly to the community unlike previously it was through the facility. QI team is a success."
>
> **(CHEW, poor-/well-functioning sub-county QI team, male, P5, SCFGD_03, Nairobi)**

Joint training was appreciated by CHVs. The sense of inclusion, status and respect for CHVs provided through connection to other parts of the health sector reduced isolation and sat in stark contrast to daily routines for most CHVs who regularly worked alone. Even if the connection remained fleeting, confined to QI training meetings, CHVs spoke enthusiastically about these opportunities and their impact on improving connection skills and confidence around QI implementation. As such, training events were widely regarded by CHVs as important motivators for continued engagement and thus team functioning. Further, at community level, training was valued for the future employment opportunities that it was perceived to bring, as were the small attendance allowances for community-level staff. For facility level health workers and sub-county level staff, while there was some appreciation of QI skills training, greater connection to communities and opportunities for improved relationships with community volunteers formed a weaker narrative.

**Improving the legitimacy and credibility of the QI approach and overcoming low expectations around community health**

The credibility and legitimacy of the QI approach was enhanced through joint training, generating support for the approach – especially among senior decision-makers – as well as creating

opportunities for support between QI teams. Senior county- and national-level staff participated (in part) in major training events, including 'learning events'. These events provided a brief sensitisation in QI and were often described as 'eye openers' in the use of QI for community health – something still novel in the Kenyan context, where there were often low expectations around community health and the capacity of CHWs. For one senior county health management team (CHMT) member, the learning event proved a crucial turning point transforming initial doubts and some scepticism about whether QI in community health was possible, winning approval of the senior management team to roll out SQALE in select sub-counties. The brevity of the event was appreciated given the multiple demands on their time, but was none the less significant in their decision to endorse their counties' participation in SQALE.

> **"**For me…the learning event was critical. I was not worried because we could see that it [QI for community health] had been done in other counties…and these are community volunteers!…and then you think this is possible. Maybe if we were just to come without having the learning event… then we would be wondering if it is doable…So by the time they [SQALE team] were coming in [to begin project roll-out with the county], we had already seen that it is possible."
>
> **(Senior CHMT member, female, KII_27, Migori)**

For those implementing QI, joint training events created a platform for transparency and accountability in front of peers and opportunities to observe first-hand the experiences of undertaking QI in situ – important given the novelty of the approach at community level. For several participants, old habits were exposed, and they now realised different ways of doing things.

> **"**…[Through] the learning event. Sometimes you realise that you push yourself in a corner and do your own things but when looking from another perspective from other people you realise you can do even better. That [the learning event] was very unique and it was a plus."
>
> **(Health records information officer, poor-/well-functioning, sub-county QI team, female, P4, SCFGD_03, Nairobi)**

Equally, the spirit of competition and being recognised in front of peers at training events was an important motivation to engage and improve QI implementation.

> "So the fact that they [well-performing community QI team] … are recognised has kept the fire burning. Has kept the internal self-motivation… that has also helped. The exposure and recognition that we have given them."

**(Senior CEC member, female, KII_26, Migori)**

**Regular support and supervision facilitated efficient programme delivery**

Capacity strengthening for technical QI skills was provided through ongoing supportive coaching by SQALE project staff alongside some coaching and supervision by formal health employees. The positive influences of this support on teamworking included improved professional and social agency for team members. Support prioritised QI implementation, completion of QI tasks and acting on key outcomes related to these tasks (e.g. acting on service user data). Under SQALE, long-term, regular oversight was designed to be provided by formal health workers. Short-term, for the duration of the SQALE project, regular monthly support was provided by SQALE project staff alongside formal health sector workers. When ongoing support was provided, QI team members often compared it to more common accounts of working largely unsupervised in isolation in the community.

Analysis revealed regular support as important among QI teams, contributing to their motivation. Teams experiencing irregular support were more likely to express frustration at the lack of support received and subsequent feelings of despondency and neglect. Regular support meant affirmation and accountability of the community roles through supervisors and peers, as problems and solutions were discussed openly at these sessions. Support, especially early on, reinforced learning and supported translation of QI knowledge and skills from the 'classroom to the field', providing motivation to engage in QI tasks.

The two CHEW excerpts below acknowledge the benefits of instruction and guidance and the value of support. Accounts of regular, ongoing support were more typically linked to SQALE project staff. Despite being appreciated, formal health sector support was more likely to be described as irregular, suggesting that for future sustainability regular support may be problematic.

> "Motivation also comes in the sense of the SQALE team also joining us. So when you tell them [QI team] that 'now today we are going to meet and… SQALE people are … coming'. They come early… they feel motivated because … [SQALE] guide us…it also motivates us… Implementing a programme and you don't see the programme officials it is really like that programme…[has] been dumped… [on] you. But… when the [SQALE] team comes… it motivates the team, they feel closer… to the programme implementing officers that also motivates them."

**(CHEW, well-functioning, sub-county QI team female, SSI_07, Migori)**

> "…The sub-county QI team … supervises us. The supervision really helps us because when they come they have questions that they ask, they also have a checklist to see what we have been doing. Then they tell us where we have done right or wrong so that we can improve…and so that our Community Unit can improve… Since we started, it has only been done once by the sub-county… [But] they are supposed to come quarterly."
>
> **(CHEW, well-functioning, community QI team, male, P7, CFGD_05, Migori)**

The third quote was typical of QI team members who valued the hands-on support from the SQALE team in resolving practical challenges in the field.

> "… [We appreciate] the support we get from the SQALE team, because they attend all our QI team meetings. From this we realise our loopholes and we work on them. We also get their support on the ground, they don't just work from the office but they are with us on the ground."
>
> **(CHV, well-functioning community QI team, male, P1, CFGD_6)**

Reasons for variation in the levels of support provided were attributed to structural, compositional and contextual factors, illustrating how factors influencing establishment and support of QI teams, although presented sequentially, were in fact interwoven. Structural issues (discussed in Section 4.3.1) such as geography and resource shortages alongside competing priorities, staff shortages and perceptions of no formal requirement to work with CHWs, especially CHVs (discussed in Section 4.4) proved significant barriers to ongoing field support.

Despite positive accounts of regular follow-up support under SQALE questions remain around long-term feasibility of field support. Several senior management team members and community health experts acknowledged with frustration the ongoing discrepancy between supervision policy and practice for facility level QI which in turn raised questions around support for community health.

> "They're supposed to do it [supervision] at the end of the month … it is there in the standards KQMH that it should be done, but it's not, not usually … That raises concerns about follow-up for community health."
>
> **(UN community health expert, national level, female, KII_10, Nairobi)**

Several QI experts emphasised intense, regular support as particularly important in supporting QI implementation. Early support is signalled as critical to 'nurture' and 'hone' skills – generating early results and keeping staff motivated. Their recommendations around the intensity of support adds weight to approach adopted by SQALE and underscores what is required in practice to support QI.

Senior managers frequently acknowledged that a focus on follow-up was critical to implementation and was a gap in the roll-out of QI at health facilities. The question is, how can support be provided and maintained in contexts like Kenya, which often struggle to provide regular support to health staff?

> "…people always need support from classroom to field… go and see them … to get some feedback on the methodology and [see] how they can improve the application… that really hones the skills… if you don't do that it is always pretty mediocre… [I] advocate visiting … every two weeks in the first three months… then … [move] to [a] monthly visit and a phone call in between. But if you stop paying attention, … they get stuck with the methodology… But if you can nurture them through those early stages they get results… [and] nobody is really interested unless it works."
>
> **(Senior QI expert, national level, NGO, female, KII_23, Nairobi)**

What was missing from accounts of training and support were team skills such as procedures for decision-making, handling disputes, understanding and agreeing the rules of engagement between team members and supporting the team longer-term – something that could further support effective teamworking and bridge support gaps. I return to this in the next section, 'Compositional features' and in the final section, 'Mediating mechanisms'.

## 4.3 Compositional features

'Compositional features' reveal which key team member roles should be considered when establishing QI teams for community health. The effect on teamworking of QI team composition – in particular the motivational influences to take part in QI teams among different team members – is illustrated. Support to multi-level team composition in the context of high staff turnover, – 'staff churn' – and significant changes in tasks – 'task churn' – are examined. Teams with committed membership and longstanding experience were better able to adapt to change. Section 4.3 closes by considering team composition combining volunteer and formal paid health workers, and the extent to which the health system supported mixed teams.

### 4.3.1 Key team members with clear roles and responsibilities

While there was general approval among QI teams of the overall team composition, some team members' inputs were especially valued. Particularly critical to team functionality were the CHEWs and the technical roles played by pre-existing MoH positions, including sub-county QI focal persons and health record information officers (HRIOs), supporting technical skills around QI and health

systems data to the sub-county teams, and onwards to community teams. With clear formal coaching roles and a planned programme of coaching and support, these technical staff now believed they had a framework for providing follow-up around data quality, for example, where previously there had been none.

> "From the health information perspective, the QI team has really helped us… This is where I get the opportunity to interact with them on a regular basis … I have also had the opportunity to go to some of these [community] units and interact with the CHVs one on one…sitting with the CHVs…sometimes you realise the understanding of the indicators is not clear. But when there is that external explanation, they kind of grasp the indicators. Through that I have seen data improve, with better quality data. If we do this more often with other units as well maybe our data can really speak of what goes on in the community… [previously] the conversations [on community data] have been happening but without a framework for action they … would end somewhere. But with the QI team we share the same problem. We also have interactions with them on a more regular basis. We have a feedback from them, they have a feedback from the CHVs."
>
> **(Health records Information officer, poor-/well-functioning sub-county QI team, male, P4, SCFGD_03, Nairobi)**

Alongside full-time team member roles were often valuable roles played by other influential individuals outside the QI team. Some QI teams were more likely to be well linked to individuals and teams beyond the QI team who could support their work. For one sub-county QI team with well-established relationships with the head of the sub-county management team, they could easily draw on their support for issues that required senior management inputs, for example sub-county supplies for CHWs. Similarly, some community teams described the importance of securing support of the chiefs and assist chiefs as 'gatekeepers' to the community. Despite chiefs or their assistants not always attending as full-time team members, well-established relations meant that, for some community teams, their support could be relied upon nonetheless to endorse team activities.

> " …We were supposed to have an assistant chief [in the QI team]… It is very important because these are the gatekeepers. When you want to get into the community they are the first people you will consult…our assistant chief…when we plan for our [community] dialogue [day] we inform him and he attends."
>
> **(CHEW, well-functioning community QI team, female, P1, CFGD_04, Migori)**

### 4.3.2 The advantages of multi-level QI teams for teamworking

The multi-level team composition with representation from different levels of the health system (community, facility and sub-county) supported teamworking and raised the profile of community health. For example, by virtue of CHEWs holding positions on community and sub-county QI teams, a mechanism was created to take community issues direct to sub-county level where, previously, community health had not been represented. Equally, improved community–facility linkages were viewed positively by senior county management and community staff alike, and were credited with establishing a deeper appreciation of community and facility roles, increased community referrals to health facilities and improved preparedness of those services.

> **"**…the linkage between the community and the facility started because the facility in-charge is a member of the community QI team…We found that link very good because they were able now to share what is happening and they were also able to… see how those people [community volunteers] are creating demand … so that more clients are coming to the facility… and the people at the facility are also getting prepared to receive those clients. Because sometimes when a mother goes to deliver at the facility they go and then find that the health care provider is not there, so the mother ends up going home to deliver at the traditional birth attendant or home delivery."
>
> **(Senior CHMT member, QI expert, male, KII_24, Migori)**

For CHVs, multi-level teams meant health messages were reinforced at different levels, enhancing the credibility of community health and improving trust among community members for health messaging and the CHVs.

> "… it [QI team] has made the work of the CHV to be recognised as important. When they [CHVs] visit households talking to women and then the Chief and the QI members also emphasise the same health messages, it brings an impact. People take the work of the CHVs as important, that needs to be taken seriously."
>
> **(CHV, well-functioning community QI team, female, P1, CFGD_05, Migori)**

**Demographic diversity of team membership**

Mixed teams in terms of age and gender had positive influence on team function. By way of illustration, in Migori county, with high rates of teenage pregnancy, QI team function was enhanced by including a youth volunteer in community QI teams. Younger team members extended health messages among their peers, reaching audiences previously unreached by health messages and supporting team function.

" …initially some groups like the youths were ignored. When they go out there, they visited only the parents but no one would follow-up for example on a pregnant youth but now there are some follow-ups…If they find cases like someone has refused to go to hospital… when he [youth team member] goes to speak with other youth they see the sense…So our reach is bigger than it was before."

**(Village chief, well-functioning community QI team, male, P8, CFGD_05, Migori)**

Equally, mixed QI teams, comprising women and men, were credited with supporting more inclusive community participation. Attendance at community health events ('dialogue days'[8]) and clinics was a good illustration of common changes mentioned in community participation.

"P3: …we are having dialogue days now, we used to have even before but only for women where we would teach them about ante-natal care and family planning but since we started the QI team, now both the women and men come…They learn that both the man and woman should go to the clinic because the baby belongs to both

P2: As men in the QI team we've encourage other men in the community to attend [dialogue days]. [Now] the men get to hear what their wives are being taught.

P1: Now … sometimes when a woman comes for clinic, she is accompanied by her husband…"

**(P1: CHV, male; P2: CHC member, male; P3: CHC, female; well-/poor-functioning community QI team, CFGD_06, Migori)**

Less positively, establishing mixed QI teams of women and men was not straightforward. For most community QI teams, the majority of QI team members were female, and this led to some reports of difficulties around participation – although there were challenges around participation for men too. For women and men, there were tensions around participation linked to earning an income versus participating as volunteers in the QI team. However, for women, there were additional tensions around competing priorities of childcare and attending to home tasks.

P2: The support [stipend] is important because it makes you work harder knowing that what you do is what will lead to getting that stipend…[also] when you leave the house, your wife doesn't bother you [question you] because she can see what you are getting.

[8] Events specially arranged by local QI teams to engage community members in discussions around community health and provide health messages.

> But when you leave in the morning to go to work and you are getting nothing, it brings issues.
>
> P1: It is also hard when a lady leaves the house every day and comes back with nothing and has to ask for money from the husband. If she brings back something, the husband will not bother her [question her] when she goes out to work.
>
> P5: It is also hard for us [to participate] because we look after the children, cooking and cleaning.
>
> **(P1: CHV, male; P2: CHC member, male; P5: CHV, female; well-/poor-functioning community QI team, CFGD_06, Migori)**

**The option to select team membership**

For most team members, although there was general agreement around the mix of individuals, the QI team seemed to serve as an 'imposed' or 'default' membership requirement rather than through internal deliberation. Perceptions of impositions appeared at a project and a systems level through a sense of limited agency among team members to choose other team members most appropriate to their context. Local contexts could be quite different even for neighbouring sub-counties.

At a project level, SQALE consulted widely on team membership with the MoH, but locally, some teams might have opted for different team members. Among QI teams there was typically an acceptance of limited scope to adapt membership from what was perceived as project requirements, despite having reasons to do so. For one sub-county team, they originally included water and sanitation expertise within the QI team, but then describe how this was later discontinued.

> "…When the SQALE team came to meet the sub-county during their inception meeting. They are the ones who said we are going to do this, who do you think is important? So the sub-county decided we need a nutritionist, we need reproductive maternal and child health, we need the health records person. It was decided at that level… it was ok because when we saw the seven indicators we were looking at, we decided to choose the key people that were the programme officers in those seven indicators. And when we started we even had a water, sanitation and hygiene (WASH) person in our QI team but along the line he felt it was not relevant for him and he pulled out…If it was up to me I really need the guy because apart from the seven indicators WASH hygiene is key so I would have kept him if it was up to me."

**(Community health focal person, well-functioning sub-county QI team, female, P1, SCFGD_02, Nairobi)**

For another neighbouring sub-county QI team, issues around unemployment, security and violence against women were real local concerns. Team functionality was impacted by the local operating context for this poorly performing QI team in Nairobi, but equally, having the scope to address local issues held the key. Due to security challenges, the health facility had remained closed overnight for several months, impacting referrals of women to the centre for deliveries and making the recruitment of CHVs more challenging, therefore impacting team establishment.

"…People living here have lost hope in life with lack of employment as a major contributor. The security around here is also a big challenge making it hard even to get CHVs…the security issues [also] affects our facility, though the maternity wing is now open at night but we still have problems. Just two weeks ago someone was shot outside the facility. I have tried to get the authorities to handle it...

It is the many things I see in the community that has prompted me to push for a gender-based violence (GBV) office to be opened in this facility because so many people are suffering in silence. I am not sure if the problems in this community will ever end considering it is a slum, but we have to try."

**(Nurse in charge of health facility, poor-functioning community QI team, female, SSI_03, Nairobi)**

Given QI is rooted in developing local solutions to local health issues, longer-term autonomy for teams to align team membership with local needs could secure the role of local context in influencing change and enhance engagement motivation improving sustainability of QI teams.

### 4.3.3 Motivational influences to engaging in QI

Motivation to improve the quality of community health, and to do this as part of the QI team, improved team function. The level and source of motivation varied at different levels of the health system. Positive perceptions around the benefits of participation in QI were most common at community, national and county levels. In contrast, support to the QI team was weakest at facility level and among some sub-county staff. Given the QI approach relied on mixed team membership, understanding the different internal and external motivations to participation was important in understanding effective support for QI teams and teamworking. An overview of the motivational influences to participation in QI teams is provided first, followed by a detailed account of the motivations to participation at each level of the health system (community to county levels).

Team members who came together wanted to improve quality of care for patients – a common motivation across QI teams. Other motivational influences to engaging occurred at the individual, interpersonal and systems levels. Motivation to participate tended to be at an individual (more internal) and interpersonal level for community workers, reinforcing status and role, dignity and respect and connection to the health system versus at the systems level (external) through, for example, QI teams' contributions to performance contracts and league tables. One exception to this was CHV stipends (as internal motivators) somewhat reduced calls for financial reward. Motivation to engage was most problematic for facility-level staff and some sub-county staff who had both low individual- and systems-level motivation to engage. Importantly, recognition of the clear benefits of QI was linked to participation in QI teams. When participants at each level were more cognisant of the benefits of engaging in the QI team, specific to their level team members were more likely to engage in team. An alignment of motivation at all levels improved teamworking, eliciting greater engagement with QI.

Mixed team approaches were designed to provide formal opportunities for interaction, planning and decision-making between community and formal health workers. For CHVs, a seat at discussions on community QI meant confirmation of their role and status. There was typically pride and prestige in being selected for the QI team, which was a motivation to participate. Additionally, for CHEWs and CHVs, the promise of positive benefits and opportunities (often in the future) were common motivators for participation. Chief among these were forging connections that could lead to opportunities for promotion, improved employment prospects, stipends, or work at the health facility. Meantime, improvement teams meant better linkages with facilities, and status and respect for CHWs. The CHV excerpt below acknowledges the positive individual and intra-team benefits of engaging in the community QI programme – captured well when the participant talks of SQALE having *'broken the barrier'* between nurses and CHVs and acknowledging improved opportunities for work at the facility.

> "SQALE has broken the barrier that was there between the nurses and the CHVs because initially they used to see us as nobody but now they see us as one of them, even the way they talk to us is with respect, like we are important. Before we would come and nobody bothered with you, they would just look at you. If you are not someone proactive, then they would just leave you… Nowadays when we go there (to the health facility) you are told so and so do this, so and so do that, you work until you get tired. There is now a close relation between the nurse and the CHVs."
>
> **(CHV, well-/poor-functioning community QI team, male, P4, CFGD_06, Migori)**

At county level, the role of improvement team approaches in meeting county performance contracts were critical to participation in QI, contributing to effective teamworking. Senior county managers often spoke of the very real pressures to perform, with these pressures often spilling over into shame and demotivation when counties performed poorly in county league tables or on performance contracts. Under these circumstances, enhancing performance proved an important motivation to support QI teams.

> "When they started embracing it [QI for facility level] … in 2013, when devolution started, people were not understanding the concept. They started understanding it when the results came out, in the Kenya Demographic Health Survey 2014 [published 2017]. Then we started saying, '…You mean our county is being compared with arid and semi-arid counties… counties with traditionally poor health outcomes. Counties like X, Y and Z? We are being grouped with those!'"
>
> **(County senior management team member, QI expert, male, KII_24, Migori)**

> "… [a] motivating factor is that I look at community QI as a main driver in making me achieve some of my performance contract agenda. For example, we want to reduce the number of children who are defaulting for immunisation, we want to ensure that we enhance access for care… So it motivates me because I know when I go the community QI way I will be focused on results and consequently I will be addressing the indicators which will be reversing. Currently … when you look at the problems that they are identifying and you look at the indicators of those problems, you will see there is some slight improvement. Consequently, that is contributing to my overall performance."
>
> **(County senior management team member, community health expert, male, KII_25, Migori)**

Engagement with the QI approach was most mixed among sub-county representatives, with competing tasks frequently taking precedence. Encouragingly, a few sub-county employee posts, commonly community focal persons, HRIOs and some QI focal persons, demonstrated more promising signs of support for the QI team. Among these team members community focal persons were especially supportive viewing the team as an essential operating framework central to a functional Community Unit (the first health service point of the Kenyan health system responsible for delivery of community health services [**Figure 1-2**]).

> "…for us to ensure our community are fully functional, QI team should be one of the pillars… to be able to sustain and maintain our community units to be functional."

**(Community health focal person, well-functioning sub-county QI team, female, P1, SCFGD_02, Nairobi)**

At the facility level, motivation for community QI was commonly the lowest. The reasons for this were mixed, involving: existing workloads (including facility-level QI initiatives); limited or unclear role on the community QI team; and perceptions of limited contractual obligations to engage (addressed in Section 4.4.4). There were some perceptions of positive benefits of engaging with the community QI team, especially around improved knowledge of community issues and expectations of the QI team supporting the work of the facility, through referring community members to the facility or disseminating health messages or potentially commodities (e.g. condoms or vitamins) as part of facility-led projects.

"… [through referrals from the community] this helps us even to add our numbers. Secondly, they help us even when we are requesting for drugs because we can budget with them. Because when we get problems in the community, we sit down in the facility and deliberate on the issues of the community. So when it comes to budgeting we are able to budget with them in mind…when we sit with them in the community QI team, we are able to tell which diseases are in the community…we sit and discuss so we will know a certain place has a problem."

**(Nurse in charge of health facility, well-functioning QI team, female, P5, CFGD_02, Nairobi)**

The remainder of this section focuses on basic supports to team member roles and drawbacks (Sections 4.3.4 and 4.3.5). These sections have been included for several reasons: they not only identify several basic supports and drawbacks around QI team member roles but demonstrate their effect on teamworking within complex community health systems. In so doing, they illustrate how team composition might best be modified and supported for community health.

### 4.3.4 Supporting member roles

There were several practical supports of multi-level team composition that can be listed as follows: clear terms of reference; an active and committed membership with a history of teamworking and adaptability to changing tasks and team membership. These are addressed in turn.

ToR clearly setting out roles and responsibilities for QI were issued to each team and were essential in helping orientate staff to new roles and responsibilities. In operationalising ToR, QI teams needed to consider how roles and responsibilities worked in practice and how they sat in relation to existing

roles and responsibilities. A significant distinction between QI teams in taking up new roles and responsibilities was an active and committed team membership and history of teamworking.

**An active and committed membership and history of teamworking**

Several community and sub-county team members were already working together in teams prior to the SQALE initiative. In the case of community teams, a few members had received prior support for teamworking, including to establish income-generating activities, which meant direct monetary support to encourage and sustain CHV team engagement. For sub-county teams, most members already worked as colleagues on the sub-county management team.

A history of prior teamworking provided support for the formation of the community QI team. When compared to community units with more limited experience, teams with some history of teamworking were better placed to draw on an already committed and active membership and established team norms, values and experiences and add established systems and some resources to support QI team activities. Given teamworking was not routinely included in formal QI training, prior experience helped teams more easily adopt and adapt to the demands of the new QI system introduced through SQALE.

For one community unit receiving donor support for their community team since 2011, several team members had worked together since that time and team norms and standards had been established. Given that long history, less active team members had been 'weeded out', with established team norms setting high expectations around commitment, mutual support and accountability among members. In this way, the team moved towards a more active and committed membership. The team leader proudly described this unit as the 'leading Community Unit in the county since 2013,' pointing to trophies and awards displayed in the small, purpose-built Community Unit where the QI team met.

> **"**As a team we have rules that guide us. For example … if one of us misses to come then there is a fine that we will charge you. Meaning that you must come to the meetings. Another rule is that if you miss more than three meetings then we remove you from the QI team… so over the years we have established a group of volunteers who are committed."
>
> **(Community volunteer representative, well-functioning community QI team, male, P9, CFGD_05, Migori)**
>
> " …We started in 2011 [with funding]. Funding ended in 2013 and from then we have been working as a team. We have always worked with the chief, sub-chief, the

> community, … [We have] channels of communication; we have the CHVs, the Community Health Committee and also SMS. If you don't understand something we sit together and we share and we help each other. You see [nods and acknowledges the community Chief] even the Chief leaves his office and comes here. We are very supportive of the Chief and he also supports what we do. We are ten in total and all of us are responsible."
>
> **(CHEW, well-functioning community QI team, male, P7, CFGD_05, Migori)**

What was striking during FGDs with teams like this one was the ability of participants, across the team, to articulate their roles and team rules of engagement. In the excerpt above, both the team leader and team member, a community volunteer, were each able to contribute. The exchange conveyed a sense of cohesion across the team and suggested team members were working together in QI teams. These types of exchanges were less frequently found in QI teams with more limited history of support and teamworking.

In addition to established operating procedures, well-functioning teams often brought established financial resources and mechanisms to support QI teamwork including for example: i) a system to support transport for expectant mothers referred to the health facility under the SQALE project; and ii) established income-generating activities including vegetable growing and beekeeping, to support CHVs.

The success of some teams in bringing in prior systems and resources to support the QI team highlights how structures and incentives were often established and embedded through long-term engagement. Over a number of years, teams systems could be established and tested and trust developed in systems and in each other. Trust enabled confidence and motivation to remain engaged with the community team and was usually the strongest among teams with a history of teamworking and accounts of team members regularly engaging and supporting each other. Positive accounts of regular teamworking were typically more likely among community rather than sub-county teams (discussed further in Section 4.6.3).

**Adaptability in the face of team member churn**

While a relatively stable team composition was a major contributor to effective teamworking, staff and 'task churn' were commonplace and, for some, inevitable in the context of community health. 'Staff churn' was typically a result of staff transfers or shortages at the sub-county level, most commonly among CHEWs and most disruptive when the team leader changed. 'Task churn' typically occurred as the result of changes of community health projects, which were heavily reliant on time-limited donor support. In this context, experiences of community health projects and tasks 'coming

and going' were typical. The challenge for QI teams was that QI was designed to support quality health services in the long-term, making it susceptible to 'churn and change'. As a result, especially in the context of community health, adaptability and maintaining institutional and community memory emerged as a strong feature in effective teamworking.

Overwhelmingly, CHV change occurred not among QI team members, but among other CHVs upon whom data collection (and therefore team success) relied, but who were omitted from formal SQALE training and not included in the QI team. There were several accounts of stronger community QI teams who deliberately set out to perform training to support such team members working often with more limited direct support from the CHEW.

> "…we came up with a unique style of pairing the weaker CHVs with a stronger CHVs… [to make] joint household visits. So they are able to assist one another… they work as a pair and they mentor one another better that way. And then the improvement members…, mentor their fellow CHVs…So…[if] they have an issue they are at ease…, they [fellow CHVs] are at least [more] reachable than I am…."
>
> **(CHEW, well-functioning QI team, male, P4, CFGD_02, Nairobi)**

Role modelling, especially by CHVs trained in QI, was similarly used to encourage and engage other CHVs not included in formal QI training. The following excerpts illustrate how CHVs took their responsibilities as role models seriously, supporting improved report-writing and performance among their peers, even within weaker community teams.

> "…a leader should show a good example. If we [community QI team] are told to write a report, we should show the rest [of CHVs] that we can write a good report."
>
> **(CHV, well-/poor-functioning community QI team, male, P1, CFGD_01, Nairobi)**
>
> "We are meant to be role models to the other CHVs, if we don't show them that whatever we are doing is important and will bear fruits in future, if we are not good role models, then the others will also not perform."
>
> **(CHV, well-/poor-functioning community QI team, female, P3, CFGD_01, Nairobi)**

From these accounts, it was clear QI teams themselves were not devoid of skills and resources and brought these to bear in their teamworking. Internal team skills supported teamworking, often despite variable external mentoring support. Community team members often saw themselves as role models and champions for community health and took pride in these roles. The SQALE programme established official recognition for QI champions and this was an asset in supporting

engagement and accountability. QI coaches were responsible for identifying QI champions, individuals who really stood out in their actions to improve quality of community health services. QI champions could be working at any level of the community system as: a volunteer or CHEW at community level or working at sub-county or county level. Champions were formally recognised and encouraged to share their experiences at QI training events. The recognition was a motivation to continue and spread support for the approach. For example, as part of peer-to-peer support, QI champions joined facilitation teams of SQALE and MoH staff for QI roll-out in Migori county.

Despite positive basic supports for QI teams, there were drawbacks too, to team composition and the task. Drawbacks included changing tasks and the risks to sustainability of QI and the kudos associated with QI tasks versus other highly visible roles arranged around curative and preventative services.

**Changing tasks and the risks to sustainability**

Each team's adaptive ability was linked to teamworking. Teams with longstanding support adapted more easily to change. For some community teams there was a pragmatic acceptance of the changing nature of community projects and agility in responding to changing tasks. As community projects changed, tasks did too. There were mixed perceptions of whether tasks would continue; for most teams. However, team members were typically steadfast in the belief that knowledge would remain and would be used.

> "…someone who gives you fish is not helping you, but the one who teaches you how to fish will empower you forever. We cannot say that it will end even when SQALE leaves because the knowledge that SQALE has given us will help us continue… Secondly, if we stop we are going to affect the rest who are out there because if we don't supervise them [fellow CHVs], they will relax because we are the ones who make them to come here. The moment we relax, children, pregnant women, and the whole community will suffer. What SQALE has taught us we will continue using until another project finds us. God willing SQALE will still return."
>
> **(CHV, male, well-/poor-functioning community QI team, P4, CFGD_06, Migori)**

This cycle of pragmatic 'coupling and decoupling' of tasks meant teams might survive, but tasks changed – often prompted by new motivations (benefits for community members, individual team members and their families).

Yet, the following exchange between the CHEW and village chief illustrates how, even for one longstanding team, there were mixed concerns over the continuation of the QI task.

"P8: …[but] They were used to SQALE giving them something so when it [SQALE] goes next year it [QI team] will crawl.

P7: Even if SQALE goes today we will still continue. We had [names donor] in 2011 and it went but until now we are the leading community unit in the county since 2013, you can see the trophies, yet we don't have any stipend but we will continue because we have our responsibilities and we volunteered… one thing, we have income generating activities for the community unit but not [solely] for the QI [team], so it will be good for us to have something."

**(P7: CHEW, male; P8: village Chief, male; well-functioning community QI team, CFGD_05, Migori)**

These accounts of support were often accompanied by strong QI team leadership and reports of oversight, supportive community structures (village Chief, Community Health Committee) and evidence of experience of teamworking. However, while some teams might survive, QI tasks may not – especially given the kudos associated with more highly visible roles for CHVs. Even at facility level where staff were paid, QI roles were often discontinued when projects ended.

**Kudos and highly visible roles versus less tangible QI roles and elements of QI which might continue without support**

A challenge linked to task change and continuing new roles was the kudos associated with existing roles compared to QI tasks. Community workers were accustomed to approaches arranged around curative and preventative services and sometimes supplying items such as basic medicines, condoms or bed nets. Traditional roles, strongly associated with formal health services, brought kudos and were already highly regarded by CHVs who spoke proudly of their role as the *'community doctor' and 'rushing to help community members in an emergency'.* In contrast, QI roles such as data collection duties in the field, were sometimes more challenging to link to an immediate and direct health benefit for community members. New tasks needed to be explained as CHVs went about their new roles, gathering personal community data.

"…sometimes I go with this paper and they ask, 'Why have you come with this paper?' I have to explain further why I have come with the paper and what I am going to do with the data and he has to see that the teaching I do is useful to him."

**(CHV, well-/poor-functioning community QI team, male, P1, CFGD_01, Nairobi)**

The long-term challenge was, in the absence of support, whether these roles would be continued. Given the potential for task churn and staff change, and the disruptive effects of change on effective

teamworking, adaptability and a sense of agency to change emerged as strong components in effective teamworking in the context of community health.

### 4.3.5 Terms of engagement: combining volunteers and formal employees

A theme not well captured in Mathieu *et al*.'s framework (Mathieu *et al.*, 2017), but dominant in participant accounts at all levels, was the challenge of combining a largely voluntary workforce with formal health employees. The specific dilemma created for effective teamworking was threefold. First, at a systems level, formal health employees and volunteers were subject to different formal terms and conditions with no accountability for delivering community health – a major concern. While formal paid health workers were accountable for delivery of formal health services, there was no similar arrangement for their volunteers. At a QI teams level, without any formal contractual requirement to engage volunteers, support varied, impacting implementation. At the same time, CHVs could not be held to account for delivery. CHV participation was most variable for the poorest functioning teams.

> "…as we have tried to improve the services at the community and also the QI teams, the attrition from the CHVs has pulled us a bit down, CHVs are not reporting, …[but] these are just volunteers so you may not force them to give you exactly what you want since you have nothing to offer at the end of the day. They have their own families and other issues to attend to and therefore sometimes when they feel they have a lot of work outside there, sometimes they start dropping out. So one of the communities was following on attrition rates, so these are some of the issues…"
>
> **(QI focal person, well-/poor-functioning sub-county QI team, female, SSI_01, Nairobi)**

A second concern was that formal health employee performance was not measured on how well they supported volunteers. Inevitably, formal health workers were reluctant to take up roles and responsibilities for QI for community health, and this was most common for poorer-functioning QI teams at both sub-county and community levels. Tensions around accountability were, for some participants, accompanied by calls for a shift away from volunteerism towards more formal community health services staffed by paid employees – a view especially common among senior community health experts. A senior expert described, with some vexation, common concerns highlighting gaps around responsibility and performance.

> "this model we are currently trying to get out of … volunteerism … when you have … volunteers, … nobody has accountability towards them. So, the CHEW as part of her performance … she is not going to get … rated … on how she supports the CHVs. A lot of

it will be based on how she does herself… she is a government employee, but the CHVs are not… so they are not recognised."

**(National level, UN, community health expert, female, KII_10, Nairobi)**

For one of the poorest-functioning community teams, lack of accountability, at least in part, meant the local facility nurse rarely attended the QI team meetings for community health. Instead, the CHEW and facility nurse communicated directly and messages were relayed between the facility and the CHVs via the CHEW. Although this was an extreme case, partial engagement of formal health workers in QI teams at community and sub-county levels was not uncommon.

However, formal health workers straddle many different roles and frequently emphasised competing activities combined with inadequate resourcing or, less commonly, security (in some urban informal settlements) as the cause of inactivity. Often, serious staffing shortages, especially for CHEWs, meant staff covered wide geographical areas with dispersed populations in rural areas and densely inhabited, often transient, populations in urban settings, which stretched CHEWs' abilities to attend to each area under their charge. Other sub-county QI team members, health facility staff and CHEWs described practical system hurdles, such as the extra demands of the community QI team due to their role straddling both the community and facility QI team, or competing priorities that took precedence. Meanwhile, for CHVs, they often coveted roles at the health facility and part of the incentive to engage with the QI team were the opportunities it presented for them to link with the facility and potentially to work there too.

While for most CHVs there was dignity and pride in having been selected for the QI team, accounts of ongoing economic disparities were a third barrier to combining volunteer and formal health staff. For individual volunteers, stipends had an important signalling function. Their absence marked volunteers as 'other': distinct from their team colleagues and with an ongoing tension for individual volunteers and formal health employees alike who believed the situation jeopardised the sustainability of QI teams. In this regard, government provision of formal recognition for CHVs through stipends was welcomed and, when it was not given, this led to feelings of despondency and neglect.

## 4.4 Positioning: organisational structure and culture

'Positioning' was an enduring theme in understanding effective QI teams and teamworking, as participants made sense of QI roles and responsibilities through the lens of the current context. The highly contingent nature of QI is shaped by organisational structure and cultural, sociocultural, political and economic factors in Kenya. Contextual barriers and facilitators to QI teams and

teamworking are identified in the devolved Kenyan health system. This theme considers the practical differences of undertaking QI for community health compared to other (non-community health) improvement teams and how these experiences reinforced perceptions of QI implementation for community health. The section concludes by examining QI team attempts to align QI task with organisational structure and culture.

### 4.4.1 How community health was overlooked historically in Kenya and the implications for QI teams

National leadership on health priorities and agendas performed important signalling functions in directing county priorities, and therefore potentially represented a significant support to QI teams. However, historically, community health has been overlooked in Kenya. From policy to implementation, community health was overshadowed by the deep-rooted influence of biomedical models of health, favouring curative rather than preventative health services. The primacy of biomedical models meant curative services persistently sat at the top of agendas, guiding health and improvement priorities, resource allocation, implementation and ultimately determining the markers of success for health service provision. The hurdles in overcoming the potent appeal of curative care are captured by this senior community health expert from the MoH. They describe the tendencies for political influence, power and visibility of decision-making around selected priorities which continue to be reflected in the trend to support tangible curative care over less tangible, mostly preventative community care.

> "…community, these are long term things. These are things that do not show tangible or physical results immediately… most of us are not used to that, especially… our leaders and politicians. They want to see things that they can brag about."
>
> **(National government, community health specialist, male, KII_04, Nairobi)**

Long-term political leadership and support which continued to focus on facility-level services rather than community care potentially jeopardised support for community QI.

### 4.4.2 Support for QI linked to institutionalising community health

Analysis revealed a spectrum of support for QI in community health, ranging from low-to-high, correlated with views around institutionalisation and increased resourcing of community health. Despite a legal mandate to provide community health services as the first tier of the health system, in practice, accounts of interest and investment for community health were mixed. The predominant view was of community health as an adjunct to formal health services, rather than a

service in its own right. Especially for political leaders and senior managers, community health was overlooked as part of formal services, and viewed instead as a largely informal service whose purpose was to support, rather than inform, formal health services. Under these circumstances dedicated resources and formal oversight to improve standards were overlooked. With community health viewed simply as a responsive service 'bottom-up' approaches, central to QI, were threatened.

Yet, the appeal of a largely voluntary workforce with flexible roles and responsibilities, capable of swift deployment to support wide-ranging government policy roll out, was attractive for government at national and county levels. The most recent example of informal use of CHVs was engaging them in the enrolment of community members to the National Hospital Insurance Fund (NHIF). Weak support for community health as a formal service including proper operating standards, and resourcing jeopardised QI for community health.

In contrast, for community health experts from the MoH, NGOs and a few senior county managers, community health was regarded as a distinct service adding value in its own right, meriting formal support, including resources and staffing structures and programme set out in the Community Health Strategy (Republic of Kenya MoH, 2014) and the new QI guidelines for community health (Republic of Kenya MoH, 2015).

*"… one of the biggest barriers is limited funding. Coming from the county themselves, domestic funding…Number two, is the actual recognition of community health, as Level 1, as part of the health system. So that when a director is talking about health, or when they are thinking about hiring… they are also keeping in mind that community health volunteers are also people that need to get hired. And that need to be given the tools… and…[are] supervised and mentored…So, for right now, we are still working on institutionalising… that's one of the bigger barriers.*

> *Community health is not really recognised by a lot of the County Executive Council members, they're like the ministers at the county level… because they tend to be doctors, and some of them don't quite understand community health … they tend to be very facility based, very curative based…"*

**(UN community health expert, national level, female, KII_10, Nairobi)**

Given the 'place' of community health in the Kenyan context, SQALE was attempting a significant cultural-shift in institutionalising QI for community health. Alongside MoH colleagues, SQALE drew on support of those in favour of greater institutionalisation of community health, including key senior leaders as advocates for the QI approach in training events (e.g. national and county QI focal persons). Let us now move on and explore leadership in more detail.

### 4.4.3 Leadership

The importance of leadership for QI approaches was an anticipated study finding. While the insight is not groundbreaking, fresh insights are provided in the demonstration of the enduring scope and scale of leadership across participants' narratives. This section takes the analysis of leadership and demonstrates particular leadership influences – including political leadership through the MoH and external leadership from donors, which proved significant in driving support for QI for community health and therefore supporting QI roles. It is these factors which provide novel insights here.

**Political leadership**

Political leadership held sway for QI and community health. Given the tendency for neglect of community health, what was striking in the data was the positive influence when political leadership for community health was provided, and the ability of some senior managers to steward this in support of quality community health.

Political leadership signalled priorities, confirmed legitimacy and power, and on individual and emotional levels, buoyed momentum for action and generated feelings of recognition and support, which was particularly relevant within the context of community health. The influence of political leadership was especially visible for senior key informants, as interviews were conducted during a time that straddled the 2017 Kenyan general election. The influence was marked among participants at national and county levels and less for sub-county and community levels, where leadership from direct line managers was predominant.

Without political support, pre-election interviews at national and county levels predominantly revealed a sense of struggle for legitimacy for community health, whereas post-election, national and county reports demonstrated a palpable sense of optimism and energy linked to the new presidential pledge, 'The President's Big Four Plan', in support of UHC, announced in December 2017.

The primacy of political leadership in building momentum for change across the health system was commonly reflected in narratives at senior, national and county levels.

> "Health … goes with the political temperature of the day…When there is political will to invest in health, we take that as an opportunity also to come up with the programs that we need to implement … Kenya as a country, today has prioritised health as one of the 'Big Four'. So by extension every other county, has prioritised that and the moment we prioritise it, it means in terms of resources we will invest."
>
> **(Senior CEC member, female, KII_26, Migori)**

**Using political leadership to leverage change**

Often, discussions of leadership demonstrated its mercurial qualities as support ebbed and flowed, leaving participants 'hoping' to be heard on driving agendas on support for community health or, more optimistically, using new shifts in government priorities to advocate for a more formal community health service. A few senior leaders within the MoH and experienced in community health and QI were able to move swiftly to take advantage of contextual opportunities and push for change when supportive leadership opportunities arose.

> "What is encouraging…is that it [the President's plan] means we have the highest political goodwill. It is now [for us] to show them the how to add value to that [NHIF] **…** initially their [government] engagement with us was how will our volunteers be just people to enrol people in the NHIF. And I am telling them, 'No we need to give them [CHEWs and CHVs] a package'. NHIF actually can be one of the mandates in that package but not that that package is just enrolling. We need to encourage them to do the preventive and promotive… to help the facilities reduce their burden and even reduce their [government] NHIF costs."
>
> **(National government, community health expert, male, *KII_19, Nairobi)***

Formal health staff pressing for change frequently sat in parallel at national or county levels, with each describing their own sense of a fairly lonely struggle against consensus around community health.

> "… I am still trying to make a lot of us understand that universal care is not equal to health care financing, but … the political push seems to be too much… [they want the] easiest possible way to deliver that [UHC] for purpose of political statement… [to say we] …have 100% universal coverage. And that is an ongoing conversation. We hope our voice is listened to…"
>
> **(Senior CEC member, male, KII_22)**

Establishing community health as part of the formal health system to address UHC seemed, to some participants, to be a 'David and Goliath' struggle against the status quo, which preserved the primacy of higher-level curative services over largely preventative community healthcare. While building momentum for institutionalised community health remained an ongoing challenge, so too did the momentum for QI for community health. The sometimes disparate yet dedicated leadership support for community health suggests a stronger central forum at national and county level advocating for community health and galvanising support.

### 4.4.4 Policy and the disconnect with funding and implementation

Policy, strategy and standards signalled government support for quality community health services and were regarded as essential markers for implementation among national and county staff. While not guaranteeing support, they sanctioned institutionalisation of QI roles and responsibilities, and therefore financing for QI. Participants drew attention to strategy and policy within the wider context of historic shifts in health priorities in Kenya as evidence of some gradual policy shifts to support quality community health. Documents frequently referred to included the 'new' Kenyan Constitution (National Council for Law Reporting, 2010); the 2014 and 2006 Community Health Strategies (Republic of Kenya MoH, 2006; Republic of Kenya MoH, 2014); and the recent Quality Standards for Community Health (Republic of Kenya MoH, 2015). At the sub-county level, references to inclusion of QI for community health in annual workplans and budgets were more common markers for action. While progress in policy, strategy and standards was greeted enthusiastically, in practice, commitment often disappeared around funding and implementation; although in the devolved Kenyan health system some counties were more supportive of community health than others.

> "That is the problem because you have a government that gives you a policy, but no mechanism of funding it completely – nothing, no organisation, so. But that has been taken up by counties, a few of them… [who are] … trying to support community health workers with the monthly stipend."
>
> **(UN community health expert, national level, female, KII_10, Nairobi)**

> "…It [QI] has been embraced everywhere…the national government has supported a lot of training. And even now with… UHC and … the new Constitution we talk of health as a right and it is not just any health it is quality health. So, QI is even embedded in our constitution now…[what] we need to do much more, especially … as a county government is the implementation."
>
> **(Senior CEC member, female, KII_26)**

### 4.4.5 Overarching facilitators and barriers to effective QI teamworking

Having explored wider contextual barriers and facilitators to supporting QI teams in the devolved Kenyan health system. This section examines in more detail how socially contextualised understandings around QI influenced operationalisation, expectations on what QI could deliver and perceptions of the sustainability of QI teams. Two interlinked overarching facilitators and barriers to QI teams are explored. First, the especially dynamic nature of the improvement task in the

context of community health is considered. Second, task-based approaches to QI that were linked with external funding are explored.

**QI for community health: an especially dynamic task**

QI as a dynamic task acknowledges that QI could be implemented, but that participants at different levels of the health system often understood and engaged with it in different ways. Critical variations in how QI was understood are captured in three recurring motifs of QI as a punitive or supportive process; QI requiring additional resources (or not) and, finally, the especially dynamic features of QI for community health.

The dynamic nature of QI is not new, and was reinforced by QI expert accounts.

> "One of the things I would say is that QI means lots of things to lots of different people."
>
> **(Senior QI expert, NGO, female, KII_23, Nairobi)**

In this section what is novel is the attempt to demonstrate how this impacted on establishing and supporting QI teams for community health.

**Supportive versus punitive approaches and the especially dynamic features of QI for community health**

QI as a learning process based on supportive approaches to coaching and supervision at times sat juxtaposed with more punitive approaches based on fault-finding, performance management and targets. While a few senior county- and national-level managers regarded QI as a much more punitive process designed to 'catch people out' and 'keep people on their toes', typically QI experts and sub-county focal persons emphasised QI as a supportive learning process that struck a balance between 'carrot and stick' (reward and punishment), creating a context committed to achieving targets through supportive learning processes.

> "Plant in their mind it's a learning process. QI is a continuous learning thing… someone will pick it up, do bit more, someone (else) will pick it up… empower the team to continuously improve their processes."
>
> **(Senior QI expert, NGO, male, KII_01, Nairobi)**

Simple visual management tools, including bar graphs and run charts (simple line graphs of data assessing the effectiveness of change over time), helped support a learning process and provide a visual way in which to measure performance. At the QI team level, graphs to track team performance featured in accounts of some teams (discussed further Section 4.5). At county level,

improvements in routine reporting rates were used to acknowledge and prompt good practice. As part of an initiative established by SQALE and taken up by county staff, monthly figures for reporting rates were shared among QI teams members via a WhatsApp group, successfully prompting friendly competition between sub-counties and prompting county community health focal persons to encourage sub-counties to submit monthly community data. But senior management expectations around the ability to track regular progress on QI team change plans and identify teams who were struggling and who needed support were not always met.

> "…[where] there is a gap… [is] A structured way of giving feedback up to the county level…[of] tracking the change. You see like now, every community unit has their change plans, facilities [too]… and the sub-county and county… So for us to be able to track and support better … [we need] a system of tracking, such as Google tracker or whatever so that we know these ones [QI teams] are trying, these are weak [and] we… support them.
>
> **(Senior CHMT member, female, KII_27, Migori)**

At the same time, community health experts and senior health workers acknowledged the challenge of demonstrating results for community health given its intangible nature – which often focused on longer term issues of prevention.

Longer-term, a system to systematically track performance against QI targets set out in change plans could potentially promote sustainability given QI's contribution to performance was a key motivator to participate for senior decision-makers who held a veto on county participation.

**Resources required for QI**

The requirement for resources to implement QI was often viewed differently at each level of the health system. The most noticeable differences were between QI team members and some senior county-level staff and QI experts. Calls for additional resource requirements were commonplace among QI team members, while QI experts and MoH staff at national and county level presented more mixed views. Typical reports for QI experts and at some senior levels were of QI as an integral task, beginning '*where you are'*, rather than something requiring additional resources. However, these accounts were usually accompanied by the proviso of CHV stipends being in place, as well as basic data collection tools. There was acknowledgment of the difficulty of talking about QI in resource-poor settings when 'the basics' are not in place and, equally, the view of resources not being a prerequisite or guarantee for QI.

> "Sometimes it's very difficult to talk about QI in countries like Kenya when you don't have the basics of the pillars in place. When you don't have enough human resources,

> you don't have enough infrastructure, things aren't just adequate to support good quality management. And sometimes… where you have structures in place, the capacity is not enough…[but], I'll take QI … at the point of where you are. Even if you are working under a tree, then let's do quality management under a tree, so long as the end idea is to give service to the patient… I mean quality, first it's a mind-set. … Even if you have all the equipment and supplies but you don't have the mindset of providing quality services then it won't just happen."
>
> **(Senior QI expert, NGO, male, KII_01, Nairobi)**

Insufficient resources was a routine aspect of life for most QI teams, especially at community level. Community accounts were commonly fused with complaints of limited basic data collection tools and resources, with CHVs having to 'improvise with pieces of paper' when standard MoH data collection tools were unavailable. However, calls for additional resources over and above basic tools such as data collection books for recording community health data were at odds with perceptions of QI as a routine role.

These dualities exposed mixed understandings around QI and what it takes to deliver a QI intervention in practice. Left unchecked, these could place unreasonable expectations around implementing and sustaining QI approaches. For example, the perception that there is little or no additional resource requirement, leading to the belief that important elements critical to sustaining the approach, such as supervision, could be left to more *ad-hoc* donor support rather than supported by recurring government funding.

Weak understanding around QI was linked for some to the multiple QI programmes which operated and the prior limited focus around sufficient support for implementation.

This senior county executive committee (CEC) member for health talking about QI acknowledges implementing training can be challenging and underscores the need for support targeting implementation. Reflecting on previous work with QI at facility level they suggest:

> "…So in terms of, existence of such teams [facility QI teams], they are there. Then, in terms of capacity, they have been trained. And at times I say they have been trained enough, they need time to implement…Implementation – that becomes a major impediment. If you know what to do, but how to do it becomes a challenge."
>
> **(Senior CEC member for health, female, KII_26)**

There were positive accounts of SQALE training having overcome previous confusing experiences of multiple QI programmes – a reminder of the importance of acknowledging previous experiences of QI which could thwart uptake of QI.

> "…the training is good. In fact for me when I attended that QI meeting in Nairobi, it was simple, it was just a sensitisation but it made me understand the principle…before we had many partners supporting with QI like with different concepts…Eventually you realise it is all the same and it is geared towards the same thing."
>
> **(Senior CHMT member, female, KII_27, Migori)**

### 4.4.6 Task-based approaches to QI

This section begins with the context of community support for community health and traditional patterns of funding. It then explores how these were viewed as barriers and facilitators to teamworking.

**Traditional patterns of funding for QI and community health in the devolved Kenyan health system: reconciling QI tasks and a culture of top-down support**

Patterns of funding for community health were traditionally experienced and implemented as vertical 'top-down', task-based programmes linked to short-term support in Kenya. QI for community health was, for some participants, viewed in the same way. Although these approaches were familiar, experiences of QI as a 'top down', task-based intervention reinforced existing hierarchies and jeopardised perceptions of ownership and QI as a routine and integral role for community health. While analysis exposed the drawbacks of task-based approaches for team function, there were important benefits too.

At county level, multiple partners operating vertical programmes accounted for most local community health and QI budgets, reflecting the lower priority given to these issues by devolved counties.

> "We have five partners in community health…partners are a big support to community health. In fact their support forms 80% of our [county community health] budget."
>
> **(Senior CHMT member, community health, male, KII_25, Migori)**

'Top down' internal and external drivers of QI and community health formed a significant and compelling influence on perceptions and experiences of community health and QI from national-to-community levels. The perceived reliance on external funding for community health when

participant experience was of engaging in vertical programmes to support donor initiatives was understandable. However, the continued conflation of the perceived reliance on external funding for QI raised some deeper concerns around local prioritisation and about perceptions of QI and the appropriateness of methods used in terms of long-term sustainability. Further, the continued reliance on external support for QI suggests QI as a routine concept was not being fully realised – what should be readily transferable was not always seen in that way.

> "…partners are the ones supporting QI initiatives, seventy-five percent are being supported by partners… They [partners] support training especially of health care providers, training of facility-based coaches, training of community volunteers, the community improvement teams (the ones who are supported by the SQALE program), that is what the partners do. They also support in the areas of performance review meetings where we meet and review some of the indicators that we are working on; maternal newborn and child health indicators and we see how best we are performing. They also support Technical Working Group meetings and QI learning sessions whereby we learn best practices. Then they also support supervision which is done quarterly."
>
> **(Senior CHMT member, QI, male, KII_24, Migori)**

The detail on the scale and scope of QI support is revealing and suggests from a sustainability point of view the QI approaches may not be fully appropriate. But rather, low-cost, less disruptive, highly transferable QI processes may have been better alternatives – for example, more reliance on and support for building QI teams themselves. This may have avoided being mistaken for vertical programme and more readily identifiable as something that could continue without external support.

At the level of implementation, the historic lack of support for community health and QI meant drawing from multiple external resources leading to a very fragmented response. The challenge for implementors was to simultaneously implement and sustain various QI packages.

> "The government has started incorporating that [QI]. From last year [2017] they started ensuring that every facility, …incorporated continuous QI…but now the problem is they are being sustained by NGOs right now… [at this facility] They are about three [QI programmes] supported by three different NGOs… Like now mostly they [the NGO] want to support issues to do with HIV… So you will find that NGO coming with their own policy according to what they are funding for. Now these three are mostly concentrating on the HIV area…One provides the tools for the QI though they support little, the other one will go deep into the theory which is very good, …[one] covered the widest; …they

> have covered maternal and child health, the antenatal mothers, outpatients. All related to HIV."
>
> **(Nurse in charge of link facility, poor-functioning community QI team, SSI_03, Nairobi)**

Several implementers at facility and sub-county levels reflected on the multiple roles and responsibilities their QI teams had for delivering to each partner programme, adding to existing workloads.

There was evidence at national and county levels of some activities being streamlined. To improve QI coordination, Migori county – with 12 funding partners supporting different QI programmes – created a central technical working group for all its county QI partners, and a similar group operated in Nairobi. However, more commonly, at facility level, experiences were of multiple partners' support leading to cumbersome and unwieldy operationalisation.

**The benefits and trade-offs of task-based approaches**

The task-based approach which accompanied vertical interventions came with benefits and trade-offs. Usefully, the task-based approach emphasised a familiar approach. The operational model had parallels with externally funded interventions which those from the formal health system and community were accustomed to. This meant team members could quickly coalesce around the approach. The tasks themselves began with a focus on improving what was largely acknowledged as poor-quality community health data; once improved, data could be used for decision-making. Standard MoH data collection tools were used, supporting rapid uptake around somewhat familiar tools. However, parallels with previous 'project-based' and 'task-based' initiatives were a double-edged sword. It meant QI was consistent with filters through which community health programmes were typically viewed and projects were undertaken – an acceptance that projects 'come and go'. The dilemma, especially for unpaid CHVs, was which projects would be prioritised when competing priorities and projects arose.

While domestic government support for community health remained patchy, more encouragingly, many national and county staff welcomed external support for the 'impetus' it created for driving and supporting change in new areas such as QI for community health and matching fresh ideas with support for implementation. Further, the opportunities created to trial approaches and provide evidence that could be used to advocate for scale-up and long-term support were acknowledged and appreciated by senior MoH staff.

An over-reliance on external funding and technical inputs threatened QI teams and potentially the QI intervention overall. With fragmented funding for QI there were examples of team members

serving on several QI teams at sub-county and facility levels. On incentives, there were examples of perverse incentives including one donor paying a stipend for a county-level QI team that was focused on facility QI and, to talk to that team, SQALE was asked to pay sitting allowances. Another example in Migori was that facility QI teams were for HIV services only.

At the level of implementation financial and non-financial incentives, including direct payments or allowances, were often paid by external donor supported programmes. For example, in the absence of government-funded stipends, participants spoke of the positive impact of multiple financial streams on motivation and participation for CHVs.

> *"…[what] keeps them [CHVs] going… you find that a CHV… is our CHV, … she is also a CHV in a faith based organisation. She gives like two hours to each and at the end of the day she gets her reward… accumulatively from all of us. Some organisations pay them very well, like a stipend of 8000 Kenyan Shillings per month[9]. This one makes them more committed to this work so even if she gives her [QI data] report it is through the other engagement that motivates her more. This is like a back-up to say I was selected to this [QI] programme because of this report so I would continue bringing it."*
>
> **(CHEW, male, well-functioning sub county QI team, P2, CFGD_02, Nairobi)**

Unsurprisingly, with pressures to support their families the monetary incentives to participate especially for volunteers were significant. Long-term this could potentially jeopardise a focus on QI and the QI team as CHVs take up better paid roles.

**Task-based approaches and QI as a discrete versus an integrated task**

While most formal health workers and volunteers drew heavily on understandings of QI as a series of discrete project-related tasks which could '*come and go'*, national to sub-county community health and QI experts viewed QI as something integral to practice and linked to quality standards or performance targets. In the first quote, the QI focal person pinpoints the challenge of staff perceiving QI as an *'additional task'* and describes tackling this head on with frontline health workers.

> "At first people thought that it [QI] is something extra than the work we do but with the creation of the QI team and also the training in QI, we have tried as the sub-county people to let people embrace QI such that they don't take it as it is something extra. It is just a way of measuring my performance, measuring how we are doing."

[9] Approximately £60 (UK Sterling).

**(Sub-county QI focal person, female, well-functioning sub-county QI team, SSI_02, Nairobi)**

However, accounts of QI implementation, especially at community level, were deeply entwined with understandings of previous community and QI programmes which were typically viewed as discrete, additional tasks which in the main ended when funding stopped.

*"P4: Maybe what I can say is a foreseen problem, … this is a project which will run let's say to 2019. So my fear is after the project has subsided, my CHVs are used to a monthly stipend, we are used to a QI team which is supported by SQALE, we are used to books [data collection tools] provided by SQALE, what will happen after that? … How can it be sustained as a long run issue which can be there…?"*

The nurse in charge of the local health facility continues, comparing previous experiences of QI at facility level.

*P5: …we started a QI team in this facility and we were under the support of [name of funder] but when they decided they will not be giving us the stipend, the QI team died out. And it was very, very hard to raise it up again. So I think P4 is also concerned because he saw what happened in the facility*

*P4: …and remember these are staffs on the payroll of the county. Now what of community health volunteers?"*

**(P4: CHEW, male and P5: nurse in charge of the facility, female, well-functioning community QI team, CFGD_02, Nairobi)**

Left unchecked, perceptions of QI as an additional rather than integral task could test attempts to sustain QI, especially in the context of community health and multiple community tasks often linked to short-term, discrete donor funding.

For some counties and teams there were examples of deliberate attempts to spread the QI approach beyond existing sub-counties. The low-cost, least disruptive, highly transferable parts of QI were most easily transferred.

The theme positioning has demonstrated how organisational structure and culture influenced perceptions of task design characteristics – especially understanding of the long-term nature of roles and responsibilities for QI for community health. The final theme, 'mediating mechanisms' demonstrates attempts of QI teams to navigate wider contextual factors and internal team-level factors through team processes of decision-making, establishing relationships and building trust,

conflict-management and confidence-building and the resultant impact on QI teams (morale, commitment to participate).

QI teams were designed to create team-led approaches to decision-making, replacing traditionally hierarchical expert-led decision-making. Multi-level teams attempted to smooth hierarchies by combining team members from multiple levels (community, facility and sub-county) and were designed to create opportunities for more 'bottom-up' rather than 'top-down' QI decision-making. In attempting to operationalise flat team approaches for community health, SQALE was challenging traditions of hierarchy and attempting a significant cultural shift. Mediating mechanisms addresses a number of ways this was supported in the context of community health.

## 4.5 Mediating mechanisms

'Mediating mechanisms' considers team relationships in context and as they operate in complex community health systems. It identifies the things that team members did that influenced individuals and the team (decision-making, interpersonal relationships, confidence-building and conflict management) and their impact on the team (commitment, morale, conflict). It considers the extent to which team composition and contextual influences invited openness to differences as sources of diverse information and perspectives were shared in multidisciplinary teams – what Mathieu *et al.* (2017) describe as "central tendencies" of teams around team values, norms, goals and commitment to teamworking.

Support for teamworking was not part of the SQALE project design. However, there were positive examples of some team members deliberately employing their own internal processes and mechanisms to support teamworking (addressing power dynamics; cultivating connection and trust between team members). The way activities were carried out impacted individual and group levels and set a positive tone for QI team operations: enhancing individual and shared knowledge and skills; developing team confidence to implement QI; and building team morale and individual motivation. The processes of goal specification, monitoring progress and decision-making – underpinned by supportive relationships and shared leadership between team members – are explored, since these were among the strongest influencers of effective teamworking. While there were positive signs of effective team processes supporting QI implementation, barriers remained, especially in overcoming hierarchy.

### 4.5.1 Power dynamics, hierarchy and their impact on decision-making

A significant distinction between some QI teams was their perception of decision-making processes and their role in priority-setting. Team goals and activities were based on seven SQALE indicators

(**Box 1-3**) and local team priorities within the parameters of these indicators. Decision-making processes for selecting team goals were reported to be mostly participatory, although more top-down rather than bottom-up. In the top-down approaches, sub-counties and facilities selected goals and priorities within the scope of the SQALE programme, while community units considered local change plans to address these goals and priorities. In bottom-up approaches, there was more active participation in local decision-making from community units – an approach typically found in better-functioning QI teams. Having SQALE indicators as a guiding principle helped teams quickly orientate their discussions and link activities with sub-county priorities.

> "We identified them [QI priorities] by the activities that SQALE had and things that were going to benefit us as a sub-county, to increase the number of cases that we report – especially for children under five years and pregnant mothers… So some of the indicators that we were working on were pregnant mothers who get referrals to the facilities… [then] each community team identified their major issues …and then the community takes it up and now tries to work towards the goal that was already set."
>
> **(QI focal person, well-/poor-functioning sub-county QI team, female, SSI_01, Nairobi)**

> "P7: …They [SQALE] had questionnaire that they took to the households and identified the problem that was there. That is when we came up with the change plan. The problem identified is that when CHVs go to households they don't ask if there is a pregnant woman in that household …we put that as priority number one and we worked on it in phase one…The other method we use is through indicators. When the CHVs bring their reports; we have the indicators that is why we have this chalkboard. For instance, you see we have 492 under 5 years. So when the CHVs bring their reports we can tell how many have not gone for growth monitoring. Like last month they were 227 so we realise there are about 200 children who didn't come for growth monitoring. So the reports help us to identify problems that are there."
>
> P2: Once we have identified a problem we sit as QI team members to find a solution. Once a solution has been found we call the other CHVs and share with them how to solve the problem in the community**."**
>
> **(P7: CHEW, male and P2: community health committee member, female, well-functioning community QI team, CFGD_05, Migori)**

Visibility and more equal interaction with data had a significant influence in smoothing traditional hierarchies by expanding traditional roles and increasing opportunities for decision-making that were bottom-up rather than top-down. In the team above, 'chalkboards' displaying community

data and team reports were accessible by all members and periodically reviewed as a team. Posting of community data was visible on the walls of the purpose-built community unit – a space that was equally and openly accessible by all team members. These simple visual management systems and reports served to maintain openness between staff, clarity of purpose and help identify new areas for improvement.

In contrast, for poorer-functioning teams, while there was increased data collection, increased community engagement around decision-making did not always follow. A common narrative was that improved data were collected by community QI teams, but still passed upwards through a hierarchical system for decision-making at higher levels – views typically expressed among poorer-functioning community teams and often reinforced at the sub-county levels. While, positively, data were increasingly collected and could be used for improved decision-making across levels, the following narratives were a reminder of how deeply entrenched cultures and norms were around data use and where decision-making powers lay.

> "…data must flow from the community to the facility that we are attached. So even when the government starts making their plans they get very accurate data."
>
> **(CHV, well-/poor-functioning community QI team, male, P1, CFGD_01, Nairobi)**

> ":…[for] the CHVs. We have the graphs displayed on their walls so they go and update some of the indicators. At least they understand what they are doing. Because they were asking [previously], we are collecting data and bringing to the CHEW, [but] where is that data going? So they didn't know. But right now they know that we compile data from their source to the CHEW and then it is going to the DHIS (District Health Information System) and then used for decision-making and planning. Now they know and are taking the data seriously."
>
> **(Health records information officer, well-functioning sub-county QI team, female, SCFGD_02, Nairobi)**

Analysis revealed several reasons why community records were not collected, or collated and not used. Community health records were not trusted, nor routinely integrated into what was a cumbersome data system. Traditionally, data were deemed to be of poor quality, delivered late, not collected by higher levels and often not of interest or value to them.

These health record information officer's (HRIOs) were typical of narratives of neglect and lack of integration of community health data at the level of implementation.

> "Previously we never used to report. That one I won't lie to you because some of the Community Units never used to bring those [community reports of data collected]…"
>
> **(HRIO, well-functioning sub-county QI team, female, SSI_08, Migori)**

> "Earlier on, the community were reporting but were not looking into much of that data. We were not even identifying if that was the real data or quality. We were not checking some of the things which are entailed in the indicators. We were not even looking at the completeness, accurateness, timeliness, those are the things we were not checking."
>
> **(HRIO, poor-/well-functioning sub-county QI team, male, P4, SCFGD_03, Nairobi)**

There is a lack of integration of community data, explained in part by the complexity of data flow and entry. The collection process is lengthy and there are perceptions of community health data as additional work.

> *"I think for us in terms of data, some of the main challenges is that the flow of our data has to pass through facility. At the facility it is given to the health records information officers (HRIOs). Sometimes they feel that this is extra work, that it is not their work because they just want to enter the facility data. So sometimes it is entered when the HRIO have less work or when there is really some discussion. That is really a big issue, in fact some of the non-reporting for us is that we are not sure whether it is the units not reporting or it has been reported but it has not been uploaded."*

Even where data were available, there were doubts and concerns of underuse and complete disregard of community data.

> "At the facility it would really be good to use our [community] data to know what are the issues but they don't use it, them, they just transfer it, the facility I don't think they use it. But at the community with the community dialogue days they use it. Then at the national level they don't use it, I don't even think they look at it. So those are some of the problems we are having…"
>
> **(National government, senior community health expert, male, KII_19, Nairobi)**

Some teams demonstrated that increased community engagement in 'bottom-up' decision-making, reversing traditional power and hierarchies, was possible. However, systems challenges of lengthy data collection processes, perceptions of community health data as additional work and community health deemed as a low priority, were deeply entrenched and could, if left unchecked, thwart attempts to fully established and sustain QI for community health for all teams.

During FGDs with participants from some QI teams such as CFGD_05 above participants responses conveyed better shared understanding of tasks across team members. In contrast, for other teams knowledge around the QI task was more likely to reside with two or three individuals. Hierarchies remained, for most teams. So, despite clear evidence of teams having smoothed hierarchies and working together, the question around whether teams were fully participatory remained.

Despite systems barriers around quality data, several better-functioning teams were demonstrating how internal team features could continue to support teams and teamworking. Internal team relationships and shared leadership were important in this regard. The remainder of this section addresses each issue in turn.

### 4.5.2 Building trust, cohesion and shared understanding: the role of relationships

Internal team relationships supported shared understanding of QI tasks across the team and were critical in motivating and empowering members to feel their roles and contributions were accepted and valued. There were differences between community and sub-county teams and the extent to which relationships were used to support team contributions.

Attention to the nuances of relationships, including attempts to reduce power dynamics and flatten hierarchies, cultivate connection and trust and improve decision-making between team members was found in several team accounts. When these did occur, the most positive and compelling examples were in stronger community-level QI teams.

For community teams, largely working without formal contracts and processes to discipline or reward behaviours, interpersonal relationships took on greater significance in supporting day-to-day interactions and motivating volunteers to engage. This was not to say that other factors, such as structural features of tasks (e.g. assigned roles and responsibilities) were unimportant. Indeed, familiar task-based approaches focused on existing MoH data collection tools meant QI teams more easily coalesced around the QI task. However, stepping back to consider the deeper contextual currents shaping community health, a focus on 'structural features' focused on technical QI tasks alone overlooked a lack of inclusion of community health in the health system, jeopardising effective QI teams. This exclusion was reflected in poor linkages between communities and the formal health system (e.g. referrals, receiving feedback and participating in decision-making). Through supportive relationships between team members, a shared sense of accountability, trust and confidence was generated within QI teams. As such, the way teams were run and the impact of this on the team was significant for community QI teams.

Among some community QI teams, practical attempts to support relationships and complete QI tasks attempted to smooth traditional hierarchies, address power dynamics and support different educational levels in mixed teams.

> "…[in] the team, … everyone is valued. You don't demean–'no you are a CHV, you don't know anything.' [you] Give them that chance. Like we rotate [activities]. I told them now we will be rotating. If we meet, that person writes, then the next time the other person writes so that everyone can have the knowledge of the whole thing… It is good, they are appreciating. Thought at times you may find one is a bit slow but you tell her 'It is your time today, just even if you stay here the whole day you'll just write so that next time you know what to do.'"
>
> **(CHEW, well-functioning, sub-county QI team, female, SSI_07, Migori)**

The CHEW's description is a good example of positive relationships and 'helping behaviours' found in stronger teams that deliberately set out to motivate and encourage engagement in the QI task. The CHEW tackles notions of traditional hierarchies, intergroup bias and the tyranny of low expectations for CHWs: 'everyone is valued. You don't demean – *'no you are a CHV, you don't know anything.'* Instead, they describe how they deliberately set out to motivate and develop strengths across the team by rotating tasks and illustrate how time intensive this process might be with mixed education levels of the community QI team. At this level, formal health workers recognised volunteers had no paid contractual obligation to undertake tasks and had 'nothing to lose' if tasks were left undone. Under these circumstances, CHVs' commitment needed to be nurtured and strong team relationships were one way of achieving this. While community health remains on the side-lines of the formal health system, interpersonal relationships were used to establish shared understanding and accountability for the QI task, team cohesion and confidence in the team to take up the new roles.

Another community team had a regular system designed to bring the team together to work, boost team spirits and build a sense of cohesion by sharing food together after their meeting while reviewing community data. Additionally, a small savings system was used to gather contributions to support school fees for QI team members. Both elements built a sense of trust and equity among team members.

> **"**We decided to meet every month to review data … We also decided that when we meet we must eat something. When we come for data review meeting we each contribute something to boost us so that we can eat something before the day ends. That also brings us together."

**(CHV, well-functioning community QI team, female, P1, CFGD_05, Migori)**

Teams like this one appeared more cohesive as a group and had a shared enthusiasm for the team and activities. Strikingly, during FGDs with some teams, participant contributions revealed better shared enthusiasm and understanding of the QI task across the team. During FGDs with these teams there was greater spontaneity around participants contributions as well as signs of synergy as participants more easily picked up on colleagues' contributions to refine these or sometimes ask questions of each other. Team members appeared quite at ease speaking together. Typically fewer prompts were needed

In contrast, for sub-county teams comprised of formal paid health workers employed by the MoH, 'compositional features' and formal roles and responsibilities enforced by employment contracts held more weight than relationships in supporting engagement. Formal health workers relied upon management contracts and policy to signal and support their decisions to engage. Operating in an organisational context where accountability for community volunteers was rarely reinforced meant tasks were often simply discounted and not done. This void was often filled, or at least influenced by, funder priorities. Funders created opportunities by resourcing QI for community health, bringing expertise and fresh ideas, and were able to work alongside teams to demonstrate how QI could work at community level. For sub-county teams relationships were frequently weaker across the QI team with contextual factors and interpersonal issues impacting on teamworking.

A good example of a commonly reported contextual change was the change in team leadership; usually a result of staffing changes by the MoH. Team leadership changes were commonly considered most disruptive as new untrained team leaders – typically CHEWs or sub-county focal persons, often assumed leadership roles, sometimes without prior leadership or QI training – they took up the roles because of their position and to align with perceived project requirements. Staff changes under these circumstances could lead to mistrust for some team members who lacked confidence in what they considered a poorly-skilled leader.

For one stronger sub-county team, when staffing transfers meant a change from what the QI focal person described as a relatively strong supportive leader to new weaker, unsupportive leadership, this was greeted with some apprehension and demotivation for some team members. However, while some members stepped back from team activities, others deliberately rallied to support the new leader acknowledging that change may take time and adjustment. The change did at least cause initial setbacks for team performance given the limited confidence in the management and leadership skills of the new team leader. The QI focal person from this QI team spoke candidly about the event and reflected on how the impact of the change might have been remedied.

> *"…A few months ago we were supposed to be doing a new initiative and we realised there were some changes of the [QI team] leader, someone not very experienced in leadership or supportive. So the work was not as it used to be. I felt we needed to work together as a team. But …others decided to fall on the other side [pull out and not fully participate] we could not achieve the results that we needed…"*

Reflecting on what would have helped manage the change process revealed a mix of skills gaps and personal differences which team members were unable to resolve and could have benefited from additional support, such as leadership support for the new team leader.

> "…*Especially if it is a member who has not been in the same leadership role at any other level; I think induction is important and giving the person the support from the team. Because … if the [team] members feel like they don't trust that person [the new leader] it can make them feel down, …not able to perform…"*
>
> **(QI focal person, well-/poor-functioning sub-county QI team, female, SSI_01, Nairobi)**

The incident highlights how longer-term mechanisms need to be established to better support change amid a dynamic context of 'inevitable' QI team member changes.

### 4.5.3 Shared leadership

Shared leadership was linked to improvements in trust and team cohesion, and reduced conflict and promoted more inclusive decision-making. In contrast, hierarchical structures appeared to mediate the impact of multi-level teams, resulting in poor relationships, limited understanding of member roles, and limited trust and confidence to participate. While for all teams hierarchies persisted (at least in part), community teams, were often the most pragmatic about attempting to smooth hierarchies within teams and engage members. Instead, at sub-county level, among formal health workers, existing roles and traditional power and hierarchies were more persistent, threatening flatter, less hierarchical approaches upon which the teams were based.

Yet local changes were being made within teams. Flattening hierarchies meant reducing, to some extent, the authority invested in one single individual and distributing it among the team. This required greater appreciation of each other's roles and contribution. In this way, the network of leadership was expanded. This was aided in part by activities and tools such as learning events and joint meetings and shared access to data (as discussed previously).

Some team leads more frequently emphasised parity among team members, cultivating a sense of 'we're all in in this together' and that all members have a contribution to make. In short, in these

teams, the team leader was more likely to position themselves as first among equals, a position that acknowledged their expertise, and that of fellow team members, alongside their unique role in stewarding team member contributions. This short extract from one CHEW demonstrates how he buoys community team members with reassurances designed to encourage equity and trust with his words of encouragement 'we're *all QI champions'* despite the obvious difference in formal technical QI knowledge and status.

> "I'm not the expert…we're all QI champions…And in the community level of course as the CHEW I do coaching for the CHVs and again we meet as a team. You know at this level as much as I am the Chair I don't own everything. The community improvement team members are equally empowered as I am."
>
> **(CHEW, well-functioning community QI team, male, P4, CFGD_02, Nairobi)**

Commonly, during FGDs with teams, like this one, there was generally more equal participation among team members. Noticeably fewer prompts were required to encourage team members to contribute. These findings suggest more equal participation during QI team meetings. In contrast, with other teams, more senior staff tended to dominate, indicating more marked differences in power and hierarchy between team members when compared with teams where senior staff emphasised shared leadership and parity among team members.

Meeting in these circumstances encouraged, rather than eroded, team contributions. Where participants believed hierarchies had been smoothed, this was linked with narratives of team cohesion, improved shared understanding and autonomy. For example, under these circumstances, CHVs organising around helping behaviours such as role-modelling and peer-to-peer training occurred. This meant teams were able to remain engaged implementing QI tasks (e.g. compiling quality household data, follow-up of patient referrals) if the context fitted (i.e. tools and supportive supervision were in place and supporting leadership continued).

For sub-county teams, hierarchies between formal health workers were, for some teams, barriers to shared leadership. At sub-county level, the perceived threats to expert roles were met with most intense resistance. Within sub-county teams tensions typically arose, most noticeably between the community health services and QI focal persons. Tensions occurred around perceptions of 'territories' namely roles and responsibilities being crossed, often without consultation. When this occurred, it was met with strong resistance from incumbent powers. Narratives of a reluctance to share leadership were interwoven with narratives of the newness of the approach – focusing on QI for community health rather than higher-level curative services.

> "So at first, I would say that… it was not so clear. The community strategy was not clear but after some time people saw the need of working on it…At first people were feeling like these people are coming to my territory with this community strategy work. That is how I felt. Like this is my work how comes other people are coming in? But later, because of the community health strategy and the assistance the [QI] teams even gives you to achieve the target of his work then they felt it is a good thing."
>
> **(QI focal person, well-functioning sub-county QI team, female, SSI_02, Nairobi)**

They continue to explain how understanding around roles built slowly over time. As the team became more established, roles did too.

> **"**At first it was not very clear especially in terms of roles and responsibilities, because at first even as the QI focal person, I didn't understand my role. I know my role very well but when it came to it [the sub-county QI team] I felt like the Community Health Services [CHS] person [the sub-county community health strategy focal person] was coordinating everything. So I felt like I was not very utilised in the meetings. But later on we tried …[but] even for the CHS at first she didn't understand why I am coming here…but later when we came to discuss more I think she saw my responsibility and she was very ready to involve me in most of the roles and could see me being part of it and I think she was happy after it came out clearly [between us]…you see now in terms of QI, the CHS are not very conversant in terms of QI so somehow they would really like somebody who has these qualities and more skills in terms of QI to come in and also share their expertise in terms of QI. At first when we attended the QI meeting, when we had the first sub-county meeting of QI I felt like we were conducting a normal meeting, … Later is when we learnt how the meeting should go."
>
> **(QI focal person, well-functioning sub-county QI team, female, SSI_02, Nairobi)**

In common with other sub-county QI teams, there was some resistance to community health focal persons playing a leadership role. Given the context, where facility-led services are typically prioritised, community health managers were not always viewed as natural choices for leading a mixed team of facility-orientated and community team members. Often without previous experience of holding such a post, their leadership role was challenged. Given this context, more targeted approaches supporting these new roles might have enhanced effective teamworking at sub-county levels.

Interviews at different levels of the health system added wider contextual nuance to team-based interviews. Here, this national QI expert acknowledged working in multi-level teams as challenging

in the wider Kenya health context where hierarchies and 'siloed' ways of working traditionally dominated.

> "[The] team is very key because… healthcare delivery, is a team effort and we have been facing a lot of challenges. You will find… officers wanting to have their own dominion … their own silos. So they still want to do it this way…"
>
> **(National government, QI expert, male, KII_14, Nairobi)**

In the context of community health there were several factors contributing to blocking interdependence between roles and responsibilities. First, limited experience in community health and the novelty of the QI approach in the context of community health. Second, traditional ways of working focused on expert-led initiatives and vertical programmes, and the power this invested in one individual.

Encouragingly, despite contextual challenges, there were examples of teams working together and signs of shared leadership. But this took time to establish and given the wider context, 'teething' problems seemed inevitable. In this context, and given multi-level teams underpinned QI approaches, understanding the facilitators and barriers to shared leadership interdependence was important.

## 4.6 Chapter conclusion

This chapter has presented four themes that, together, demonstrate the multiple influences on effective QI teams and the complexity of teamworking in complex health systems. In summary, the first two themes, 'structural' and 'compositional features', analysed the effect on teamworking of QI team composition and task structure and identified how these were modified to best support QI teams in the devolved Kenyan context. The third and fourth themes, 'positioning' and 'mediating mechanisms', explored the contextual and interpersonal barriers and facilitators to teamworking at community level in the devolved Kenyan health system.

'Structural features' considered the QI task and how these were supported through joint training and internal team support. 'Compositional features' considered the multi-level representation on QI teams and how these teams created a framework for delivering community health services. QI teams supported links between different levels of the health system, and represented a significant cultural shift in Kenya, which had traditionally viewed community health as distinct from formal health services. 'Positioning', illustrated the pervasive influence of an organisational culture and context focused on formal health services and traditions of project-driven, donor support for community health. 'Mediating mechanisms' demonstrated how organisational culture and

priorities influenced internal group processes and team states like decision-making, collaboration and interpersonal conflict. Establishing 'bottom-up' approaches to collaborative decision-making was especially challenging given the predominantly hierarchical organisational context.

It is the convergence between these themes that was particularly important. The interaction between the themes was complex, not least because of the dynamic nature of QI teams and tasks. QI is by nature dynamic; indeed, change is fundamental to the QI approach. Additionally, teams are inherently dynamic, with previous successes and failures of teamwork capable of influencing current practice. For example, teams with a history of teamwork could bring established team norms and standards to support teamworking. QI teams were subject to broader systems pressures of team member 'churn', something which, in the context of acute staffing shortages and *ad hoc* staffing changes, was widely regarded as inevitable. Under these circumstances, creating effective QI teams required ongoing resources and support.

In Figure 4-1 I draw on emerging issues and lessons to provide a conceptualisation of key factors to better support effective teamwork for community health in Kenya. Figure 4-1 demonstrates the interrelationship of the four themes embodying key features in establishing and supporting effective teamworking described in this chapter. The different features highlighted at each level illustrate where and how key attributes could be leveraged to support effective QI teams, such as context. Overall organisational structure and context matters in creating coherence between QI approaches and organisational strategy, vision and culture and wider social contexts. However, even when national contexts created barriers to effective QI teams, local conditions could, to some extent, create a protective and supportive environment for teamwork. For example, when senior sub-county focal persons took up their mentoring roles or provisions were made in sub-county annual plans to provide financial support for QI – signalling support for QI and motivating team members to participate. Using a recontextualised construct domain framework to consider emerging findings helps shed light on facilitators and constraints to effective QI teams, discussed in Chapter 5. This final chapter considers the interplay with, weighting and various complexities of teamworking of each theme more fully. Concepts of transferability are considered as part of discussions on implications for policy, practice and research alongside study limitations.

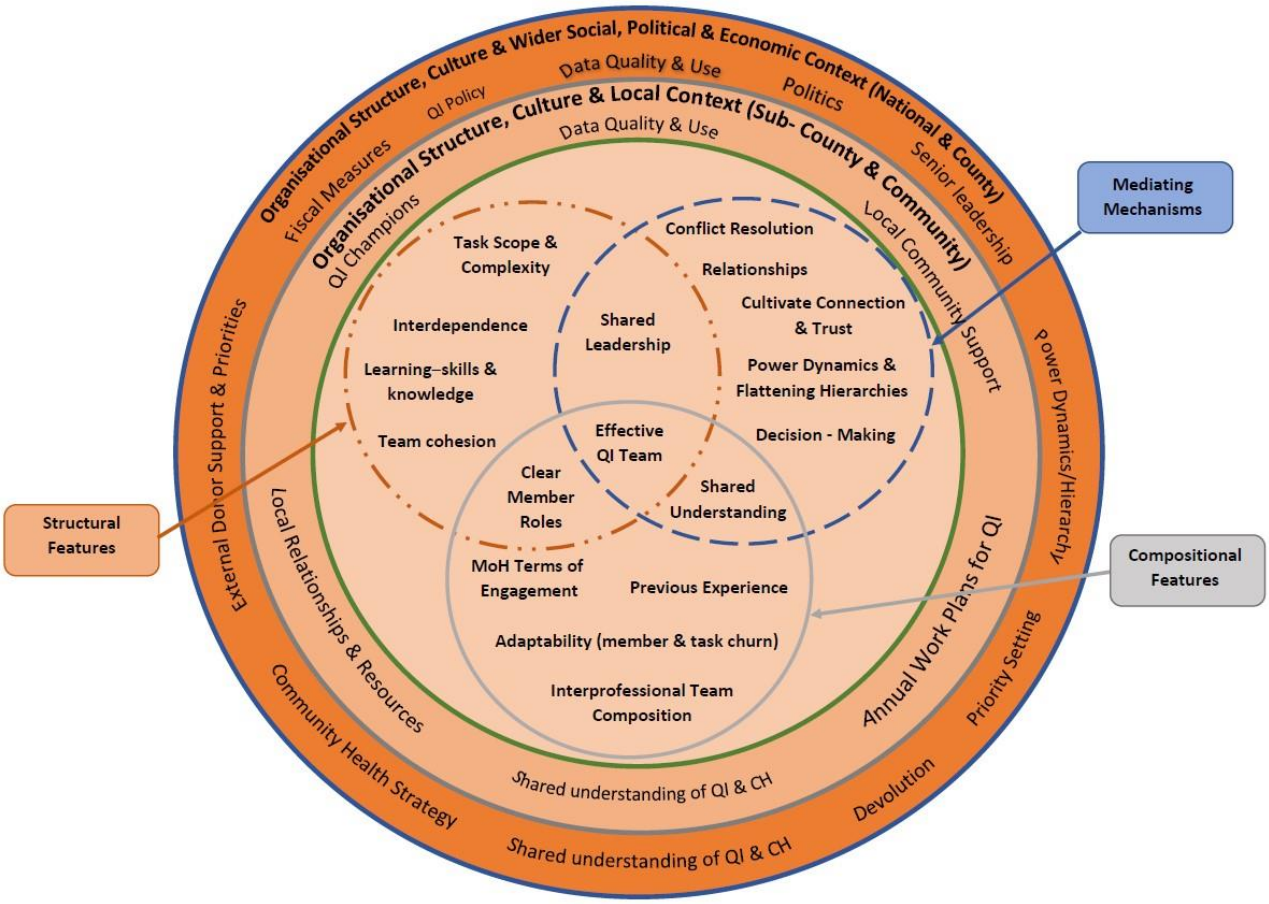



**Figure 4-1 Key factors in supporting effective QI teams and teamworking for community health in the context of the devolved Kenyan health system**

# Chapter 5 Discussion and Recommendations

## 5.1 Introduction

This chapter begins with a summary of key findings followed by a discussion of the essential emerging issues from the findings (Section 5.3). Findings presented are the theoretically driven results of my analysis. The discussion draws on the conceptualisation of key factors that influence the establishment and support of QI teams for community health in Kenya (**Figure 4-1**). Three distinct 'types' of emerging issues are addressed. First, the very basic elements which need to be in place around QI team composition and how teams function in the context of community health in Kenya (Section 5.3.). Second, principal barriers and facilitators to teamworking (Section 5.4). Finally, how the construct domain framework helped towards a better understanding of barriers and facilitators to establishing and supporting QI teams (Section 5.4).

## 5.2 Summary of key findings

A critical review of the literature indicated a small but growing body of literature in QI for community health (Chapter 2). A significant evidence gap was found in the lack of focus on the QI team itself and teamworking in complex community health systems. This evidence gap is partially addressed by this thesis.

The study found that community QI was possible and appreciated within the devolved Kenyan system. Team establishment required planning, funding and training. Having the right people on the QI team was important in engaging support for teams. Mixed teams, comprising community and formal health services staff with clear terms of reference created platforms for shared understanding of health and organisational issues at the community and sub-county levels, and supported learning around QI. For QI teams, a focus on data quality and use, linked to existing Ministry of Health (MoH) data collection tools helped in identifying local context-specific problems. However, challenges remained around acceptably and trust in community data and community health threatening QI teams.

Teamworking was enhanced by attention to staff engagement and relationships, accountability and collaborative leadership. Barriers at local and national level included power dynamics and hierarchy. Context, specifically devolution; the 'place' of community health in the devolved Kenyan health system; and donor support significantly influenced teamworking (acting as overarching barriers and facilitators to the QI team).

The construct domain framework (Mathieu *et al.*, 2017) provided a valuable theoretical lens to examine QI teams, something missed in available literature from sub-Saharan Africa (Chapter 2). This research identified areas where the framework could be extended – especially linked to volunteers and the weighting of mediating mechanisms (positive team relationships and flattening hierarchies to support team members). Findings were used to develop the revised construct domain framework presented as a conclusion to Chapter 4 (Figure 4-1) and discussed in this chapter.

The study findings, discussed below, represent unique contributions to the academic literature on an under-researched area – QI teams for community health in sub-Saharan Africa. The text draws on the revised Mathieu's framework (Figure 4-1)

Each section of the discussion (Sections 5.3 - 5.5) draws attention to how the Mathieu framework is adapted and in this way how this thesis contributes to Mathieu's extensive review of research on teamwork in the specific context of QI teams for community health. The discussion, considers QI team composition (Section 5.3) and factors that influence team establishment in the context of community health including: data quality and use (Section 5.3.1); learning and how context mediated practical adaptations of programme design (Section 5.3.2) and team composition and roles and responsibilities (Section 5.3.3). It goes further providing an understanding of: the applicability of the QI team in the wider community context (Section 5.4.1); engagement and perceptions of social identity with QI teams (Section 5.4.2); the specific power dynamics in QI teams for community health (Section 5.4.3); the influence of donor funding (Section 5.4.4); priority setting for community health in the devolved Kenyan health system (Section 5.4.5). In particular, Section 5.5 (titled - What insights does theory provide and how does this study contribute to theory?) draws together several areas where this work contributes to Matthieu's extensive review of research on teamwork. Three significant contributions to Matthieu's research include: the weighting of factors influencing teamworking; the distinction between the influence of the immediate and wider team contexts and the identification of socially patterned ways of working impacting teamworking for community QI. First, insights around the weighting of factors for community QI teams. For example, given the role of CHVs and the fact that they are not remunerated positive relationships affected engagement and performance within the community QI teams. Positive team member relationships held considerable weight for CHVs and were significant in supporting participation among volunteers (team composition) and smoothing hierarchies and power imbalances (mediating mechanisms). Second, findings from this study demonstrate a useful distinction between the influence of the immediate team and wider team contexts that could bolster or impede teamworking - something which does not appear in Mathieu's original framework. The adapted Mathieu framework illustrates two levels of context around the QI team - national/county

level and sub-county/community level. Finally, this study contributes to Matthieu's framework through the focus on socially patterned ways of working in the context of community QI in Kenya and their impact on engagement and performance in QI teams. Socially pattern ways of working in each context and how this affected teamworking had similarly received limited attention in previous studies in QI for community health (Chapter 2). For example, in Kenya, while health-related decision-making powers were devolved, decision-making at national level had been replaced by decision-making powers at county level – a devolving of the status quo, reinforcing rather than deposing hierarchy, challenging sub-county managers and community QI teams members to take up new decision-making roles and responsibilities under devolution **(Section 5.4.5**). However, change was possible. But the level of sustained effort required to bring about change should not be underestimated. Team leaders were key in smoothing hierarchies and encouraging participation **(Section 5.4.5**). The adapted framework (**Figure 4-1**) and discussion provides opportunities to understand the QI team itself, the wider team context and the influences between the two.

Factors linked to team function were interrelated and occurred at three levels (**Figure 4-1**). First the QI team (represented by the Venn diagram at the centre of **Figure 4-1**). Second the immediate context – local community and sub-county (represented by the middle ring of **Figure 4-1**). Third the wider context – national and county (represented by the outer ring of **Figure 4-1**). The discussion illustrates essential factors supporting QI teams at each level and explores the convergence between factors.

## 5.3 QI team composition and factors that influence team establishment in the context of community health

Good practice in team establishment included attention to three essential issues: team composition and clear terms of reference on the roles and responsibilities in relation to QI; training; and data quality and use. Each issue is addressed here. An important premise of QI teams was data collection for data use, the starting point for training for QI teams and for this discussion.

### 5.3.1 Data quality and use

High-quality community-level data is essential in improving the quality of community care. Consistent with previous research from Ethiopia, Malawi, Mozambique, South Africa and Tanzania, effective QI teams used local data to identify gaps in community health services and develop practical solutions to maternal health (Lunsford *et al.*, 2015; Horwood *et al.*, 2015; Horwood *et al.*,

2017; Tancred *et al.*, 2017; Tancred *et al.*, 2018). Data quality and use appears at all levels of **Figure 4-1** – explicitly named in the two outer rings and implicit in QI team member roles at the centre.

Distinct from previous studies (Chapter 2), an essential facilitator to team establishment was the focus on existing standardised Ministry of Health (MoH) reporting tools and achieving quality in community data – an approach endorsed by the World Health Organization (WHO) guidelines on health policy and system support to optimise community health workers (CHWs) (WHO, 2018b). Aligning with pre-existing tools improved credibility around community QI as a long-term approach, and improved 'buy-in', by demonstrating the links between QI efforts for community health and the formal health system – something frequently identified as a barrier in previous studies, as seen in Chapter 2 (Colbourn *et al.*, 2013; Stover *et al.*, 2019; Yilma *et al.*, 2020).

Using existing tools meant QI teams could more quickly coalesce around familiar tasks and avoided parallel reporting and activities often linked to specific NGO-supported projects (Seutloali, Napoles and Bam, 2018) to focus instead around standardised reporting tools. Under these circumstances, SQALE's guiding principles (**Box 1-2**), which are focused on MoH standardised reporting tools, seemed highly appropriate.

However, there were drawbacks to this approach, which threatened notions of fully functional QI teams. While there was good evidence of data being collected, data use was more variable, with trust in data and in each other, and cumbersome local data collection systems all impacting on data use. Poor quality data are widely acknowledged at the community and facility levels in Kenya and elsewhere in low- and middle- income settings (LMICs). The recent WHO guidelines on optimising CHW programmes acknowledge that widespread mistrust of community data by decision-makers means its potential to bring about QI may not be realised (WHO, 2018b). Studies focused community data in Kenya, Malawi, Pakistan and Rwanda found under- and over-reporting were common, alongside unavailability of data collection and reporting tools, inadequate training and supervision, lack of quality control mechanisms and inadequate completion of registers (Mahmood and Ayub, 2010; Otieno *et al.*, 2012; Admon *et al.*, 2013; Mitsunaga *et al.*, 2013; Otieno-Odawa and Kaseje, 2014; Yourkavitch *et al.*, 2016; Regeru *et al.*, 2020). Similarly, at facility level, in Ghana, Kenya and Senegal routine data systems have been described as poor, with systemic challenges including limited control over data production, sharing and dissemination, and limited resources including access to electronic reporting systems affecting data collection (Scott *et al.*, 2017; Muhoza *et al.*, 2022). Across community levels low-quality data led to limited demand for and comfort in using data consistently (Scott *et al.*, 2017; Wagenaar *et al.*, 2016; Regeru *et al.*, 2020; Muhoza *et al.*, 2022). Understanding the purpose of data collection was important in engaging CHWs (Biswas *et al.*, 2018; O'Connor *et al.*, 2019; Basera *et al.*, 2021). A recent scoping review of community

surveillance and response to maternal and child deaths in low- and middle-income countries highlighted the importance of community members recognising how data collection could support community health work (Basera *et al.*, 2021). For example, Basera and colleagues conclude when CHWs recognised participatory review meetings as a tool to promote preventative messages and a basis for developing collective action to reduce maternal and child mortality - support for data collection was improved. Similarly, in my study, when QI team members understood the purpose of data collection and the direct benefits to patients this understanding was significant in engaging CHWs to QI teams and tasks.

Ultimately, use of data will only succeed if QI team members and the MoH trust their data and each other and understand the purpose of data collection. This study's essential distinction between data collection and data use is not made in previous community health QI research in sub-Saharan Africa, yet it offers important insights around the significant support likely to be required to overcome deeply ingrained perceptions around data quality and data use, even for QI teams.

### 5.3.2 Learning and how context mediated practical adaptations to programme design

Context, specifically the 'place' of community health within the wider health system, mediated community QI teams in Kenya – factors that went largely unreported in studies in Chapter 2. Context was significant in considering practical adaptations to programme design, how QI was perceived and building trust and support in community QI. In this research, context appears as an overarching issue in influencing QI teams and the QI approach (**Figure 4-1**: the two outer circles). The interface role of community health, linking communities and the formal health sector, and the importance of building relationships and trust between team members is considered here. Some clear contextual reflections are made between countries like Ethiopia and Tanzania that have decentralised health systems with more prominent roles for CHWs and community health systems and have featured heavily in QI initiatives to date in sub-Saharan Africa (Chapter 2).

Learning was an essential facilitator for QI teams and, in fact, sits at the heart of QI approaches (Massoud *et al.*, 2001; Berwick, 2008; Langley *et al.*, 2009). QI materials and activities required adaptation to align with the numeracy and literacy skills of community members (Horwood *et al.*, 2015; Tancred *et al.*, 2018). Appropriately, SQALEs guiding principles emphasised 'simple, jargon-free training materials'.

Formal training, interspersed with implementation, was essential to establishing QI teams. The combination of ongoing field support interspersed with formal training sessions focused on 'learning by doing' approaches and group problem solving created opportunities for practical

application of formal learning – an approach widely endorsed for its effectiveness in improving healthcare provider practices in LMICS (Ameh *et al.*, 2018; Rowe *et al.*, 2018).

Implementation of the Kenya Quality Model for Health at health facilities in Kenya has been hampered by insufficient support around implementation and, therefore, support for implementation of community QI was widely appreciated (Nzinga *et al.*, 2009; Marx *et al.*, 2018; Nitschke *et al.*, 2020). However, the intensity of ongoing support and resources required was not straightforward to achieve in the context of community health (Colbourn *et al.*, 2013; Cofie *et al.*, 2014; Horwood *et al.*, 2015; Tancred *et al.*, 2017; Tancred *et al.*, 2018).

Given the challenges of providing regular external support to QI teams, an important finding of this study was the strong evidence of how informal support occurred within QI teams themselves. While several studies in Chapter 2 provided hints of informal team support (Horwood *et al.*, 2015; Tancred *et al.*, 2017; Yilma *et al.*, 2020), the details around this were missed. This thesis demonstrates examples of teams building their own internal support systems. In this way, a strong team microsystem was created. For example, some CHVs, especially from teams with a history of teamworking, made deliberate attempts to act as role models and train other volunteers not included in formal SQALE training in data collection efforts. These findings reflect those of research in the related field of performance and supervision of CHWs, where Assegaai and Schneider (2019) highlight the benefits of intra-team support (what they call horizontal support) between CHWs and vertical supports to CHWs (such as supervision from senior staff).

Beyond the focus on training, technical skills and knowledge dominating previous research (Chapter 2), this study identified additional benefits to training. For community services, positioned on the fringes of formal health services, connection between community and formal health services was improved. Collaboration with MoH staff reduced marginalisation and increased motivation for team members, especially CHWs – something which resonates with research around CHW performance and supportive supervision (Ludwick *et al.*, 2018; Tseng *et al.*, 2019).

One possible explanation for the limited detail around issues of collaboration and connection in community QI initiatives to date (Chapter 2) might be due to contextual factors. To date, almost half of the studies discussed in the literature review hail from Ethiopia and Tanzania, where community services enjoy a higher profile than in Kenya. Arguably, in contexts like Kenya, with a largely volunteer-led community service, the significance of joint training and internal team support hold more sway. This, in turn, may account for the limited attention on these aspects of training and ongoing support to date, given that a significant proportion of research on QI for community has focused on these two countries.

### 5.3.3 Team composition and roles and responsibilities

While multi-level representations on the QI teams was a widely accepted tenant across articles reviewed in Chapter 2, it was rarely explored *how or why* this representation contributes to effective teamworking for community health. Most studies emphasised the challenge of achieving consistent multi-level team attendance for community health (Colbourn *et al.*, 2013; Cofie *et al.*, 2014; Horwood *et al.*, 2015; Twum-Danso *et al.*, 2012; Stover *et al.*, 2019) – a theme repeated more widely in the QI literature at facility levels across countries of all income levels (Øvretveit, 1999; Øvretveit and Staines, 2007; Dixon-Woods, McNicol and Martin, 2012; Webster *et al.*, 2012; Makene *et al.*, 2014; Lau *et al.*, 2016; Cunningham *et al.*, 2018; Rowland *et al.*, 2018; Zajac *et al.*, 2021).

Balanced team composition, establishing clear roles and responsibilities and supporting staff engagement all mattered in team establishment. SQALE QI teams were multi-level and deliberately structured to enhance community–facility linkages and create opportunities for two-way feedback between community and sub-county levels. From the literature review, establishing community–facility linkages was an ongoing challenge and when teams comprised community members only, connection to formal health services proved especially challenging. For example, in one community QI project, strengthening the quality of mother-and-child health programmes in rural South Africa, multi-level teams more easily supported linkages between formal and community services and supported continuity of care, while creating facility linkages remained especially challenging for another project in the same study, where QI teams comprised community members only (Horwood *et al.*, 2015). Horwood and colleagues conclude that representatives of formal health facilities should be represented in community-based improvement teams or closely linked to them. However, in Tanzania, one community QI project, the EQUIP project, included teams with community members only, with representatives of formal health facilities closely linked to them, through their attendance at monthly QI meetings (Tancred *et al.*, 2017; Tancred *et al.*, 2018). But, in the EQUIP programme ,facility staff were not counted as QI team members and their roles were unclear. Arguably this less formal team set-up was feasible in Tanzania where community health worker programmes and roles are well-established and funded compared to Kenya. However, several other studies, in Ethiopia and Tanzania, continued to highlight challenges in achieving community-facility linkages; despite well-established and funded community health worker programmes in these countries (Stover *et al.*, 2014; Sibley *et al.*, 2014; Tesfaye *et al.*, 2014; Lunsford *et al.*, 2015; Yilma *et al.*, 2020). Based on fresh insights from my study multi-level team membership with clear roles and responsibilities for all team members – including representatives of formal health facilities – are recommended for community QI teams. In Kenya, with a largely volunteer-led community health service and community health often invisible to formal health services, this

thesis argues multi-level team membership created opportunities for connection and trust between community and formal health services. At the same time, clear roles and responsibilities provided a strong framework for delivering team approaches to QI for community health, where previously there had been none.

A growing literature on community health systems' strengthening underscores the importance of connection for community health services typically side-lined (Mishra, 2014; Zulu *et al.*, 2014; Kok *et al.*, 2017; Scott *et al.*, 2018; Karuga *et al.*, 2019a). In their recent systematic review of CHW programmes, Scott and colleagues (2018) conclude that increasing integration of community programmes into health systems can bolster programme sustainability and credibility, clarify CHW roles, and foster collaboration between CHWs and higher-levels of the health system – something which multi-level QI teams for community health look set to make a contribution towards. Multi-level teams with clear roles and responsibilities for team members provide platforms for dialogue and improved understanding between community and facility health services and a clear framework for planning and roll-out of QI for community health.

Another significant aspect of team composition that supported teamworking was demographic diversity. Mixed teams in terms of age and gender supported team function. However, sustaining mixed team membership of men and women was not always straightforward. For most teams, the majority of members were female, and this led to some reports of difficulties around participation (George *et al.*, 2018; Steege *et al.*, 2018). Based on the results of this thesis, differences in participation for women lay around competing priorities of childcare, attending to home tasks and earning an income; while for men, tensions around participation were linked to income. When counties paid stipends for CHVs, these decisions were met with enthusiasm by women and men. Conversely, when stipends were absent or unpredictable, this was met with despondency.

Several practical supports were identified for establishing multi-level QI teams – something which was not prominent in previous research (Chapter 2). Support could be viewed differently at different levels of the health system (national to community levels).

A good example of practical support facilitating team function were the Team's Terms of Reference (ToR) and roles and responsibilities and membership criteria provided for QI teams. The benefits of these were twofold. First, unsurprisingly, clarity around roles and responsibilities for QI team members was improved. Second, resonance and integration of QI activities with existing MoH policies and strategies were emphasised (e.g. use of pre-existing MoH tools and newly developed community standards). Contextual resonance and integration are regarded as significant in supporting QI programmes across health facility and community settings across countries of all income levels (Kaplan *et al.*, 2010; Kaplan *et al.*, 2012; Kringos *et al.*, 2015; Cunningham *et al.*, 2018;

Otiso *et al.*, 2018; Øvretveit *et al.*, 2018; Limato *et al.*, 2019; Otiso *et al.*, 2019; Manzi *et al.*, 2020; Rogers, De Brún and McAuliffe, 2020; Rogers *et al.*, 2021). Yet, to date, resonance has been challenging to deliver for community health services (Colbourn *et al.*, 2013; Yilma *et al.*, 2020). Even in Ethiopia, where community health enjoys a more formal status lack of standardised implementation guidelines are identified as a barrier for QI (Yilma *et al.*, 2020).

Team membership was viewed positively and was largely welcomed as appropriate to address maternal health issues, where SQALE project focused. Pre-defined team membership criteria helped teams establish quickly. However, for some sub-county teams, guidance on team membership was viewed as an imposition and meant team membership did not always fully align with local priorities (**Figure 4-1**: middle circle – local context).

Critiques of QI report advantages and drawbacks of more prescriptive versus flexible approaches (WHO, 2006; Hulscher *et al.*, 2013; Dixon-Woods and Martin, 2016; Zamboni *et al.*, 2020; Olaniran *et al.*, 2022). On the one hand, a top-down approach, may align activities with organisational and societal norms. On the other hand, this approach does not encourage bottom-up ownership and problem-solving, potentially jeopardising sustainability (Coles *et al.*, 2020; Zamboni *et al.*, 2020). By being overly prescriptive the role of local context in influencing change might be overlooked. Evidence on driving more effective CHW approaches call for distinctive roles and strategies to address varied contextual factors (Ludwick *et al.*, 2020; Gebremeskel, Omonaiye and Yaya, 2022). Under these circumstances, arguably, a more flexible approach to team membership may have been more appropriate.

Drawing on reflections from QI collaboratives, a downside of focusing on different team membership or local priorities rather than a small set of pre-determined quality indicators might be to limit opportunities to combine learning and skills on one health topic across teams – a central tenet of QI collaboratives (Øvretveit *et al.*, 2002; Schouten *et al.*, 2008; Hulscher *et al.*, 2013; Wells *et al.*, 2018; Garcia-Elorrio *et al.*, 2019). For example, in QI collaboratives, multiple QI teams can combine knowledge to break through persistent barriers that are experienced across teams in one area of health. So, being guided by a shared set of indicators, generating change ideas and having peer learning across teams can be empowering and is an important consideration (Garcia-Elorrio *et al.*, 2019). However, in the context of community health facing wide-ranging local issues, arguably, greater autonomy for teams to align topics with local contexts could be more appropriate rather than focusing on one specialist topic – an approach developed in health facilities especially in high income settings (Shortell *et al.*, 1995; Blumenthal and Kilo, 1998; Øvretveit and Staines, 2007; Schouten *et al.*, 2008). A good illustration of the diverse issues facing community health was evident in two sub-county teams in Kenya's capital, Nairobi. For one poorly performing QI team, issues

around unemployment, security and violence against women were key local priorities, while in a neighbouring district, water and sanitation were critical. It is clear that local contexts can have differing needs. However, there are clearly trade-offs between the flexibility to adapt the programme to address the context. A better way to view the QI team might be to consider it as a team that is prepared to deal with multiple local issues (I return to this theme across the discussion and in the recommendations).

## 5.4 QI teams and teamworking - exploring contextual and interpersonal barriers and facilitators in complex community health settings

The adapted construct domain framework (Figure 4-1) represents the range and complexity of factors influencing QI team function. The key findings presented are illustrative of where in the framework there were essential 'hot spots' – facilitators or barriers to supporting teamworking.

How the team approach can work in the community health context is considered, with health systems strengthening emerging as a prominent feature.

Six issues are addressed: the wider community context and its applicability for QI; engaging team members; power dynamics in teams; the influence of donor support and priority setting for community health in a devolved system. Finally, QI teams and their role in health systems strengthening is considered.

### 5.4.1 The wider community context and its applicability for QI

It was clear from this study that QI can function in the community context.

Previous research on QI in community health (Chapter 2) points to a mix of common facilitators of community QI initiatives, including leadership and access to sufficient resources and finances. Among the barriers were issues such as staffing shortages, covering large geographical distances to attend meetings, providing support in the community and existing workloads (Chapter 2) – all of which apply here. Beyond these factors, using qualitative team-based interviews with focus group discussions (FGDs) and interviews with QI team members and key informants outside QI teams exposed further essential influences supporting and challenging team function.

Contextual influences, and the implications for QI teams operating at the interface of community and formal health services, continue to feature as an overarching issue here (across Section 5.4) (Kaplan *et al.*, 2010; Kaplan *et al.*, 2012; Kaplan *et al.*, 2013; Fulop and Glenn, 2015; Øvretveit *et al.*, 2020).

All levels of **Figure 4-1** are considered: national and county; local community and sub-county contexts and the QI team itself. The important convergence between the different levels and themes are illustrated.

Reflections are provided on what it takes to transfer QI, an approach typically used in health facilities, to community level in Kenya. Attention is drawn to local community and sub-county context in Kenya, (the middle circle of **Figure 4-1**), and how local, county and national contexts influenced team function. For the QI team itself, in the context of extreme poverty, emphasis is given to the glue that held largely voluntary community QI teams together. For sub-county teams, the impact of team members already knowing each other as colleagues on existing sub-county teams is considered, and power-dynamics established around pre-existing relationships.

### 5.4.2 Engagement and perceptions of social identity

Engagement and perceptions of accountability for delivering QI for community health were essential to teamworking. Issues of contractual differences and social identity with the team are considered.

A significant distinction between better- and poorer-functioning QI teams, especially at community level, was members' sense of social identity within the QI team, considered in the results describing team members' 'internal' and 'external' motivations. The social identity approach supposes that actors' behaviour is substantially shaped by intergroup relations and group identification (Tajfel, 1974; Jenkins, 2014). The strength of social identity is determined by the feeling of belonging, positive evaluation and emotional bond to a group. Social identities are moderated by internal and external factors. For community team members, this meant feelings of connection to the formal health system (via the local health facility) and being valued within the health system and their community, features frequently identified as important to CHWs and linked to motivation and performance (Strachan *et al.*, 2015; Kok *et al.*, 2017; LeBan, Kok and Perry, 2021).

Work on social identity among Ugandan and Mozambican village health workers describes improved motivation, retention and performance among CHW collectives designed to work on local community issues (Strachan *et al.*, 2015). Strachan and colleagues argue CHWs value feeling connected with the health system and their community and are motivated by status and community standing and want to be provided with the necessary tools to perform. Learning events were designed to foster social identity through friendly competition. These events were opportunities for QI teams to demonstrate their progress and receive feedback from peers and were important advocacy opportunities. For example, with representatives of different levels of the health system present, from community to county and national levels, participants had an

opportunity to share lessons from their experiences as QI teams members directly with senior managers and policymakers. Social identity is an important step in advocacy (Jenkins, 2014; Hornung, Bandelow and Vogeler, 2019) and team members who identified with the team became strongest advocates for the approach.

Social identity was strongest among community rather than sub-county teams and especially for teams which had endured for a number of years. Over the years, teams evolved to include committed team members. Over time, relationships, trust and identity with the team had evolved, leading to greater cohesion and support across team members. At a practical level too, simple team norms and standards were developed across years of working together and were understood by team members (Colbourn *et al.*, 2013).

For sub-county teams with limited reinforcement of contractual obligations to engage in community health, identification with QI teams was more frequently challenged. Contractual differences and varied perceptions of responsibilities in supporting QI for community health persisted for most QI teams – perhaps unsurprising given the newness of QI guidelines for community health and limited attention given previously to implementation (**Figure 4-1**: outer and middle circles – local and county and national priorities).

While this study demonstrates the positive influence of social identity for community team members, it draws a distinction between team and task identity. There was no doubt that team members who came together wanted to improve quality of care for patients. However, identity with the QI tasks varied. Several studies in sub-Saharan Africa and more widely in the QI report, for example, showed that staff were motivated to engage in QI tasks energised by having and using their own data (Langley *et al.*, 2009; Manzi *et al.*, 2017; Tancred *et al.*, 2017; Tancred *et al.*, 2018). In contrast, in my study, while there was evidence that staff were motivated to engage in QI tasks, this was linked to positive experiences of formal learning events or ongoing mentoring which were fleeting moments in the wider daily practice that QI team members described. Despite strong identification with the community QI teams, for most team members there was not yet the same depth of identity with QI tasks. A combination of factors from different levels of the health system contributed to this more fragile link. First, the newness of QI for community health (as mentioned), which meant systems to support QI were yet to establish in Kenya – trust in community data and supporting data use and contracts that reflect QI roles were good examples of this. Second, power and hierarchy, especially important for engaging sub-county team members, (addressed in Section 5.4.3). Third, there were, for some, perceptions of QI as a short-term task linked to donor funding (addressed in Section 5.4.4). Finally the kudos linked to QI versus higher status medical tasks. Community members referred, with pride, to their role as the ‘community doctor’ and ‘rushing to

help community members' – highly visible and high status roles, commonly acknowledged in wider community health literature as a critical motivation to participate in community health services among CHWs (Kane *et al.*, 2016; Kok *et al.*, 2015a). Although kudos linked to QI roles has not featured prominently in previous QI initiatives at community level (Chapter 2) tensions, between time dedicated to QI activities versus time spent with patients has featured in QI initiatives at facility levels, across countries of all income levels. (Øvretveit, 1999; Kringos *et al.*, 2015; Cunningham *et al.*, 2018; Laycock *et al.*, 2019) and in previous literature (Chapter 2) "competing priorities" are acknowledged. QI will only work if team members can make clear links between QI and direct benefits to patients. Events such as group learning events and monthly meeting sessions were opportunities for reinforcing these links.

Further, establishing QI champions and community leaders was an asset in supporting engagement and accountability – findings that are supported by previous research linked to wider health systems strengthening as well as research in QI at facility and community levels (Kringos *et al.*, 2015; McGivern, Nzinga and English, 2017; Samuels, Amaya and Balabanova, 2017; Tancred *et al.*, 2017; Stover *et al.*, 2019). Engaging community leaders provided an official local support for the programme (Tancred *et al.*, 2017; Stover *et al.*, 2019), while the use of trained QI champions supported technical QI skills for QI teams and helped secure 'buy-in' participation at national and county levels (Kringos *et al.*, 2015; McGivern, Nzinga and English, 2017; Samuels, Amaya and Balabanova, 2017).

Beyond QI champions this study points towards establishing networks of QI supporters and influencers. Given the historic neglect for community health developing engaging with key influencers who could advocate for QI community health at each level of the system was critical in building support for QI in community health. For example, as a result of combined county and sub-county MoH leadership, a few sub-counties had, for the first time, added community QI to sub-county annual plans (Figure 4-1: Sub-county middle circle). Teams were buoyed by positive contextual reinforcement signalling support for QI teams and were encouraged to continue. Further through support networks issues requiring more senior level attention could be swiftly directed to the appropriate level and addressed.

### 5.4.3 Power dynamics in teams

Power dynamics, flattening hierarchies and supporting more equitable power dynamics in healthcare teams, including QI teams, are widely acknowledged as challenges impacting on working cultures in healthcare across all income settings (Kok *et al.*, 2017; Cunningham *et al.*, 2018; Rowland *et al.*, 2018; Anjara *et al.*, 2021; Kearns *et al.*, 2021; Rogers *et al.*, 2021). Yet, to date, these

challenges have not featured prominently in literature on QI teams for community health (as reviewed in Chapter 2) – surprising, given community health's unique interface role between formal and community health systems and the particular power dynamics associated with working at this interface (Kok *et al.*, 2017).

In this study, the particular impact of hierarchy and power dynamics for multi-level teams for community health was on team effectiveness through their negative impacts on participation and decision-making. Senior staff were most likely to retain decision-making powers, and concurrently, some team member expectations were that team leads should take those decisions. Findings provided insights into the mechanisms employed by QI teams to overcome power dynamics and support effective teamworking and promote more shared leadership. Chief among these were the quality supervision and relationships between team members, which are especially important for volunteers. Issues addressed here link principally to mediating mechanisms (**Figure 4-1**)

The quality of support has been noted in wider primary and community health system strengthening research as key for integration and skills (Hill *et al.*, 2014; Ludwick *et al.*, 2018; Karuga *et al.*, 2019b; Tseng *et al.*, 2019). For example, in South Africa, clinic-based community teams without senior supervisors had lower skill levels and were less integrated into the health system (Tseng *et al.*, 2019). For QI teams where strong, supportive relationships existed, participation and shared understanding of the QI task were improved and hierarchies were smoothed, at least in part. The ability of team mentors and managers to use their interactions with team members proved critical, especially for volunteers. For CHVs who were not being paid, or not paid very well, the esteem of peers and links to formal health services were an important currency to participate in QI teams and were essential in flattening hierarchies.

Among some community QI teams, team leads carefully navigated their roles as team lead and QI expert on the team in an attempt smooth team hierarchies and encourage participation across the team – emphasising a spirit of 'we're all in this together'. Sub-county team members knew each other as colleagues on the sub-county management team. For sub-county members accustomed to leading their distinct sub-county programmes in 'silos' new shared roles on the QI team required adaptation.

Introducing new shared leadership roles and developing decision-making skills in systems where traditionally power had rested elsewhere was challenging. By introducing flatter team structures SQALE was attempting a significant cultural shift. Support was required around implementation of new roles but was not always available in practice. These types of insights did not feature prominently in previous research in sub-Saharan Africa (Chapter 2), but were essential in understanding how best to support QI teams. It was clear that teams need time to navigate new

roles, responsibilities and relationships and to consider these in light of existing roles. The effort required to build participation and support was significant and needed to be ongoing.

Reflecting further on shared leadership and taking up new roles and responsibilities – including decision-making – in the wider literature around district managers roles, especially those working in decentralised health systems, was useful to help reflect on study findings. Work from Uganda and Tanzania underscores the challenges of introducing new local management roles, especially without support to develop these roles (Henriksson *et al.*, 2017; Kigume and Maluka, 2019) or where providing support was not straightforward to achieve (Okpani and Abimbola, 2016; Nyikuri *et al.*, 2017; Kigume and Maluka, 2019).

Study insights point towards greater support for both the QI team and the QI task. Seminal work in team science has long differentiated teamwork from taskwork, emphasising that team members need competencies in both to fully contribute to team outcomes (Cannon-Bowers *et al.*, 1995). A specific focus on support for teamworking has gained momentum in recent years in wider teams research (Marks, Zaccaro and Mathieu, 2000; Salas and Cannon-Bowers, 2000; Salas *et al.*, 2008; Mathieu *et al.*, 2017) and is increasingly evident in multi-level healthcare teams literature, especially QI teams in high-income settings (Cima *et al.*, 2009; Patterson *et al.*, 2013; Cunningham *et al.*, 2018). However, it has not received the same attention in QI for community health in sub-Saharan Africa to date; but looks likely to be a valuable tool in better supporting community QI teams.

There are two possible explanations for the limited focus on power dynamics in QI teams and mediating mechanisms more broadly in previous literature reviewed in Chapter 2. The first explanation might have been the focus on individual rather than team interviews; a phenomenon acknowledged in teams research across a range of sectors, including health (Øvretveit, 1999; Mathieu *et al.*, 2017). A second explanation, capital costs of training represent a significant proportion of the total cost of implementing QI approaches (Kumar *et al.*, 2019). Given initiatives considered in the literature review were donor assisted and sometimes drew on project reports, this may account for the emphasis on training support.

Power and attempts to smooth hierarchies were further compounded by the influence of donor funding (Section 5.4.4) and priority setting for community health in the devolved Kenyan health which continues to illustrate where decision-making powers traditionally lay (Section 5.4.5). The relationships between factors continues to highlight the important convergence between themes in **Figure 4-1**.

### 5.4.4 The influence of donor funding

Donor support influenced team function, demonstrating QI and QI teams as dynamic and relational. Significantly, donor support provided financial and technical support to trial QI for community health and building an evidence base for future work. Finances were critical, given the historic neglect for local funds. However, there were challenges too, and these challenges were twofold: first, cumbersome programme structures; and second, perceptions of QI as a short-term project linked to donor funding rather than an MoH-led, long-term approach.

First, cumbersome programme structures and financial dependency. Historically, community health globally and in Kenya has suffered from persistent limited and fragmented financing where disease-specific responses dominate (Tulenko *et al.*, 2013; McCollum *et al.*, 2018b; Agarwal *et al.*, 2019; Gichaga *et al.*, 2021). As a result, community health is often burdened by competing vertical programmes that fail to consider wider workloads and integrate reporting, training and supervision (McCollum *et al.*, 2015; Seutloali, Napoles and Bam, 2018). Similarly, QI in many sub-Saharan countries has been funded and arranged in the same way, originally organised around relatively well-funded areas, particularly around HIV/ AIDS, in health facilities (Barker *et al.*, 2007; Youngleson *et al.*, 2010; Mate, Ngubane and Barker, 2013; Barker *et al.*, 2015; Ngongo Bahati *et al.*, 2010; Barker, Reid and Schall, 2016).

With fragmented funding for QI there were examples of team members serving on several QI teams at sub-county and facility levels. On incentives, there were examples of perverse incentives – including one donor paying a stipend for a county-level QI team that was focused on facility QI, and to talk to that team, SQALE was asked to pay sitting allowances. For CHVs, the influence of donor projects that bring money for specific tasks was often diversionary, but inevitable (Ridde, 2010; Aseyo *et al.*, 2018; Ormel *et al.*, 2019; Samb, Essombe and Ridde, 2020). With community health funded predominantly through donor support in Kenya, these programmes held significant power, which was exacerbated by poverty. QI for community health was often competing for staff time among a number of programmes creating a culture of what Ridde called *'per-diem-itis',* (Ridde, 2010) which meant unpaid volunteers, wanting to support their own families, often prioritised the best-paid work, jeopardising QI as a long-term approach under these circumstances. While such financial incentives exist within the system, implementation and potentially sustainability of QI is undermined.

Second, donor support was influenced by social meaning linked to short-term projects, perceptions that, if continued, could challenge QI for community health as a long-term approach. SQALE's approach of linking to the latest QI guidelines for community health and local data collection tools reduced the scepticism around QI as a short-term approach and reassured senior managers at

county and sub-county level of QI for community health as a long-term approach (middle and outer circles of **Figure 4-1**). However, for QI teams, especially at community level, scepticism was most deeply felt with frequent accounts of donor projects which *'come and go'* and perceptions of SQALE viewed in the same way.

At this point, it is important to consider the evidence from this study and others that teams can and do sustain (Prost *et al.*, 2013; Díaz-Martin *et al.*, 2022). From my study it was clear that several community teams with a history of team support had sustained. Similarly, Prost and colleagues, working with community women's groups, supporting participatory learning and action in Bangladesh, India, Malawi and Nepal found that, once established, community structures such as women's groups are reported to have high rates of sustainability, even without external support (Prost *et al.*, 2013). Beyond sustaining teams my study adds further essential nuance, making the distinction between the sustainability of the team and task. I demonstrate that, while a team could potentially sustain with support, what looks less likely is that the QI task will fully sustain, in particular, aspects of tasks which require finances, like learning events and ongoing mentoring and support in the field. More positively, knowledge and skills on data quality remain, and if data collection tools were available, community data could potentially be collected.

### 5.4.5 Priority setting for community health in a devolved system

Devolution and priority setting influenced QI teams in two ways. Firstly, the signals sent to sub-counties of continued prioritisation of curative services over predominantly preventative community services. Secondly, power and hierarchy in the devolved Kenyan health system, where power lay and how this impacted flatter team approaches.

First county health priorities. While there have been shifts towards promoting community health and significant drives towards institutionalising community health services in Kenya (Hussein *et al.*, 2021), support for community health as formal health service remains mixed. Power and politics influenced many community health programme decisions, which saw formal health services continually prioritised over community services (McCollum *et al.*, 2018b). Counties remain heavily reliant on donor support for community health. Governance issues meant that community health was given lesser priority, with coverage more important than quality, for political reasons linked to re-election. The latest Community Health Strategy 2020–2025 reflects the persistent side-lining of community health, with previous commitments to increase the number of paid CHWs reversed (one paid CHEW assisted by ten volunteers reduced from the current two paid CHEWs assisted by ten volunteers) (Republic of Kenya MoH, 2014; Republic of Kenya MoH, 2020b). Concurrently, CHW shortages remain widespread, with shortfalls of 7% for CHVs (88,403 CHVs out of an expected

95,130) and a 66% gap in paid CHWs (3,250 CHEWs out of 9,513 required) (Republic of Kenya MoH, 2020b).

Weak national and county level support for community health influenced priorities at other levels of the health system. Without national, county and sub-county reinforcement of community QI as a priority support for QI for community health remained largely donor dependent and potentially exposed to challenges described (Section 4.4.4) including power and hierarchy imbalances of that support; especially if local leadership remained weak. In contrast, where support and leadership were available at multiple levels, if adequately primed, this created a more supportive context for QI teams (middle and outer rings of **Figure 4-1**). There were good examples of support bolstering QI teams including county directors supporting the approach, or local sub-county managers. In a related field of PHC in the decentralised health systems of Nigeria, Eboreime and colleagues demonstrate how implementation of QI in PHC was poorly sustained and, exploring the role of actors and context, they illustrated how donor funding – combined with contextual factors such as weak local leadership – can result in local interventions skewed towards donor priorities (Eboreime *et al.*, 2018). Ultimately, by working at a number of levels simultaneously the chances of creating a supportive environment was enhanced.

There was good evidence from this study that power and hierarchy reinforced perceptions of management and decision-making remaining traditionally at higher levels. This was especially evident for weaker teams where for example volunteers would “pass data upwards for decision-making”. Stronger teams were more likely to engage in decision-making, supported by team leadership, fellow team members and often a supportive local operating context (e.g. supportive village Chief). These teams provided good evidence that change was possible. However, the level of sustained effort required to bring about change should not be underestimated – traditional power and hierarchies ran deep. Nyikuri and colleagues in their Kenya study of sub-county managers’ experiences of devolution titled “We are toothless and hanging, but optimistic” exposed how deeply entrenched hierarchies and operating norms were. While health-related decision-making powers were devolved in Kenya, decision-making powers at national level had been replaced by decision-making at county level – a devolving of the status quo, reinforcing rather than deposing hierarchy, challenging sub-county managers to take up new decision-making roles and responsibilities under devolution. Under these circumstances, effort was required to institute new ways of working, developing clear lines of communication and building trust and motivation through sustained capacity building within the health system.

While previous research (Chapter 2) largely overlooked QI teams, and instead considered individual QI team members over the team itself, several studies from countries with well-established and

funded community health worker programmes had some especially useful insights for Kenya under a devolved government system. Studies from Tanzania in particular showed that staff were more motivated to engage in QI tasks energised by having and using their own data (Manzi *et al.*, 2017; Tancred *et al.*, 2017; Tancred *et al.*, 2018). Manzi and Tancred drew from empowerment theory and emphasised the self-reinforcing nature of QI to consider how QI initiatives work in community and multi-level projects (community and health facilities) in southern Tanzania. Their studies suggest that the more QI is implemented, the more improvements result, further empowering people to use it. These results point towards long-term approaches to QI where support for engagement in QI can build over time and from the bottom up; something which is emphasised in QI theory more broadly (Langley *et al.*, 2009). Second, even in well-established and funded community health worker programmes, such as Ethiopia and Tanzania, community-facility links were not always straightforward to achieve (Stover *et al.*, 2014; Sibley *et al.*, 2014; Tesfaye *et al.*, 2014; Lunsford *et al.*, 2015; Yilma *et al.*, 2020). In Ethiopia, with government-supported community health services, researchers maintain greater formal recognition of the value and contribution of community health is still required alongside support for QI for community services and community QI guidelines were limited. For example, Yilma and colleagues illustrate even in Ethiopia, where community health enjoys a more formal status lack of standardised implementation guidelines remained a barrier for community QI (Yilma *et al.*, 2020). Under a devolved government system with varied recognition and support for formal community health services previous studies in African countries with well-established and funded community health worker programmes point to the concerted effort required, to challenge perceptions around community health and strengthen support for engagement in QI for community health services, over the long-term.

Similarly, McCollum and colleagues' work on health system governance following devolution compared experiences of decentralisation in Kenya and Indonesia and emphasised the depth of the challenge to drive and support change (McCollum *et al.*, 2018c). Despite a 15-year difference in time frame, Indonesia and Kenya experienced many similar governance challenges, which threatened the success of devolution reforms. Limited technical capacity and community engagement with weak accountability structures meant priorities were often distracted from attaining UHC. It is clear that change is possible but concerted effort is needed to challenge negative norms and practices, and place emphasis on community-based primary health services and local decision-making.

### 5.4.6 Community health systems strengthening and increased accountability

There is growing understanding that strong health systems are crucial to sustain progress. Health systems, however, are complex, and much of their success depends on factors operating at

different levels and outside the health system – including broader governance and political commitment to health and social development priorities. In the same way that maternal health is urged as a 'whole systems approach' (Samuels, Amaya and Balabanova, 2017), so too is community health (Woldie *et al.*, 2018).

Historically, the focus on greater recognition for community health systems as a sub-system of healthcare has revolved around expanding access to primary care. More recently, others have argued for the community health system in its own right (Schneider and Lehmann, 2016). Given the wide range of services offered and the benefits of quality community health, a system-wide perspective is required when considering QI for community health (Gilmore and McAuliffe, 2013; Kok *et al.*, 2015b; Schneider and Lehmann, 2016; Cometto *et al.*, 2018) – something which a community health system built around QI teams could offer.

CHWs have re-emerged as significant cadres in LMICs, and are seen as integral to achieving the goal of UHC (Otiso *et al.*, 2018; WHO, 2018c; Otiso *et al.*, 2019; Woldie *et al.*, 2018; Afzal *et al.*, 2021; Hussein *et al.*, 2021). These calls to increase the profile of CHWs coincide with increasing interest in community health systems strengthening and increased accountability as part of global agendas around community health services and delivering on quality UHC (WHO, 2018c; The World Bank, 2018). However, gaps have remained in the current literature around the challenges of ensuring inclusive participation around community health services and detailed strategies to improve inclusivity (George *et al.*, 2016). Instead, research has emphasised the technical content of what must be done, rather than addressing implementation realities of how disparate community actors continuously adapt interventions in dynamic and varied community health systems (George *et al.*, 2018).

The findings of this study are highly relevant to the primary health care agenda and the Astana declaration and the push for quality UHC; that provide this study's timely rationale (The United Nations, 2015b; Alma-Ata 40 Roundtable Group, 2018). The Astana declaration renewed past promises and principles of healthcare for all, bringing attention yet again to the role of communities in providing primary healthcare (PHC) – through "an inclusive, *community-led*, multisectoral approach" (WHO, 2018a). However, amid calls for community-led approaches and a 'revolution' in the quality of health services (Alma-Ata 40 Roundtable Group, 2018; Kruk *et al.*, 2018) global policy has failed to provide practical models for systematically improving the quality of community health or to define how quality should be measured (Kruk *et al.*, 2018; WHO, 2018c; The World Bank, 2018). This study helps to support such guidelines with comprehensive insights around an often overlooked aspect of quality community health – teamworking.

Functioning community QI teams provide a framework for sustaining quality approaches for locally

embedded community health services. In health systems where curative services are prioritised over largely preventative community services and community services remain on the fringes of formal health services (Otiso *et al.*, 2019) multi-level QI teams have the potential to support improved community-facility linkages. In this way QI teams can potentially begin to address the implementation realities of often disparate community actors - brining actors together and placing community voices, at the centre of delivering quality PHC. Trained in transferable team competencies (data collection, decision-making, leadership, addressing power dynamics) QI teams could offer a potential framework for delivering on a range of quality community-led health initiatives and approaches that are responsive to and inclusive of community voices and support PHC and the push for quality UHC.

Health systems strengthening and resilience are terms frequently found in the milieu of research on QI, alongside reports of improvements in transferable skills such as improved data quality and use to target newly emerging health issues. There are important examples of community health systems demonstrating resilience and use of transferable skills. Rapid community health responses to emerging health issues such as Ebola and COVID-19 are a good illustration of community health systems demonstrating resilience and use of transferable skills (Ballard *et al.*, 2020; Afzal *et al.*, 2021; Chengo *et al.*, 2022). Working through QI teams at the interface between communities and the formal heath sector in a formal, systematic way focused on transferable skills around data use and decision-making on local priorities look likely candidates to provide a framework for action. In this way, QI teams should see community and formal health workers adequately prepared and sufficiently networked to make a difference to PHC and delivering quality UHC, given the right resources and support.

Current research on approaches to improving and sustaining community health programmes urge expanding the evidence – understanding communities as social systems, and consideration of the complexity of interventions required to foster collaboration and support to effect change (George *et al.*, 2018), something which I have tried to address here. In summary, QI teams for community health appear highly applicable to community health systems strengthening and improving accountability of community services. The time is right for continuing to advance practice and research on QI teams for community health as part of addressing calls for quality services and UHC, developing theory as well as 'lifting the lid' and exploring how QI teams are established and can work in the devolved Kenyan health system and beyond – something which this study contributes to.

## 5.5 What insights does the theory provide and how does this study contribute to theory?

The construct domain framework identified opportunities, barriers and facilitators that supported QI teams and helped pinpoint where these opportunities lay in the health system (at the team level and in the immediate and wider context) and therefore where to focus attention to support teamworking.

The use of teams theory was missed in the current QI literature for community health (Chapter 2). Using a theoretical lens of QI teams and teamworking provided important 'black box' detail on supporting QI teams and how and why particular contextual conditions generated particular outcomes, including unintended outcomes for QI teams (Ritchie *et al.*, 2014; Ramaswamy, 2018; Black *et al.*, 2021). Nineteen previous studies on QI in community health (Chapter 2) all drew on common generic QI tools and approaches such as Plan-Do-Study-Act cycles and QI collaboratives (described in Chapter 1). Only two studies specifically highlight the use of theory. Manzi and Tancred drew from empowerment theory and emphasise the self-reinforcing nature of QI to consider how QI initiatives work in community and multi-level projects (community and health facilities) in southern Tanzania. Their studies propose that the more QI is implemented, the more improvements result, further empowering people to use it. However, the explicit focus on teams alongside teams theory was absent from previous studies at community level in sub-Saharan Africa, including this work from southern Tanzania. Yilma and colleagues did take some account of QI teams. However, my study adds to that of Yilma's in four distinct ways. First, it uses team theory which was absent in Yilma's study. Team theory provided a lens for more sophisticated understanding of QI teams. The specific team theory used saw teams as complex adaptive systems embedded in and influenced by their contexts *(Arrow, McGrath and Berdahl, 2000; Ilgen et al., 2005; Mathieu et al., 2017)*. Team theory provided opportunities for understanding QI teams and the context within which they operated. Second, while Yilma and colleagues used only team-based interviews my study employed a multi-method data collection strategy. The predominant data sources, in my study, included FGDs and interviews with existing, sub-county and community QI teams. KIIs with experts with unique knowledge of community health and/or QI at national and county levels and SQALE staff were used to provide further detail about how QI teams could be supported from the perspectives of policymakers and those supporting community health service provision and QI in Kenya. This multi-method data-collection strategy (with interviews from community to national levels) provided opportunities for wider contextual nuance which was absent from Yilma's study. Third, it is unclear if all QI team members participated in what Yilma and colleagues describe as 'discussions'. In contrast, my study deliberately set out to include all QI team

members and participants are clearly illustrated by sample (Table 3-1: Study participants by sample). Additionally, the composition of each QI team are illustrated in **Table 3-2** (community-level QI teams) and **Table 3-3** (sub-county level QI teams). Finally, while Yilma and colleagues address QI teams to some extent programme impact rather than the QI team itself and teamworking remain a prominent focus of their study – something which has tended to dominate much of the previous QI research in community health (Chapter 2) and more widely (Garcia-Elorrio *et al.*, 2019; Wells *et al.*, 2018). Given QI teams are an important and visible feature of most QI programmes, using teams theory as a lens to explore QI teams for community health in Kenya addressed a significant research gap in sub-Saharan Africa and responds directly to wider calls from across countries of all income levels to specifically consider QI teams and the wider contexts within which they operate (Øvretveit, 1999; Kaplan *et al.*, 2010; Kaplan *et al.*, 2012; Kaplan *et al.*, 2013; Fulop and Glenn, 2015; Rowland *et al.*, 2018; Montgomery *et al.*, 2020; Øvretveit *et al.*, 2020; Rogers *et al.*, 2021).

Using the construct domain framework brought together many aspects of teamworking. The ways in which this work contributes to Matthieu's extensive review of research and adds to existing research (Chapter 2) are now considered. First, in this study theory not only helped highlight a complex set of interconnected issues linked to QI team function for community health, but demonstrated the weighting and connection between these factors, which has not happened in previous research (Chapter 2). Insights around the weighting of particular factors added to Mathieu's research by providing nuance around the importance of factors required for QI teams for community health. Of particular note were new insights in relation to the weighting between mediating mechanisms and compositional features that identified marked distinctions between largely volunteer community teams and sub-county QI teams comprising paid health workers (Figure 4-1, team level). For example, the positive influence of relationships (mediating mechanisms) in supporting participation among volunteers (team composition) and smoothing hierarchies and power imbalances within the QI team. Supportive team relationships were especially critical for community-level QI teams and community volunteers working without formal pay who may not have 'signed up' for QI tasks such as data collection, but were instead motivated by high-status roles (e.g. providing health advice and distributing supplies); roles which were highly visible and appreciated by communities and attracted kudos for volunteers. For sub-county teams and formal health workers, contractual obligations set out in employee contracts held greater weight in decisions to participate (Figure 4-1, compositional features). Second, using the construct domain framework brought together fresh insights in relation to QI teams operating within the organisational structure, culture and wider environment as part of multi-team systems (Marks *et al.*, 2005; Marks, Mathieu and Zaccaro, 2017). Much of the findings from previous research (Chapter

2) has focussed on individuals or teams working in largely isolated situations. But teams generally do not carry out their tasks alone; rather they operate in organizations as parts of a larger system of teams (Marks, Mathieu and Zaccaro, 2017) with interaction between QI teams and other teams and contextual factors (Arrow, McGrath and Berdahl, 2000). Multi-team systems were characterised by a tightly coupled network of teams which when they coordinate their efforts supported team function. For example, explicit signals of sub-county support for community QI, bolstered community QI team participation, overcoming wider unsupportive contexts that persistently overlooked community health. Findings from this study demonstrated a useful distinction between the influence of the immediate team and wider team contexts that could bolster or impede individual team effectiveness – something that is absent in Mathieu's framework. Contextual factors are illustrated in detail in the two outer rings of Figure 4-1 (e.g. senior leadership, shared understanding of QI and community health between county management teams and sub-county and community QI teams and fiscal measures). Finally, this study contributes to Matthieu's research through the attention given to socially pattern ways of working in the context of community QI in Kenya and their impact on teamworking – something that was largely missed in previous studies (Chapter 2). By way of example, while Yilma and colleagues note *"loose linkage"* between community and facility members and limited ownership as barriers to QI teams my study goes further exposing socially patterned ways of working impacting on QI teams and teamworking. For example, in a context where QI was predominantly donor funded - donor support was influenced by social meaning linked to short-term projects, perceptions that, if continued, could challenge participation in QI for community health as a long-term approach. For QI teams, especially at community level, scepticism was most deeply felt with frequent accounts of donor projects which *'come and go'* and perceptions of SQALE viewed in the same way. Similarly, in Kenya, while health-related decision-making powers were devolved, traditional hierarchies challenged sub-county managers and community QI teams members to take up new decision-making roles and responsibilities under devolution **(Section 5.4.5**). The adapted Mathieu framework adds to that of Mathieu and to previous research (Chapter 2) by identifying, detailed socially pattern ways of working and contextual factors required to support QI teams in the context of community QI (e.g. shared understanding of QI and community health at national and local levels).

The adapted framework (Figure 4-1) and discussion provides opportunities to understand the team itself and the wider context and the influences between the two. Specifically using a complex adaptive systems theory as a lens my study acknowledges the overlap and interplay in the results. In this way my study acknowledges the complexity of QI teams with many factors acting in parallel to produce an adapted framework of how QI teams function in their setting.

Of the new findings, there were clear facilitators and barriers. Factors sat at different levels of the model. For team function, balance and synergy was required between factors at different levels (within the team, immediate and larger context). Teams could function where there was imbalance, but when more factors were present and working, QI teams did too.

In sum, Matthieu *et al.* (2017) construct domain framework is directly relevant to community health in Kenya, with the addition of volunteerism and addressing the particular context of operating across formal and largely volunteer community health services. Socially pattern ways of working (e.g. particular power dynamics, traditional roles and expectations around decision-making and financing) influenced engagement and performance of QI teams in complex community health systems. Working with the construct domain framework invites policymakers, practitioners and researchers to consider how complex interventions interact with existing patterns of service organisation, professional norms and community interactions, strengthening the relevance of evidence and building the capacity of decision-makers and practitioners to understand and apply it in the scaling up of QI for community health.

## 5.6 Thesis contribution

The specific context and focus on the QI team represents a contribution to an under-researched area. Additionally, there is an applied practical component to my thesis, considering how implementers and policymakers might establish and support QI teams (Section 5.6). QI was a novel approach in Kenya. Previous research had not included Kenya (Chapter 2). Moreover, studies of QI for community health in sub-Saharan Africa had not focussed on QI teams and teamworking within their wider health systems. As recommended by wider teams research and research on QI teams more specifically, this study considers people within teams and the systems within which they operate (Øvretveit, 1999; Rowland *et al.*, 2018; Øvretveit *et al.*, 2020), firstly, unpicking socially patterned ways of working. For example, traditional power structures and hierarchy around teamworking and how this challenged inclusive 'bottom-up' decision-making. Secondly, it exposed factors that shaped these ways of working, demonstrating how, in a context that persistently saw community health as distinct beyond the remit of health facility staff, community tasks were often not done. Finally, this study contributed to how effective teams were facilitated through a mix of internal team support and were influenced by local and national contexts (e.g. data quality and data use, community health policy, strategy and workplans and financing).

Using multi-level perspectives (from community to national levels) created a lens through which to examine first-hand accounts of policy and strategy influencing community QI, and experiences of how this was translated in practice in real-life QI teams. Given that an important premise of the QI

literature is to do what you can where you are (Langley *et al.*, 2009), being realistic, fully prepared and informed about the context was important. Gathering multi-level perspectives helped refine understandings of the landscape that QI teams encounter, supporting recommendations on what it may take to change it and demonstrating what was already working well.

This study has implications beyond Kenya. Globally, as countries focus on achieving UHC and the SDGs, this research contributes to the literature around health system strengthening. This thesis forms a timely contribution to global literature where community health has come to the fore as part of driving solutions to increase access to quality health services, contributing to UHC. Global policy and research often fail to account for how those working to deliver QI for community understand QI and the wider socio-political and cultural context within which QI is undertaken. This study places the voices of individual experts and, even more importantly, the voices of QI teams implementing QI for community health onto the table, underscoring the importance of rich insights in understanding and operationalising QI for community. In this way, the study itself supports 'bottom-up' approaches to community health, putting practitioner and community voices centre stage in driving solutions to improve services for the communities they serve.

Integration with an applied intervention (SQALE) supports transferability. The setting reflected a typical QI programme approach using PDSA cycles, where QI interventions for community health are implemented in terms of setting, team membership and training, which meant that results and study implications were taken up and were more likely to be transferable. Decentralised health systems are especially commonplace in sub-Saharan Africa (McCollum, 2017; Eboreime *et al.*, 2018; McCollum *et al.*, 2018a; McCollum *et al.*, 2018b; Kigume and Maluka, 2019). The use of PDSA cycles is very prominent in QI approaches across sub-Saharan Africa, and there is a concentrated application of QI around maternal health. While it might be inappropriate to seek similar explanations for effective teams across different team types, by paying attention to work characteristics (e.g. the use of PDSA cycles for community health), identify sets of variables specific to particular team types and care delivery settings becomes more possible (Sundstrom *et al.*, 2000; Devine, 2002). I believe there is a good deal of learning that can be reflected on against other QI literature.

## 5.7 Thesis strengths and limitations

This study has a number of strengths and limitations. A strength of using a qualitative approach included the opportunities provided for an in-depth study of the complex factors involved in implementing QI for community health in practice and the facilitators and barriers to implementing QI at this level (Pope and Mays, 1995; Mays and Pope, 2000; Pope, van Royen and Baker, 2002;

Ritchie *et al.*, 2014; Black *et al.*, 2021). However, specific challenges of qualitative approaches are acknowledged in relation to transferability (Section 5.6), and shared assumptions of interpretation of the approach (Malterud, 2001; Black *et al.*, 2021). Issues of reflexivity are considered as a strength and are addressed in Chapter 3. I reflect further here on qualitative approaches, the use of team theory, the challenge of determining team functionality, and finally temporal issues of QI teams. I consider the strengths and weaknesses of these approaches and how issues were addressed.

There were clear benefits to using a qualitative approach, and there were drawbacks too (Black *et al.*, 2021). A qualitative approach leant itself well to the review of teams, offering opportunities to gain insights around the approach, including unintended consequences (Barbour, 2014). Conducting FGDs offered an opportunity to gather insights from all team members and to consider team dynamics, something largely missed in previous research (Chapter 2). A corresponding limitation of FGDs with teams was working within established hierarches and group dynamics (Ritchie *et al*. 2014; Krueger and Casey, 2000 and Kitzinger, 1995). However, since this inquiry sought to understand team approaches, reflections on these group dynamics constituted important data. Nevertheless, these interactions, including potential power imbalances, required careful handling to ensure active participation. This was addressed through establishing ground rules for the focus group from the outset, as well as the use of prompts. Ground rules made clear the value and importance of hearing each participant's views, while targeted prompts were used to actively engage participants and encourage participation, where required.

A strength of using team theory was the restrictive theoretical lens which enabled critical thinking and creative engagement as the analysis progressed (Black *et al.*, 2021). While the construct domain framework (Mathieu *et al.*, 2017) was used as a lens for the analysis, as with any deductive analysis, it is possible some information which did not fit predetermined categorises were excluded (Ritchie *et al.*, 2014). Although I led the analysis, supervisors and local research assistants were also contributing, and therefore the risk of omitting significant information was small. Supervisory discussions frequently included critical thinking around team theory. As the analysis progressed new codes were added inductively.

Determining QI team functionality presented a study limitation. Initially, definitions of well-and poorer-functioning teams were used, based on project definitions. But definitions were fairly subjective, especially given the dynamic nature of teams and QI. Some teams shifted between well-functioning and poorer-functioning and back again over time. Given the dynamic nature of QI teams, these definitions of well- and poor-performing might be unhelpful. Instead, understanding may be enhanced by temporal views of QI teams.

Temporal issues emerged as an important contributor to effective teamwork, with previous experiences of teamworking used to support QI for community health. However, this study presents a snapshot of QI teams and key informants. A longitudinal study tracking experience over time was considered, something which is supported by teams literature (Marks, Mathieu and Zaccaro, 2001; Mathieu *et al.*, 2017; Mathieu *et al.*, 2020). The approach was deemed unsuitable for this study for practical reasons including the duration of SQALE project, the timelines required for ethical approvals and resources required for additional data collection phases. In the absence of a long-term study, temporal issues were incorporated in research questions which encouraged participants to reflect on prior experiences of QI and look ahead to sustainability of QI for community health, the research occurred during and not pre- or post-project implementation. However, given QI teams were dynamic and evolved, longitudinal study designs – which deliberately set out to consider team evolution and team dynamics – could help explain progress and track teams and teamworking over longer periods, refining understanding around sustainability.

## 5.8 Implications and recommendations for: policy, practice and research

An intention of this study was to provide clear, practical information for evidence users in the 'real world'. Drawing from the reported novel findings, implications and recommendations are made for policy, practice and further research specifically for community health policymakers and community health implementers.

### 5.8.1 Implications and recommendations for community health policy

For community health policymakers, findings emphasise the value of community voices working alongside formal health workers in improving quality and decision-making around community health. Findings have several practical implications. They suggest multi-level teams are important in providing practical and meaningful opportunities to bring formal health workers and community members together to address community priorities – a concept that sits at the heart of quality healthcare based on people-centred services (WHO, 2022; WHO, 2021). Findings indicate these teams are an option for community health services and require a range of support and funding. Lessons learned imply greater emphasis on addressing quality community health by strengthening whole systems (Gilmore and McAuliffe, 2013; Kok *et al.*, 2015b; Schneider and Lehmann, 2016; Cometto *et al.*, 2018). In practice, for policymakers this means a focus on community health as a sector, not a series of QI projects, with QI teams providing a framework for delivering community

health pivoted to a variety of local health issues and supporting UHC. An implication of this for policymakers is having QI guidelines for community health as a sector and focusing on improving generic skills such as data quality and use, rather than focusing on one disease area for an individual project. Findings imply attention is required to building capacity for QI and planning for replication of this. Approaches to support QI should focus on a series of steps recognising the need for programme/team set-up and initial and ongoing support and investment over the long term (Deming, 1982; Dixon-Woods and Martin, 2016). These step-change approaches signal, from the outset, that QI is a long-term approach rather than a 'silver bullet'. The focus on building local teams is especially important in devolved contexts such as Kenya – where the capacity to collect and use data could potentially enhance devolved decision-making around local health issues. Taken together, these issues form the basis of four important recommendations for policy.

**Box 5-1 Recommendations for community health policy**

1. Focus support on establishing QI teams that collect and use data for community health services.
2. Teams should be multi-level, combining community and formal health workers to improve opportunities to incorporate community voices in identifying local health priorities. A focus on mixed teams addresses issues of traditional separation between community and formal health services.
3. Focus policy around QI guidelines for community health as a sector. Policy should support generic skills for QI teams to support a range of community health issues.
4. Policy should focus on supporting phased approaches to establishing and then sustaining teams. By way of example, team set-up, supporting team members as they consider their new roles in relation to existing work and, once established, support teams undertaking new roles, and then sustaining roles.

### 5.8.2 Implications and recommendations for practice for community health implementers

The findings have significant implications for understanding how QI teams work for community health and important implications for future practice. Considering Figure 4-1, the recontextualised construct domain framework, factors contributing to team function existed at three levels: the team itself; local (community/sub-county levels); and wider context (national/county levels). When factors aligned at each level, even partially, team effectiveness was improved. In future, working towards better alignment at each level looks likely to improve sustainability akin to creating organisational readiness (Weiner, 2009) where there is a commitment to change, resources in place and collective capability to do so.

Implementation needs to take account of the 'place' of community health at the interface of community and formal health services (Kok *et al.*, 2017; Skivington *et al.*, 2021). For example, programme theory, depicted in a logic model, that maps out the inputs, change activities and outcomes expected (Goeschel, Weiss and Pronovost, 2012; Moore *et al.*, 2015; Øvretveit *et al.*, 2018). Used in conjunction with the recontextualised construct domain framework (Figure 4-1), a logic model could provide a practical way to consider and describe improvements and programme designs drawing on programme learning. Developing a logic model collaboratively, with implementers and policymakers, offers opportunities for transparency around potential programme 'hot spots' and provides opportunities to develop 'buy-in' (including finances) across different health system levels. As the programme progresses a logic model could be monitored to track change and make adaptations, where required.

The team as an entity matters, and the 'how to' of teamwork needs to be explored and defined (Mathieu *et al.*, 2017; Cunningham *et al.*, 2018; Rowland *et al.*, 2018). When considering establishment and support for teams, distinctions are drawn in the wider teams literature between taskwork and teamwork (Marks, Mathieu and Zaccaro, 2001; Rousseau, Aubé and Savoie, 2006). Marks and colleagues describe *what* it is teams are doing (taskwork) and *how* teams undertake their work with each other (teamwork) (Marks, Mathieu and Zaccaro, 2001). Creating a functional team must in itself be one of the team's goals. By way of example, considering communication skills and addressing potential hierarchies and power struggles within the team prior to implementation. This could be done through communication skills training as part of teamwork training. Simulation programmes using role-play could yield positive results (Rowe *et al.*, 2018). Team-building skills might include supporting and engaging members with limited previous experience of decision-making and supporting shared leadership roles. For example, supporting a team leader as 'first among equals' – recognising their role as leader while simultaneously acknowledging the particular expertise of each team member and drawing on that. Building key competencies in the longer term around team skills such as communication and decision-making means QI teams for community health could potentially be developed to deliver on a range of health issues, contributing to UHC and pivoting away from short-term projects towards long-term sustainable approaches to community health.

Taskwork (QI) and teamwork (discussed above) require a mix of formal training, interspersed with periods of implementation to reinforce learning (Ameh *et al.*, 2018; Rowe *et al.*, 2018). It was clear that QI teams themselves were not devoid of skills (considering their roles in training and supporting each other). Further developing teams themselves addresses the widely-acknowledged challenge of providing, ongoing, external support to community health workers (Chapter 2).

Given QI is rooted in developing local solutions to local health issues, longer-term autonomy for teams to align team membership with local needs could enhance engagement and motivation, improving the sustainability of QI teams. Strachan and colleagues, in their work with CHW collectives, provide support for an approach that provides greater autonomy for CHWs (Strachan *et al.*, 2015). With a focus on interventions that appeal to the needs of local communities and therefore to CHW collectives, Strachan and colleagues argue this could galvanise community groups to perform actions which they believe meet community needs.

Taken together, these issues form the basis of five important recommendations for practice.

**Box 5-2 Recommendations for community health programmes**

1. Focus on QI team composition. Provide clear roles and responsibilities for the team and individual team members so everyone understands the role of the QI team and their contribution. Include autonomy around team roles to align with local health priorities and strengthen local support for QI teams.
2. Plan for support to the QI task and the QI team itself. For example, provide capacity-building support for teamworking skills (conflict resolution; cultivating connection and trust) alongside technical QI skills such as collection and use of quality data. Focus on developing self-managing teams.
3. Plan for provision of formal training and field support focused on supporting implementation QI programmes and teams in practice, in the field.
4. Use joint planning opportunities to bring policymakers and practitioners together to build a programme logic model. This can be used to design, develop and track programme stages (from set-up to sustaining teams)
5. Advocate for sustainable budgeting for QI teams, which means community health becomes an integral part of annual plans and budgets.

### 5.8.3 Recommendations for further research

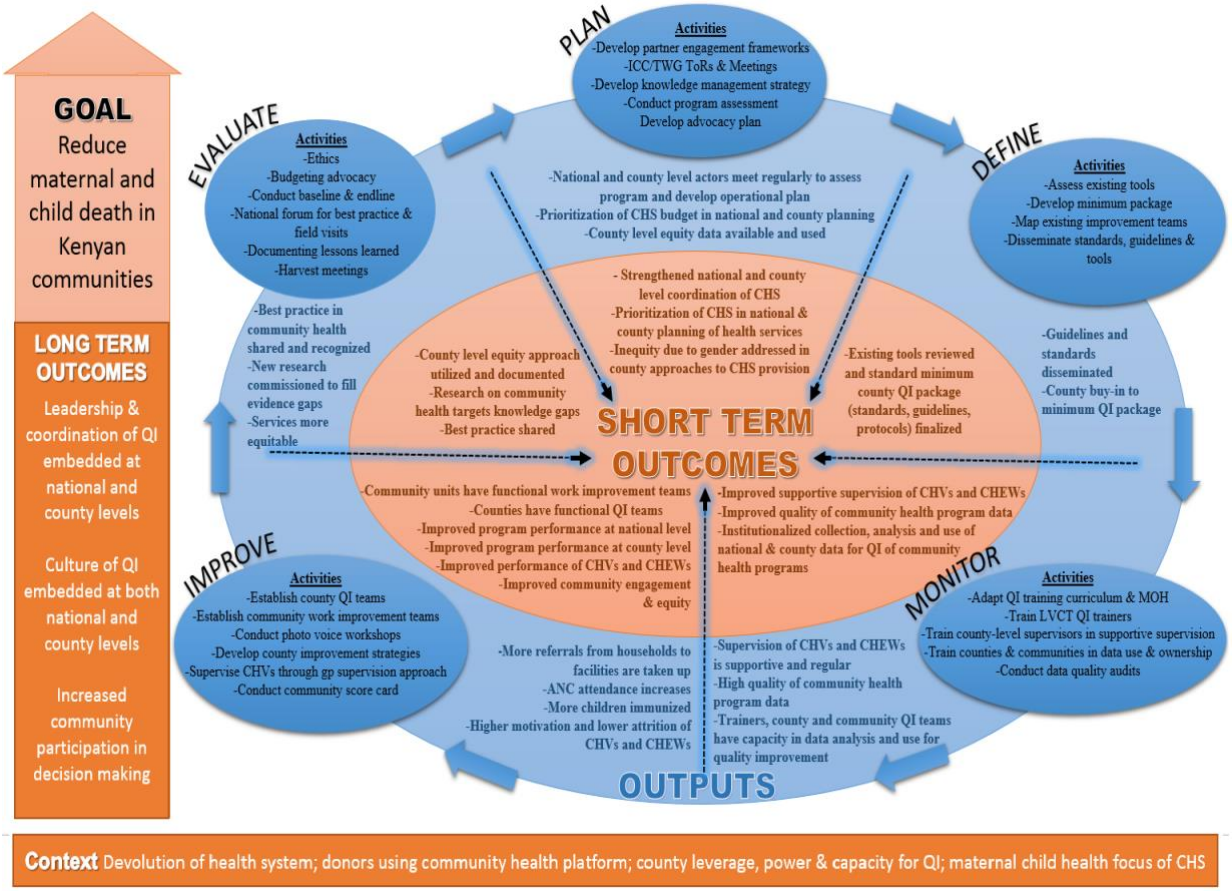
The findings point to the importance of interpersonal relationships, and more implementation research that tests the most appropriate and effective ways to incentivise QI team members, explores how to best 'flatten hierarchies' and how to embed aspects of teamworking into capacity strengthening is needed. This study also highlights the need to examine temporal issues of QI teams, focusing on some of the key findings and exploring these over time.

Employing a mixed methods approach and including different research techniques such as social network analysis could offer fruitful avenues for further research in better understanding the influences and opportunities around QI teams for community health (Assegaai and Schneider, 2019).

### 5.8.4 Thesis conclusion

In conclusion, this study found community QI was possible and appreciated. In this chapter, the insights presented throughout this study were summarised around the research question: 'How can QI teams for community health best be established and supported in the devolved Kenyan health system?' For team members navigating QI implementation, multiple interrelated factors contributed towards better supporting QI teams and teamworking. There was recognition that teams are good ways to bring diversity to decision-making, with the advantages of bringing groups together that see things in the same way as well as those who may see things differently. On the subject of similarity, team members who came together wanted to improve quality of care for patients – a reminder that there is often much more that binds team members than what makes them different. These similarities could change over time and in accordance to context – a reminder of the complexity of QI teams. By describing the facilitators and barriers to QI teams and teamworking and exposing complexity, this study is not presenting excuses for remaining stuck, but instead considering the mechanisms which can lead to change. Recent calls for a 'revolution' in the quality of health services and a strong interest in community engagement as part of delivering PHC and improving UHC by expanding access to services provided this study's rationale. The research provides a novel and timely contribution to how QI teams might be pivoted to support a range of services including MNCH; improving UHC and enhancing accountability of a health service and cadres (community health and CHWs) who are all too often either ignored or unreasonably required to be responsible for everything but accountable for nothing. Working with community health to build QI teams and grounding these in community voices could offer a potential framework for change in delivering quality community health services.

# Appendix A SQALE Logic Model



# Appendix B Terms of Reference For Community and Sub-county QI teams


**MINISTRY OF HEALTH**

**Terms of reference (TOR)**

**QI teams for Community Health Services (Level 1)**

**April 2017**

## A. Introduction:

Kenya's second National Health Sector Strategic Plan (NHSSP II 2005 -2010) defined a new approach to the way the sector will deliver healthcare services to Kenyans – the Kenya Essential Package for Health (KEPH). One of the key innovations of KEPH is the recognition and introduction of Community Health Services, which are aimed at empowering Kenyan households and communities to take charge of improving their own health. Findings from a number of research studies and evaluations identify a number of challenges in the delivery of community health services, many of which can be addressed through quality improvement.

The Ministry of Health has reviewed the Kenya Quality Model for Health and developed the Kenya Quality Standards for Community Health Services in 2015. This is the first time that standards have been developed for community health service that take into account leadership, staff motivation, staff competence, adequate resources, content and process of care, referral systems, and the active participation of the community.

## B. Proposed QI team structure, roles & responsibilities for CHS at all levels

| Level | Roles & Responsibilities | Membership |
|---|---|---|
| **National Level QI Committee for CHS** | • Policy leadership, vision, strategy and oversight for embedding quality into CHS in Kenya<br>• Formulate and update national standards and guidelines for CHS<br>• Approve a KQMH curriculum and training package for level 1 personnel<br>• Advocate for and institutionalize QA systems and QI methodology for CHS<br>• Recognise and share best practice for QI of CHS | • MoH (Community Health, Standards, MNCH, Child health, nutrition……)<br>• County representation<br>• NGOs and partners |
| **County QI Team/ CHMT** | • Provide leadership and support consistent goals for quality of CHS at county and sub-county levels<br>• Promote and enhance the skills of Staff and CHVs in quality improvement of CHS<br>• Provide coaching and supportive supervision to sub-county QI teams<br>• Encourage innovation and highlight success stories<br>• Maintain an equitable and appropriate distribution of human resources and logistics for CHS<br>• Ensure that QI of CHS is factored into county and sub-county annual work plans (AWPs)<br>• Identify priorities for CHS and advocate for resources | • Existing membership<br><br>Also include<br>• CHS focal person<br>• Sub-county QI representatives |
| **Sub-county CHS WIT (Work Improvement Team)** | • Provide leadership and support consistent goals for quality of CHS at sub county and community level<br>• Review quality and performance data and provide quarterly progress reports to the sub county HMT/QI team | • CHS focal person (chair)<br>• QI focal person<br>• Records & Information Officer<br>• RMNCH Officer<br>• Nutrition Officer<br>• Health promotion Officer |

| | | |
|---|---|---|
| | • Ensure accurate recording and reporting of CHS data<br>• Monitor and support community health units to meet CHS standards<br>• Provide regular coaching and supportive supervision to CHU QI team<br>• Identify, analyze, develop and implement solutions for problems related to CHS<br>• Encourage innovation and highlight success stories<br>• Identify priorities for CHS, manage QI budget and advocate for resources<br>• Ensure that QI is factored into sub-county annual work plans and community health unit quarterly work plans | • CHEWs (representing CHU QI TEAM)<br>• Other partners |
| **Community Health Unit CHS QI team** | • Provide leadership for QI at community level<br>• Identify and mobilise key stakeholders to participate in QI activities<br>• Identify, analyze, develop and implement solutions for problems related to CHS<br>• Ensure accurate recording and reporting of CHS data<br>• Complete and analyze monthly CHS statistics<br>• Give feedback to the community, service users and link facility staff | • CHEWS (chair)<br>• CHVs (all team leaders +2)<br>• Link facility staff (1)<br>• CHC member<br>• Chair of Health Facility Management Committee<br>• Other stakeholders |

# Appendix C Literature Review - Summary of Studies

**C** = community level. **F** = Health facility level. **Gov.** = Government. **TBAs** = Traditional birth attendants.

**CBOs** = Community based organisations. **MoH** = Ministry of Health.

| Country/ Reference | Health Area | Aims to improve/ QI team members | Objective of Paper | Study Methods | QI team explicitly studied/ theory used | Relevant Outcomes, Findings and Lessons |
|---|---|---|---|---|---|---|
| Ethiopia (Yilma *et al.*, 2020)<br>I project | HIV | **Aim:** C<br>**QI Team:** Mixed teams F/ C/ managers | Review of implementation and lessons learned | Case study (Quantitative and Qualitative) | Yes, does consider QI team to some extent. Team theory is missed | 39% of teams functional and 39% partially functional<br>Team facilitators: clear objectives; commitment to regular team meetings (leadership, team members); intensive support and learning.<br>Barriers: competing priorities, workloads, and high staff turnover. Limited ownership; poor linkage between facility and community members |
| Mozambique (Stover *et al.*, 2019)<br>1 project | Maternal Health/ HIV | **Aim:** C<br>**QI Team:** community groups, CHWs, facility and local gov. staff/ officials | Describe a CH system strengthening model, which mobilizes communities by applying QI. | Case study (Qualitative and Quantitative) | No | Facilitators to QI work: Training related adapted simple training; QI 'champions'; good link community and facility QI team. Barriers: Nurse workloads; poor literacy, and numeracy skills and as a consequence intensity of training and time taken before obtaining reliable data (takes several months) |

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|---|---|---|---|---|---|---|
| Tanzania (Manzi *et al.*, 2020) 1 project | Aim: to improve maternal and newborn health | **Aims to improve** community C/F/ District **QI Team:** community C/F/ District | To generate insights around the mechanisms driving QI implementation | Realist evaluation Theory generated from multiple sources (theoretical literature, previous project reports | No | Established an initial programme theory, (presented in this paper). Initial theory draws from empowerment theory and theory that QI is self-reinforcing - the more it is implemented, the more improvements result, further empowering people to use it. Facilitators: Encourage platforms for liaison between levels to enable resource mobilisations. Involve local leadership for community level QI Align QI activities descriptions of healthcare workers and managers. Barriers: overcoming health system building blocks (service delivery, health workforce, health information, medical products, vaccines and technologies) through optimizing QI implementation |
| Tanzania and Uganda (Hanson *et al.*, 2014; Tancred *et al.*, 2017; Waiswa *et al.*, 2017; Tancred *et al.*, 2018) 1 project | Maternal and newborn health | **Aims** C **QI Team:** Community volunteers | Evaluation of experiences of implementing community level QI (part of a multi-level intervention | Studies include: mixed methods process feasibility study. Realist evaluation; Plausibility study | No | Training related outcomes e.g. knowledge of QI concepts Facilitators to QI: intensive continuous mentoring, coaching and follow-up; Community leaders and community data motivates QI team membership Barriers: Understanding the meaning of QI methodologies. |
| South Africa (Horwood *et al.*, 2017) *1 project* | HIV/ Maternal Health; | **Aims** C **QI Team:** *CHWs* | Evaluation of training-related outcomes for mother - | Cluster randomized controlled trial: questionnaire for mothers | No | Home visit rates for pregnant women, maternal knowledge, exclusive breastfeeding; disclosure of HIV status QI training and mentorship is an effective alternative/ additional form of supervision for CHWs. Barriers for scale up: Resource intensive, requires a strong framework to support data collection |

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| | | | behaviour/ knowledge | | | |
| South Africa, Malawi, Mozambique (Horwood *et al.*, 2015) *4 projects* | HIV/ Maternal Health | **Aims** C **QI Teams:** Exclusively CHWs and mixed teams: CHWs supported by extension worker, health facility QI team member on monthly basis | Describes 4 community-based QI projects. Post hoc description of basic principles of the approach with adaptations used | Case study | No, not explicitly | Outcomes evaluated relate to training-related outcomes e.g. knowledge of QI concepts<br>Adapting materials and training to education and first language skills of CHWs are essential<br>Adapting training, particularly data reporting, to the education level and first language of community members. Representatives of formal health facilities should ideally be included in community QI teams or closely linked to them. Developing linkages challenging, especially in one project were QI teams comprised community members only. |
| Malawi (Colbourn *et al.*, 2013) 1 project | Maternal neonatal and perinatal mortality | Aims: C/F QI Teams: Rural F alongside rural participatory women's groups | Effectiveness of community mobilization through women's groups and health facility QI on health outcomes | Cluster randomized control trial of neonatal, perinatal and maternal mortality and description of QI project | No | Outcomes included reductions in neonatal and perinatal mortality but not maternal mortality.<br>Facilitators: requires staff stability, leadership, training, ongoing intensive support from district staff trained in QI methods and external coaches.<br>Barriers: Availability/ willingness of government staff with relevant QI skills. Intensive external project support required. Limited integration with government finance and technical assistance - MoH resources |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | allocation remained problematic. High burden of HIV/ AIDS; limited drug supplies |
| Ghana (Twum-Danso *et al.*, 2012; Singh *et al.*, 2013; Cofie *et al.*, 2014; Twum-Danso *et al.*, 2014; Singh *et al.*, 2016)<br>1 project | Maternal and child health | **Aim:** F<br>**QI Teams:** Health posts/ health centres /hospitals and community outreach | Effectiveness of QI intervention on improved outcomes for maternal and child health | Quantitative methods; Qualitative case studies<br>description of QI project - how community outreach was integrated into the QI project and early implementation | To some extent (Cofie et al.) | Demonstrated impact at scale for the outcomes studied. Early ANC, all 4 ANC visits and skilled deliveries<br>Implementing change plans in the community driven.<br>Facilitators strengthening QI teams, and ongoing collaboration with community members.<br>Barriers to community outreach: distance between health facilities and communities. Fuel shortages and lack of vehicles limited the number of visits health workers could make. Poor road conditions. Seasonal migration due to famine or work. Those from low functioning improvement teams more commonly described structural barriers preventing community engagement. Cultural barriers prevented some patients disclosing pregnancy until 2nd trimester |
| Ethiopia & Tanzania (Lunsford *et al.*, 2015)<br>1 project | HIV | **Aim:** C<br>**QI Teams:** CHEWs , community health development agents, TBAs, pregnant women, families, | Evidence on supporting close-to-community providers through existing community networks and facility staff | Post hoc descriptive case study and qualitative interviews | No | Evaluated ANC registration, household visit rates, HIV testing rates.<br>Facilitators: community team members were able to use their own social networks and could educate them on the importance of HIV testing and retention in care.<br>The community team provided a platform for CTC providers and facility staff to engage regularly, build a relationship, and thus enhancing facility staff recognition by CTC providers.<br>The formal and informal networks the model draws upon may be stronger in rural communities a than in urban settings<br>Need sufficient resources to form and build community teams |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | community elders, CBOs, local administrators | | | | Health facility representatives planned for QI teams but did not take part |
| Ethiopia (Sibley *et al.*, 2014; Stover *et al.*, 2014; Tesfaye *et al.*, 2014)<br>1 project | Maternal and newborn health | **Aim:** C<br>**QI Teams:** CHEWs, CH agents, TBAs, pregnant women, families, community elders, CBOs, local administrators | Assess the extent to which QI programme developed improvement capacity and improved maternal and newborn health | Surveys and verbal autopsy and qualitative interviews | No | Coverage of maternal and newborn healthcare; perinatal outcomes<br>Training-related outcomes knowledge of QI concepts<br>Facilitators: importance of building organizational culture (at all levels) and leadership to create an environment that enables improvement through engagement of all stakeholders – requires facilitative supervision, representative community teams, data for decision-making, locally developed solutions, a commitment to improving health of women and newborns, and a supportive environment.<br>Multi-level intervention: community/ facility and district (woreda)<br>Health facility representatives planned for QI teams but did not take part |

# Appendix D Scoring Criteria for 'Well-functioning' and 'Poorer-functioning' Teams

| | |
|---|---|
| **QI Team** | |
| **Score** | |

SQALE aimed to embed QI approaches into community health services, ensuring data were collected, analysed and used by QI teams to generate local solutions to local health issues. The team approach was designed to create opportunities to discuss, review, plan and implement local improvements, fostering local monitoring and evaluation, management and ownership. The extent to which these were being achieved were reflected in the criteria for well- and poorer-functioning teams.

A range of functions were considered and scored.

**Scores for 'well- and 'poorer- performing' teams**

Scores for well-performing teams clustered around 3.0 – 4.5. Scores for poorer-performing teams clustered between 2.5 – 3.5. Given the newness of the approach teams were not expected to be scoring 5 points. However, a few teams met some criteria from higher level scores and this was reflected in their final score.

**Process of how scoring was applied**

1. Boxes were marked with a tick (✓) against criteria that a QI team met. For example, if a team was implementing their change plan and most team members were engaging regularly; visual data displays were being used then the team scored 3.5.
2. The same QI team may be supporting other community health units /sub-county QI teams in implementing similar changes e.g. through training. This was noted and the team was scored slightly higher since this criteria came from level 4.5. The team would be scored as 4, since they were not meeting all the criteria required in 4.5.

3. A team's knowledge and use of specific QI techniques covered during training were considered as part of reflections on team functionality. For example, problem solving techniques and/ or QI tools, including brainstorming techniques designed to reveal root causes of local problems (e.g. 'Fish bone' analysis, 'Why, why, why' approaches); PDSA cycles and whether data was used for decision-making. SQALE project staff worked regularly with QI teams and were able to add their insights based on work with QI teams in the field. At learning events I attended in Nairobi I was able to see teams working together and view their meeting records. At interview meeting records were checked.

4.

**QI Team Scoring Sheet**

| Score | Description | ✓ | Criteria |
|---|---|---|---|
| **1.0** | **Team formed** | | QI team had been formed and terms of reference signed by all members |
| | | | First QI team meeting has taken place (with minutes of meeting) |
| **1.5** | **Basic routine monitoring of quality and performance of community health service** | | QI team held on a monthly basis (minutes of meetings) |
| | | | Community health service programme data is reviewed at QI team meetings (MoH 100, MoH 514, MoH 515) |
| | | | Data quality assessment tool administered on a quarterly basis, community follow-up tool administered/summarised on 6-monthly basis |
| **2.0** | **Planning for improvement has begun** | | Analysis of community health service programme data with partial participation of team members |
| | | | Team had knowledge of specific QI techniques e.g. problem solving techniques and/ or QI tools, including brainstorming techniques designed to reveal root causes of local problems (e.g. 'Fish bone' analysis, 'Why, why, why' approaches); PDSA cycles and used these to develop change plans. |
| | | | Analysis of community follow-up data (bar graphs)<br>Analysis of data quality assessment data (scores calculated) |

| Score | Description | ✓ | Criteria |
|---|---|---|---|
| | | | QI Change plan developed using existing data with target set and SMART indicator/s defined for measuring change |
| **2.5** | **Implementing change plan, but not yet full team engagement** | | Testing changes in QI change plan with some engagement of QI team members, efforts mainly driven by QI team leader or other team members |
| | | | Data on key measures is being collected, analysed and reported using some visual display of data |
| | | | Team lacks confidence in how to respond to the data.<br>Team have not reviewed and /or updated change plan based on data |
| **3.0** | **Implementing change plan and good engagement of most team members but not on a regular basis** | | Testing changes in QI change plan, with increasing engagement of QI team members, efforts still mainly driven by QI team leader or other team members |
| | | | Data on key measures is being collected, analysed and reported using some visual display of data e.g. bar graphs and run charts (simple line graphs of data assessing the effectiveness of change over time) |
| | | | Some improvement in team's ability to respond to the data. QI team has reviewed/modified change plan based on data |
| | | | Some QI team members able to describe what changes are being made and the impact of these changes (both positive and negative) |

| Score | Description | ✓ | Criteria |
|---|---|---|---|
| **3.5** | **Implementing change plan and most team members engage regularly** | | Change ideas reviewed and implemented with good engagement of some but not all QI team members |
| | | | Data on key measures is being collected, analysed and reported using regular visual display of data |
| | | | Evidence of moderate quality improvement with two to three months of data showing change from baseline |
| | | | QI team members able to describe what changes are being made and the impact of these changes (both positive and negative) |
| **4.0** | **All team members actively engaging and additional quality problems identified** | | All QI team members actively engaged in QI |
| | | | Team identifies and analyses additional quality problems and develops new change plans |
| | | | Data on key measures is being collected, analysed and reported using visual display of data |
| | | | Sharing of improvement work and results in county, sub-county or link facility meetings |
| **4.5** | **Some signs of sustaining improvements and all team members engaging on a regular basis** | | All QI team members actively engaged in QI with evidence that they see QI as integral to their work (time allocated to QI work) |
| | | | Team identifies and analyses additional quality problems and develop new change plans with minimal support from QI coach |

Appendix D Scoring Criteria for 'Well-functioning' and 'Poorer-functioning' Teams

| Score | Description | ✓ | Criteria |
|---|---|---|---|
| | | | Data on key measures is being collected, analysed and reported using visual display of data |
| | | | QI team supports other community health units /sub-county QI teams in implementing similar changes |
| **5.0** | **Evidence of efforts to sustain results** | | Strong commitment from QI team to sustain their work, evidenced by annual QI plan and systems/processes to embed QI team structure |
| | | | QI team is involved in spreading their work to new sub-counties / community health units |

# Appendix E Sample Participant Information Sheet and Consent Form

**Participant Information Sheet and Consent Form for Focus Group Discussion at Sub County and Community Level Quality Improvement Teams**

**Study title**: Teams and Teamworking: a qualitative exploration of functionality of quality improvement teams for Community Health Services in Kenya

**Introduction**

Good morning/ afternoon. My name is …….. I am here with the Liverpool School of Tropical Medicine (LSTM), UK to know more about how you implement quality approaches for community health. I would like to explain the study.

**Purpose**

This study wants to learn from you about supporting quality improvement in community health. We would like to discuss your direct experiences of quality improvement in community health, your experiences with the SQALE programme (SQALE: Sustaining quality approaches for locally embedded community health services) and more specifically the quality improvement team, of which you are a part.

You are asked to take part in a focus group discussion with approximately eight participants. This is an organised group discussion involving other members of your own quality improvement team. The discussion will take 1.30 – 1.45 hours and will provide an opportunity for all team members to participate and give their opinions. In the discussion, you are asked to speak in front of others. The discussion will take place in a private room where only those within the room will hear your responses. Your views, opinions and experiences are important to find out how to improve community health services in the future.

**Voluntary participation and withdrawing from study**

Your participation in this research is entirely voluntary. You do not have to participate if you do not wish to. If you choose to take part you are free to refuse to respond to any questions you do not wish to answer. You can stop the interview at any time and withdraw, without giving a reason. If you decide to withdraw or choose not to participate, this will not affect your work or career. However, we hope you will participate since your views are important.

**Benefits of participation**

You will not benefit personally from being involved in this research study. However the results will help to improve community health services in in the future.

You will be provided with reimbursement for refreshment to thank you for your participation. For those travelling for this interview we will provide refreshment and transport reimbursement in line with LVCT Health standard policies.

**Risks**

Should you face any discomfort as a result of the questions asked, you are free to excuse yourself at any time and will be referred to a person you can talk to. Also with your consent, I can re-schedule the interview to another time.

**Confidentiality**

If you do choose to take part, your name will only be recorded on the consent form, which will be kept locked and stored separately from the discussion data. From the discussion data no one will be able to identify what exactly we discussed. To make sure information is captured correctly the conversation will be recorded on a tape recorder in addition to taking notes. Your name will not be mentioned in relation to anything that will be said, written down or taped. Tapes will be kept in locked drawers only researchers have access to and will be destroyed after the researchers have checked the written text with the recorded text. Apart from the research team, only you will have the right to access the data you provide in order to check its accuracy and correct any errors.

In the focus group discussion, you are asked to speak in front of others. Other participants in the group will hear what you say and they may not keep this confidential. Therefore, we ask all participants not to share personal information and urge all participants not to discuss the contents of the discussion outside the group.

**Procedures**

The focus group will be conducted in a private space where nobody, except those in the group, can hear what is said.

If you agree to participate, you will be asked to sign two copies of this consent form and hand a copy back to us.

You are free to ask any questions before signing the consent form I am giving you.

For further details, or if you have any questions or want to file a complaint about the research you may contact:

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**Ethics committee in Kenya – The AMREF Health Africa [AMREF - African Medical Research Foundation], Ethics and Scientific Review Committee (ESRC)**

The Secretary, **AMREF Health Africa**

Langata Road, P.O Box 27691 - 00506, Nairobi, Kenya.

Tel: +254 20 6993000 Fax: +254 20 609518

Email: esrc.kenya@amref.org

**CONFIDENTIAL**

**Consent**

Have you any questions you would like to ask?

Are there any things you would like to be explained further?

If you do not want to take part in this interview you can refuse to do so, you can refuse to answer any questions, or decide to stop the interview at any time. Remember, you will not be penalised in any way if you refuse to participate.

**DECLARATION: To be signed by the respondent giving consent**

The purpose of the focus group discussion has been explained to me and I agree to participate and for the focus group discussion to be recorded.

**A: Participant's Section**

_____

Name

_____

Signature Date

**B: Interviewer's Section**

_____

Name

_____

Signature Date

# Appendix F Data Gathering Tools: Tool 1 - 4

**TOOL 1: KEY INFORMANT INTERVIEW GUIDE NATIONAL LEVEL**

**Guidance Note**

What is this tool? This tool is designed to be used as part of key informant interviews to guide the interview.

Objectives

(i) To explore team composition and the perceived roles and responsibilities for QI for community health
(ii) To explore the barriers and facilitators to teamworking for community level in the devolved Kenyan health system across different levels of community health service provision

Who is it for? The tool is designed for stakeholders who are very familiar with community health and QI. KIIs will include: policy makers and other representatives from national level in Kenya and programme partners such as UNICEF and other experts in community heath and QI.

How will it be used? The tool will be used in KIIs. It is planned that the majority of KIIs will be conducted face-to-face. Where this is not possible, due to geographic location or cost, telephone or SKYPE will be used.

KIIs will be used to explore understanding of QI, perceived roles and responsibilities for QI for community health and define the key components in establishing and supporting QI teams. Barriers and facilitators to QI teams across different levels of community health service provision will also be explored and perceptions of the QI team concept as a whole and how it might perform relative to other QI approaches.

Sampling of respondents will be purposive to ensure the most relevant persons with the best understanding of QI for community health and QI perspectives, participate.

**TOOL 1: KEY INFORMANT INTERVIEW GUIDE NATIONAL LEVEL**

Date Code

Time interview started:

Time interview ended:

Duration minutes

Name of moderator: Sign:

Name of recorder: Sign:

Name of Transcriber: Sign:

Interviewee Designation *(circle appropriate designation):*

Community health, from Kenya: *Government* *Programme partner/ other*

Sector:

Place (where interview takes place): General comments and observations:

**Question 1: Background and what QI means**

a) I would like to confirm details of your current position in relation to **community health**/ quality improvement.

**Probe:** *length of experience, roles e.g. (planner, policy maker), parts of Kenya where worked in community health/ QI. Much of this information will be gathered in advance as part of purposive sampling. Here these details will be checked and amendments noted.*

b) Can you describe your experience of quality improvement?

***Probe*****:** *Can you say a bit more about that (probe for examples and details)*

c) What kind of things do you do to improve community health?

- ***How does quality improvement in community health fit with your current work? Is this under SQALE specifically? More widely?***
  - *How many programme partners are you currently working with for community health? How many of these are on QI? (**Probe:** Topic area?)*

***For those working with more than one QI approach:***

- *How many QI approaches are you working with? (**Probe:** Topic area?) Who's working with you on that the same WIT members or others?*
- *What's it like for you implementing more than one QI approach? How do you deal with this in practice? Can you say a bit more about that?*

d) From your own experience of quality improvement, in community health, what does quality improvement 'look like' when its working well?

***Probe:*** *for example, what factors need to be in place and functioning in the wider context, in the health system (or context in which you operate) and any programme specific factors?*

***Probe:*** Do you consider all factors to be equally relevant or are there some factors which are critical to QI and without which QI won't function?

***Probe:*** *Is* there any critical order in which these factors must occur?

***Probe:*** Is there any synergy between these factors?

**Question 2: Perceived roles and responsibilities for quality improvement for community health**

a) What are your specific roles and responsibilities for QI in community health in Kenya, as you see them?

***Probe****: leadership, policy, strategy, funder?*

*b) i) How does your role link to other levels national, county, sub county, community*
ii) How (*if at all*) do the roles and responsibilities differ at different levels?

**Question 3: Key factors in establishing and supporting a QI team**.

a) What does a functional QI team 'look like'?

b) What are the key components of establishing a **functional** QI team. For example for sub-county and community levels?

***Probe:*** *how is the team operating* when it's a functional team? – *how often should they meet, is there a team leader/ rotating chair? What's the best team composition – mix of males/ females/ different grades of staff? Includes members of the community? How are team members selected? How is the team supported - training, mentoring?*

***Probe:*** *are there differences between community and QI teams? In terms of any of the factors discussed?*

***Probe:*** *how is the team operating in relation to other QI teams? - are there opportunities for meeting or learning across teams?*

***Probe:*** *how is the team operating in relation to their wider context? – meets regularly with service users?*

- **What *(if anything)* motivates team members to take part in work improvement teams?**

*Let these emerge rather than probing:*

- *You, have to do it, it's part of your job?*
- *Support from colleagues in your WIT? Tell me more about this?*
- *Support from elsewhere? (**Probe**: additional resources, paid an allowance for attending meetings?*
- *Anything else? (**Probe**: job satisfaction, new skills, gain confidence, new role, sense of purpose? Other?)*

c) What role *(if any)* does leadership play in establishing and supporting QI teams and programmes?

**Probe:** what aspects are important for QI team function and why?

**Probe:** how can leadership be developed?

**Probe:** how does one identify QI champions?

d) What role *(if any)* do financial incentives such as per diems, allowances for attending meetings play in QI team functionality?

**Probe:** what aspects are important for QI team function and why?

e) I would like to explore your thoughts on the QI team concept, as a whole, and how it might perform relative to other QI approaches with which you are familiar?

***Probe:*** *tell me more about this?*

***Probe:*** *can you give examples?*

**Question 4: Barriers and facilitators to establishing and supporting QI teams and QI programmes for community health**

a) From your own experience of QI teams in community health, when QI is working well what are the factors which are in place or facilitating QI team functionality?

***Probe:*** *for example, what factors are present/ fully functional in the wider context, in the health system and programme specific factors? - leadership, financial incentives, measuring QI functionality, training, mentoring*

***Probe:*** do you consider all facilitators to be equal in terms of their impact on QI team function?

***Probe:*** is there any critical order in which these factors normally begin to act as facilitators?

***Probe:*** is there any synergy between these factors?

b) From your own experience of QI teams in community health, when QI teams are not working well what are the barriers, the factors which are missing or not fully functioning?

***Probe:*** *for example, what factors are missing/ not fully functional in the wider context, in the health system and programme specific factors - leadership, financial incentives, measuring QI functionality, training, mentoring*

***Probe:*** Do you consider all barriers to be equal in terms of their impact on QI team function?

***Probe:*** Is there any critical order in which these factors normally begin to act as barriers?

***Probe:*** Is there any synergy between these factors?

c) What changes would you expect to see if a QI team is functioning well?

***Probe:*** *at a systems level - referral systems? data?*

***Probe:*** *for individual health workers - staff motivation, staff engagement, leadership, decision making?*

***Probe:*** *for service users - quality of services? Community involvement in QI?*

***Probe:*** *what is the most important change of those identified?*

d) How would you know if these changes had occurred?

***Probe:*** *methods used to assess change has occurred?*

***Probe:*** *More specifically for those working on SQALE* **-** Are you familiar with the QI maturity Index? (This is instrument which SQALE uses to track progress for WIT teams) - *What are your reflections on this tool? Are there any other methods or tools which you believe would be more useful?*

e) How critical are QI teams to establishing and maintaining quality improvement as a part of the health system?

**Probe:** *What are the specific roles and responsibilities of the QI team in this regard?*

**Probe:** *What are the specific roles and responsibilities of others in the health system, in this regard?*

f) What would you consider to be most critical in helping to establish and maintain quality improvement as a part of the health system?

***Probe:*** *QI teams, leadership, financial incentives e.g. money and allowances and budgeting for QI teams? Any other factors?*

**Question 4: <u>Suggestions</u>**

From your own experience do you have any further suggestions on establishing and maintaining QI quality improvement for community health?

***Probe:*** *Are there any tools which you believe would be useful?*

***Finally,*** *Is there anything about the way in which this improvement team approach was delivered or implemented which we haven't discussed, and which you think is important?*

**Interview Tool 2: Semi Structured Interview**

**Guidance Note**

What is this tool?

This tool is designed to be used as a focus group discussion guide

Objective

(iii) To explore team composition and the perceived roles and responsibilities for QI for community health
(iv) To explore the barriers and facilitators to teamworking for community health in the devolved Kenyan health system

Who is it for?

This tool is aimed at representatives from sub-county QI teams in Kenya from intervention counties.

How will it be used?

The tool will be used as part of FGD exploring perceived roles and responsibilities for QI for community health and to define the key components of a QI team at community QI team level. Barriers and facilitators to teamworking across different levels of community service provision will similarly be explored.

These interviews will be conducted by the Principal Investigator and Research Assistants.

Purposive sampling methods will be adopted. Participants will be recruited community level in two intervention counties, representing well-functioning and poor functioning QI team.

**Interview Tool 2: Semi Structured Interview**

Date Code: FGD 2018.

Time interview started:

Time interview ended:

Duration minutes

Name of moderator: Sign:

Name of recorder: Sign:

Name of Transcriber: Sign:

Interviewee Designations *(see list next page)*

Place *(where interview takes place) e.g. link facility:*

General comments and observations:

Interviewee Designation:

| **F/ M** | **Role in health system** e.g. manger, nurse, CHA, CHW | **No. yrs. /months in role** | **Role in QI team** e.g. team lead/ team member, QI coach | **No. months in role** | **Level Education Completed** |
|---|---|---|---|---|---|
| | | | | | |

County and Sub county in Kenya*:* _____

_____

Place *(where interview takes place) e.g. link facility:*

General comments and observations:

**Interview Tool 2: Semi Structured Interview**

SSI with sub-county Quality Improvement (QI) team member

| Theme | Questions/ Probes |
|---|---|
| 1. Insight into day-to-day work and perceived roles and responsibilities for improvement of community health services | • Tell me about the work of the sub-county QI team?<br>  • What kind of things do you do to improve community health?<br>  • How do you do them?<br>  • What do you feel most proud of? |
| 2. The key factors in establishing and supporting a QI team and teamworking. | • I'd like to move on now and talk a little more about **teamworking** in **a QI team**.<br><br>How well do you work as a team?<br>  ○ What has gone well?<br>  ○ What has not gone so well?<br>  ○ Thinking about your community QI approach–which bits of the QI approach have you used or left out? (partially or in full)? (Probe: *Can you tell me more about that?)*<br><br>• Have you been in a QI team like this before?<br>  ○ Tell me more about that?<br>  ○ How does this compare that?<br>  ○ Did you take-up or reject the approach previously? (*Probe: tell me about that?)*<br><br>• Is QI difficult to do? Can community level do it? *(Probe: tell me about this)* |

Optional to encourage participant to engage. Tell me all the things that have to be in place for this team to do its job really well. (*Probe: Are these static? Or might these change over time? How might they change? What (if any) differences are there between theory and the practice?)*

**Probes: Consider various steps in QI process.**

- choosing the problem statement, working on the problem statement, team members, division of tasks, knowledge, support, measuring progress? E.g. *How easy has it been to address the problem statement with your team? Tell me about that?*
- *Who do you turn to (or who's around) to support you in improving the quality of community health? (Probe: Peers? Team leader? Anyone else? Or anything else–guidelines, tools, other resources?)*

- What *(if anything)* motivates you to take part in your QI team?

3. Barriers and facilitators to QI team and teamworking

- **I'd like to talk more about your experience of being part of this QI team. What might have made this process easier?**

***Note**: Link back to question 2 and pick on some issues raised – e.g. tell me about training? Can you think of anything that would have made it easier **for you**? Easier for **your QI team?***

- Tell me about implementing your change plans as a QI team in practice. What went well? What could have been improved?
- *What about coaching? Can you say more about that? What was it like? Did anything make it easy? Difficult?*
  - *Who does the coaching?* How frequently? How do you feel about this?
  - Can you think of anything that would make this easier?
- **Tell me about the coaching you do (if any)?** *Can you say more about that? What was it like?* How frequently do you do this? *Did anything make it easy? Difficult?*

- ***The sub county QI team** is a mixed team with CHEWs and sub county focal persons for QI, Health Records Information Officers etc]. Had you met as a team like this before the community QI programme?*

***If no:*** *What was it like to meet as a team? The positives, the challenges?*

***If yes:*** *Was this a regular meeting? What was the purpose? Does this meeting still exist in addition to your QI meeting?*

- **Monitoring progress in QI**
  - How do you measure progress towards achieving you change idea?
  - *Who does this monitoring? How frequently? (**Probe:** What (if anything) does this mean for you? Helpful/ unhelpful to your work? Why do you say this?)*
  - Can you think of anything that would make this easier?

- Thinking about the whole community QI process, can you think of anything that would make any of these different steps easier? *(**Probe:** support from peers, your manger, the community, guidelines, tools? What about support from your manager, the QI coach, the community?)*

  - *Tell me the best and worst thing about being involved the QI team?*

**End of SQALE programme and sustainability:**

- *What will happen to the QI team when the SQALE community QI programme closes?*
- *Is the QI team something which needs to continue after the programme closes? (Probe: Is it the QI team or other QI techniques/approaches that should continue?)*
  - *So what are your thoughts should the QI team continue?*

- *If the QI team does not continue, is there anything which could exist outside the team format that you would continue? Tell me more about that?*

- What would you consider to be the most critical change required in helping QI teams to establish and maintain QI into routine delivery of community health services?

| | |
|---|---|
| | ***Suggestions for the future:***<br>• What would you say to other counties who were thinking of starting team approaches to improving community health?<br>• *Would you recommend the QI team approach to others? Who? And why? Or why not? (Probe: in which context do you think it might not be best? Why?)*<br>• If you had to think of three top tips in relation to getting others involved in QI teams what would they be? |
| 4. Early impact and drawing to a close | • Has anything changed since being part of the QI team for You? Your team? Your clients? *Can you tell me more about this?*<br>• How has involvement in the QI team affected you?<br>○ *What difference has it made to your work (if any)?*<br>○ *What difference has it made to your clients (if any)?*<br>• *Tell me the best thing about it?*<br>• *Are there any downsides to being involved in the QI team?*<br>○ Any change including: to other work, for clients served?<br>• Can you describe any alternative explanations for the impacts described?<br>***Finally,*** *Is there anything about the way in which this QI team approach was delivered or implemented which we haven't discussed, and which you think is important?* |

**TOOL 3 Focus Group Interview Tool:**

**Sub-county QI Teams Members**

**Guidance Note**

What is this tool?

This tool is designed to be used as a focus group discussion guide

Objective

(v) To explore team composition and the perceived roles and responsibilities for QI for community health
(vi) To explore the barriers and facilitators to teamworking for community health in the devolved Kenyan health system

Who is it for?

This tool is aimed at representatives from sub-county QI teams in Kenya from intervention counties.

How will it be used?

The tool will be used as part of FGD exploring perceived roles and responsibilities for QI for community health and to define the key components of a QI team at community QI team level. Barriers and facilitators to teamworking across different levels of community service provision will similarly be explored.

These interviews will be conducted by the Principal Investigator and Research Assistants.

Purposive sampling methods will be adopted. Participants will be recruited community level in two intervention counties, representing well-functioning and poor functioning QI team.

**TOOL 3 FGD Guide for Sub County Level**

Date .2018 Code: FGD 2018.

Time interview started:

Time interview ended:

Duration minutes

Name of moderator: Sign:

Name of recorder: Sign:

Name of Transcriber: Sign:

Interviewee Designations *(see list next page)*

Place *(where interview takes place) e.g. link facility:*

General comments and observations:

**TOOL 3: Focus Group Discussion Tool for Sub-county QI Team Members**

Take consent using consent form

Explain process for the focus group discussion

Fill in information and recording sheet

**Complete the Name of Sub county:**_____

**and community** *(if applicable):* _____

| **Seated**<br><br>**Left to Right** | **F/ M** | **Role in health system** e.g. manger, nurse, CHEW, CHV | **No. yrs. /months in role** | **Role in QI team**<br><br>*e.g. team lead/ member, coach* | **No. months in role** | **Level Education Completed** |
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Interview Tool 3: Focus Group Discussion

FGD with sub-county Quality Improvement (QI) teams

| Theme | Questions/ Probes |
|---|---|
| 1.Insight into day-to-day work and perceived roles and responsibilities for improvement of community health services | • Tell me about the work of this QI team?<br>  • What kind of things do you do to improve community health?<br>  • How do you do them?<br>  • What do you feel most proud of? |
| 2.The key factors in establishing and supporting a QI team and teamworking. | • I'd like to move on now and talk a little more about **<u>teamworking</u>** in **a QI team**.<br><br>How well do you work as a team?<br>  ○ What has gone well?<br>  ○ What has not gone so well?<br>  ○ Thinking about your community QI approach–which bits of the QI approach have you used or left out? (partially or in full)? (Probe: *Can you tell me more about that?)*<br>• Has anyone ever been in a QI team before?<br>  ○ Tell me more about that?<br>  ○ How does this compare that?<br>  ○ Did you take-up or reject the approach previously? (*Probe: tell me about that?)*<br><br>• Is QI difficult to do? Can community level do it? *(Probe: tell me about this)* |

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| | Optional to encourage participants to engage. Tell me all the things that have to be in place for this team to do its job really well. (*Probe: Are these static? Or might these change over time? How might they change? What (if any) differences are there between theory and the practice?)*<br><br>**Probes: Consider various steps in QI process.**<br>○ choosing the problem statement, working on the problem statement, team members, division of tasks, knowledge, support, measuring progress? E.g. *How easy has it been to address the problem statement with your team? Tell me about that?*<br>○ *Who do you turn to (or who's around) to support you in improving the quality of community health? (Probe: Peers? Team leader? Anyone else? Or anything else–guidelines, tools, other resources?)*<br><br>• What *(if anything)* motivates you to take part in your QI team? |
| 3. Barriers and facilitators to QI team and teamworking | • **I'd like to talk more about your experience of being part of this QI team. What might have made this process easier?**<br>***Note**: Link back to question 2 and pick on some issues raised – e.g. tell me about training? Can you think of anything that would have made it easier **for you**? Easier for **your QI team?***<br><br>• Tell me about implementing your change plans as a QI team in practice. What went well? What could have been improved?<br>• *What about coaching? Can you say more about that? What was it like? Did anything make it easy? Difficult?*<br>○ *Who does the coaching?* How frequently? How do you feel about this?<br>○ Can you think of anything that would make this easier?<br>• **Tell me about the coaching you do (if any)?** *Can you say more about that? What was it like?* How frequently do you do this? *Did anything make it easy? Difficult?*<br><br>• ***For sub county FGDs** [You are a mixed team with CHEWs and sub county focal persons for QI, Health Records Information Officers etc]. Had you met as a team like this before the community QI programme?*<br>***If no:** What was it like to meet as a team? The positives, the challenges?* |

***If yes:*** *Was this a regular meeting? What was the purpose? Does this meeting still exist in addition to your QI meeting?*

- **Monitoring progress in QI**
  - How do you measure progress towards achieving you change idea?
  - *Who does this monitoring? How frequently? (**Probe:** What (if anything) does this mean for you? Helpful/ unhelpful to your work? Why do you say this?)*
  - Can you think of anything that would make this easier?

- Thinking about the whole community QI process, can you think of anything that would make any of these different steps easier? *(**Probe:** support from peers, your manger, the community, guidelines, tools? What about support from your manager, the QI coach, the community?)*

  - *Tell me the best and worst thing about being involved the QI team?*

**End of SQALE programme and sustainability:**

- *What will happen to the QI team when the SQALE community QI programme closes?*
- *Is the QI team something which needs to continue after the programme closes? (Probe: Is it the QI team or other QI techniques/approaches that should continue?)*
  - *So what are your thoughts should the QI team continue?*
- *If the QI team does not continue, is there anything which could exist outside the team format that you would continue? Tell me more about that?*
- What would you consider to be the most critical change required in helping QI teams to establish and maintain QI into routine delivery of community health services?

***Suggestions for the future:***

- What would you say to other counties who were thinking of starting team approaches to improving community health?

| | |
|---|---|
| | • *Would you recommend the QI team approach to others? Who? And why? Or why not? (Probe: in which context do you think it might not be best? Why?)*<br><br>• If you had to think of three top tips in relation to getting others involved in QI teams what would they be? |
| 4. Early impact and drawing to a close | • Has anything changed since being part of the QI team for You? Your team? Your clients? *Can you tell me more about this?*<br>• How has involvement in the QI team affected you?<br>○ *What difference has it made to your work (if any)?*<br>○ *What difference has it made to your clients (if any)?*<br>• *Tell me the best thing about it?*<br>• *Are there any downsides to being involved in the QI team?*<br>○ Any change including: to other work, for clients served?<br>• Can you describe any alternative explanations for the impacts described?<br><br>***Finally,*** *Is there anything about the way in which this QI team approach was delivered or implemented which we haven't discussed, and which you think is important?* |

**TOOL 4: Focus Group Interview Tool:**

**Community QI Teams Members**

**Guidance Note**

What is this tool?

This tool is designed to be used as a focus group discussion guide

Objective

(vii) To explore team composition and the perceived roles and responsibilities for QI for community health

(viii) To explore the barriers and facilitators to teamworking for community level in the devolved Kenyan health system

Who is it for?

This tool is aimed at representatives from community QI teams in Kenya from intervention counties. FGD participants will be from s community QI teams in Kenya

How will it be used?

The tool will be used as part of FGD exploring perceived roles and responsibilities for QI for community health and to define the key components of a QI team at community QI team level. Barriers and facilitators to teamworking across different levels of community service provision will similarly be explored.

These interviews will be conducted by the Research Assistants.

Purposive sampling methods will be adopted. Participants will be recruited from community level in two intervention counties, representing well-functioning and poor functioning QI team.

**TOOL 4: FGD Guide with Community QI team**

Date .2018 Code: FGD 2018.

Time interview started:

Time interview ended:

Duration minutes

Name of moderator: Sign:

Name of recorder: Sign:

Name of Transcriber: Sign:

Interviewee Designations *(see list next page)*

Place *(where interview takes place) e.g. link facility:*

General comments and observations:

**TOOL 4: Focus Group Discussion**

Take consent using consent form

Explain process for the focus group discussion

Fill in information and recording sheet

**Complete the Name of Sub county:**_____

**and community** *(if applicable):* _____

| **Seated**<br><br>**Left to Right** | **F/ M** | **Role in health system** e.g. manger, nurse, CHEW, CHV | **No. yrs. /months in role** | **Role in QI team**<br><br>*e.g. team lead/ member, coach* | **No. months in role** | **Level Education Completed** |
|---|---|---|---|---|---|---|
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**Interview Tool 4: Focus Group Discussion**

FGD QI team h community Quality Improvement (QI) teams

| Theme | Questions/ Probes |
|---|---|
| 1. Insight into day-to-day work and perceived roles and responsibilities for improvement of community health services | • Tell me about the work of this QI team?<br>• What kind of things do you do to improve community health?<br>• How do you do them?<br>• What do you feel most proud of? |
| 2. The key factors in establishing and supporting a QI team and teamworking. | • I'd like to move on now and talk a little more about **teamworking** in **a QI team**.<br><br>How well do you work as a team?<br>○ What has gone well?<br>○ What has not gone so well?<br>○ Thinking about your community QI approach–which bits of the QI approach have you used or left out? (partially or in full)? (Probe: *Can you tell me more about that?)*<br><br>• Has anyone ever been in a QI team before?<br>○ Tell me more about that?<br>○ How does this compare that?<br>○ Did you take-up or reject the approach previously? (*Probe: tell me about that?)*<br><br>• Is QI difficult to do? Can community level do it? *(Probe: tell me about this)* |

| | | |
|---|---|---|
| | | Optional to encourage participants to engage. Let's brainstorm (on post it notes) all the things that have to be in place for this team to do its job really well. (*Probe: Are these static? Or might these change over time? How might they change? What (if any) differences are there between theory and the practice?)*<br><br>**Probes: Consider various steps in QI process.**<br>○ choosing the problem statement, working on the problem statement, team members, division of tasks, knowledge, support, measuring progress? E.g. *How easy has it been to address the problem statement QI team h your team? Tell me about that?*<br>○ *Who do you turn to (or who's around) to support you in improving the quality of community health? (Probe: Peers? Team leader? Anyone else? Or anything else–guidelines, tools, other resources?)*<br><br>• What *(if anything)* motivates you to take part in your QI team? |
| 2. | Barriers and facilitators to QI team and teamworking | • **I'd like to talk in more about your experience of being part of this QI team. What might have made this process easier?**<br>***Note**: Link back to the brainstorming and pick on some of the post it notes – e.g. tell me about training? Can you think of anything that would have made it easier **for you**? Easier for **your QI team?***<br><br>• Tell me about implementing your change plans as a QI team in practice. What went well? What could have been improved?<br>• *What about coaching? Can you say more about that? What was it like? Did anything make it easy? Difficult?*<br>○ *Who does the coaching?* How frequently? How do you feel about this?<br>○ Can you think of anything that would make this easier?<br><br>• ***For community FGDs** [You are a mixed team QI team h CHVs/ link facility staff and CHEWs]. Had you met as a team like this before the community QI programme?*<br>***If no:** What was it like to meet as a team? The positives, the challenges?* |

***If yes:*** *Was this a regular meeting? What was the purpose? Does this meeting still exist in addition to your QI team meeting?*

- **Monitoring progress in QI**
  - How do you measure progress towards achieving you change idea?
  - *Who does this monitoring? How frequently? (**Probe:** What (if anything) does this mean for you? Helpful/ unhelpful to your work? Why do you say this?)*
  - Can you think of anything that would make this easier?

- Thinking about the whole community QI process, can you think of anything that would make any of these different steps easier? *(**Probe:** support from peers, your manger, the community, guidelines, tools? What about support from your manager, the QI coach, the community?)*

  - *Tell me the best and worst thing about being involved the QI team?*

**End of SQALE programme and sustainability:**

- *What will happen to the QI team when the SQALE community QI programme closes?*
- *Is the QI team something which needs to continue after the programme closes? (Probe: Is it the QI team or other QI techniques/approaches that should continue?)*
  - *So what are your thoughts should the QI team continue?*

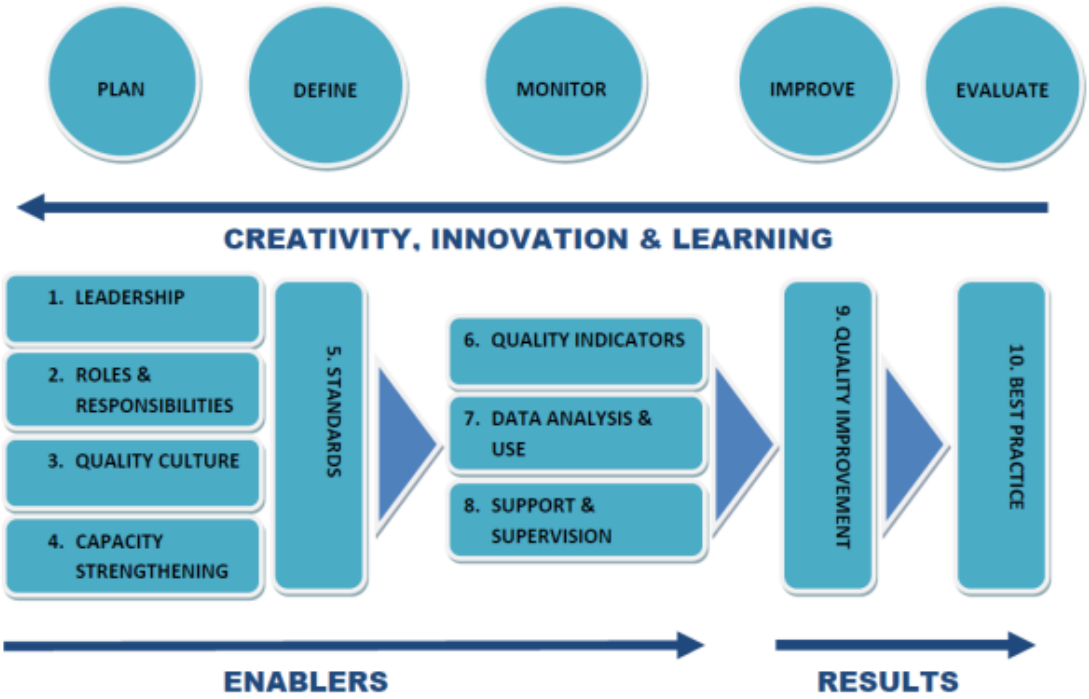
- *If the QI team does not continue, is there anything which could exist outside the team format that you would continue? Tell me more about that?*
- What would you consider to be the most critical change required in helping QI teams to establish and maintain QI into routine delivery of community health services?

***Suggestions for the future:***

| | | |
|---|---|---|
| | | • What would you say to other counties who were thinking of starting team approaches to improving community health?<br>• *Would you recommend the QI team approach to others? Who? And why? Or why not? (Probe: in which context do you think it might not be best? Why?*<br>• If you had to think of three top tips in relation to getting others involved in QI teams what would they be? |
| 3. | Early impact and drawing to a close | • Has anything changed since being part of the QI team for You? Your team? Your clients? *Can you tell me more about this?*<br>• How has involvement in the QI team affected you?<br>o *What difference has it made to your work (if any)?*<br>o *What difference has it made to your clients (if any)?*<br>• *Tell me the best thing about it?*<br>• *Are there any downsides to being involved in the QI team?*<br>o Any change including: to other work, for clients served?<br>• Can you describe any alternative explanations for the impacts described?<br>***Finally,*** *Is there anything about the way in which this QI team approach was delivered or implemented which we haven't discussed, and which you think is important?* |

# Appendix G WHO Framework Influencing SQALE Design

The original design for SQALE was heavily influenced by, the WHO framework to improve HIV counselling and testing (Doyle and Taegtmeyer, 2010). The framework is based on a five-step process whereby services plan, define, monitor, improve, and evaluate interventions to solve locally defined challenges, and includes improving data quality and using data for decision-making, an approach used by SQALE.




Reference http://www.who.int/hiv/pub/vct/9789241500463/en/

Adapted from the WHO Framework to Improve HIV Counselling and Testing (Doyle and Taegtmeyer, 2010)

# Appendix H Ethics Approvals

Ethical approval was granted from a Kenyan and UK research ethics committees. In Kenya approval was granted from AMREF and in UK approval was obtained from LSTM. Official confirmation details of each approval are included here.

amref health africa

Amref Health Africa in Kenya

REF: AMREF – ESRC P371/2017

August 25, 2017

Lynne Elliott,
Liverpool School of Tropical Medicine,
LSTM, Pembroke Pl, Liverpool,
United Kingdom, L3 5QA.
Tel. No. +44(0)7735220607,
Email: Lynne.Elliott@lstmed.ac.uk

Dear Lynne Elliott,

**RESEARCH PROTOCOL: QUALITY IMPROVEMENT TEAMS FOR COMMUNITY HEALTH IN KENYA: A QUALITATIVE STUDY ON PERCEPTIONS OF FUNCTIONALITY, SUSTAINABILITY AND IMPACT**

Thank you for submitting your protocol to the Amref Ethics and Scientific Review Committee (ESRC).

This is to inform you that the ESRC has approved your protocol. The approval period is from August 25, 2017 to August 24, 2018 and is subject to compliance with the following requirements:

a) Only approved documents (informed consents, study instruments, advertising materials etc.) will be used.
b) All changes (amendments, deviations, violations etc.) are submitted for review and approval by Amref ESRC before implementation.
c) Death and life threatening problems and severe adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the ESRC immediately.
d) Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to Amref ESRC immediately.
e) Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period (attach a comprehensive progress report to support the renewal).
f) Clearance for export of biological specimen or any form of data must be obtained from Amref ESRC, NACOSTI and Ministry of Health for each batch of shipment/export.
g) Submission of an executive summary report within 90 days upon completion of the study. This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/or plagiarism.

Please do not hesitate to contact the ESRC Secretariat (esrc.kenya@amref.org) for any clarification or query.

Yours sincerely,

AMREF - ESRC
25 AUG 2017
P.O BOX 30125 - 00100, NAIROBI

fo

Prof. Mohamed Karama
Chair, Amref ESRC

**CC:** Dr. George Kimathi, Director Institute of Capacity Development, Amref Health Africa and Vice Chair Amref ESRC
Samuel Muhula, Monitoring & Evaluation and Research Manager, Amref Kenya

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Ms. Lynne Elliot
Liverpool School of Tropical Medicine
Pembroke Place
Liverpool
L3 5QA

Thursday, 31 August 2017

Dear Ms. Elliot

**Research Protocol (17-023) Quality Improvement Teams for Community Health in Kenya: A Qualitative Study on Perceptions of Functionality, Sustainability and Impact**

- Thank you for your letter of 29 August 2017 providing the necessary in-country approvals for this project. I can confirm that the protocol now has formal ethical approval from the LSTM Research Ethics Committee.

The approval is for a fixed period of three years and will therefore expire on 30 August 2020. The Committee may suspend or withdraw ethical approval at any time if appropriate.

Approval is conditional upon:

- Continued adherence to all in-country ethical requirements.
- Notification of all amendments to the protocol for approval before implementation.
- Notification of when the project actually starts.
- Provision of an annual update to the Committee.
  Failure to do so could result in suspension of the study without further notice.
- Reporting of new information relevant to patient safety to the Committee
- Provision of Data Monitoring Committee reports (if applicable) to the Committee

Failure to comply with these requirements is a breach of the LSTM Research Code of Conduct and will result in withdrawal of approval and may lead to disciplinary action. The Committee would also like to receive copies of the final report once the study is completed. Please quote your Ethics Reference number with all correspondence.

Yours sincerely

**Dr Angela Obasi**
**Chair**
**LSTM Research Ethics Committee**

# Glossary of Terms

**Community health services**

..... are delivered in the community to encourage the involvement and empowerment of communities to change health-related beliefs and behaviours, and improve access and uptake of preventative and curative health services (Haines *et al.*, 2007). They typically involve community health workers – both paid staff and volunteers

**Community health worker (CHW)**

**.....** *"[A]ny health worker carrying out functions related to health care delivery; trained in some way in the context of the intervention, and having no formal professional or paraprofessional certificate or degree in tertiary education"* (Lewin *et al.*, 2010, p. 7)

**Multi-level QI teams .....** Multi-level teams combine individuals from multiple levels of the community and formal health service - community, facility and sub-county. Multi-level teams attempted to smooth hierarchies by combining team members from community and formal health services and were designed to create opportunities for more 'bottom-up' rather than 'top-down' QI decision-making. In attempting to operationalise multi-level team approaches for community health in Kenya, SQALE was challenging traditions of hierarchy and attempting a significant cultural shift.

**Plan-Do-Study-Act (PDSA) cycles**

**.....** A non-proprietary simple approach to quality improvement that has been implemented in many sites, diseases and facility types – both in health and beyond

**Quality Healthcare .....** *Quality healthcare services are defined as: effective; safe; people-centred; timely; equitable; integrated and efficient*

**Quality Improvement .....** is a problem-solving approach in which stakeholders are engaged in a *"cyclical process of measuring a performance gap; understanding the causes of the gap; testing, planning and implementing interventions to close the gap; studying the effects of the interventions; and planning additional corrective actions in response"* (Tawfik *et al.*, 2010, p. 2).

**SQALE** ..... The study was nested within an intervention aimed at contributing to the reduction of mother and child deaths by improving the quality of community health services using team approaches in Kenya. The name of this intervention is 'Sustaining quality approaches for locally embedded community health services' (SQALE)

**Typology of community health workers in Kenya**

**.....** In Kenya there are two tiers of CHWs: volunteers and salaried government employees. These CHWs are known as community health volunteers (CHVs) and Community Health Extension Workers (CHEWs), respectively (Republic of Kenya MoH, 2014). CHEWs play a supervisory role for CHVs. The main responsibilities of both cadres are preventative and promotive health, with a focus on maternal and child health outcomes.

**Team .....** *"a) Two or more individuals who; b) socially interact face-to-face or virtually; c) possess one or more common goals; d) are brought together to perform organisationally relevant tasks; e) exhibit interdependencies with respect to workflow, goals and outcomes; f) have different roles and responsibilities; and g) are together embedded in an encompassing organisational system, with boundaries and linkages to the broader system context and task environment"* (Kozlowski and Ilgen, 2006, p. 79).

**Teamwork .....** *"The ability of team members to work together, communicate effectively, anticipate and meet each other's demands, and inspire confidence, resulting in a coordinated collective action" (Salas and Cannon-Bowers, 2001, p. 15489)*

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