



EVALUATION OF PHILIPS COMMUNITY LIFE CENTRES

KENYA & SOUTH AFRICA



KIT Royal
Tropical
Institute



Philips
Foundation



KIT Royal
Tropical
Institute

SYNTHESIS REPORT – NOVEMBER 2021

Yme van den Berg
Alyssa Granillo
Lisa Juanola
Anke van der Kwaak
Masja Straetemans

PRINCIPAL INVESTIGATORS

Name: Anke van der Kwaak, Yme van den Berg, Masja Straetemans
Position: Advisor Sexual and Reproductive Health and Rights, Advisor Health System Strengthening, Advisor Epidemiology

INSTITUTION RESPONSIBLE FOR THE RESEARCH

KIT Royal Tropical Institute
Mauritskade 63
1092 AD Amsterdam
The Netherlands

E-MAIL AND PHONE NUMBERS

a.v.d.kwaak@kit.nl / +31 20 5688497
m.straetemans@kit.nl / +31 20 5688465
y.v.d.berg@kit.nl

DOCUMENT DESIGN & LAYOUT

Tristan Bayly

ACKNOWLEDGEMENTS

Firstly, we would like to send our gratitude to all the participants who took the time to answer our questions during either the qualitative interviews, client exit interviews, household surveys, or the focus group discussions. Thanks to their indispensable contributions, we have been able to extract key findings and draw up recommendations regarding the effect of the community life centres evaluated on primary care services in Kenya and South Africa. We would also like to thank the staff of the health facilities that were the focus of this evaluation. Thanks also to the Ministries of Health in both Kenya and South Africa, who provided invaluable support during the preparation and implementation of this evaluation.

Thanks to those in charge of CLC Githurai Lang'ata and Gachororo health facility (Kiambu county, Kenya), CLC Dandu and Burduras health facility (Mandera county, Kenya) and the county health and sanitation director.

Thanks to those who supported the evaluation in South Africa: Sr Thandi MgCina (CLC, South Africa), Sr Florence Mogautsi (Diepsloot South Clinic), Pastor Dhoti (Diepsloot Methodist Church), Ma Africa Tikkun, Bophelong Victim Empowerment Support Centre, Mr Abraham Mabuke (Ekurhuleni Local Municipality), Pretty Lebepe, Slindile Nkomo, Sbongile Msiza, Dakalo Mshatama (Community Representatives).

We are also thankful for the support and input during project meetings from Caroline Gitonga, Senior Research Scientist, Sarah Kedenge, Senior Research Scientist, June Omollo, Project Manager (Philips Research Africa), Ties Kroezen and Christoph Castellaz (Venture leader Connected Primary Care Solutions, Philips), Hans Hofstraat (Philips Research) and Bonga Mazibuku (Business Development Manager, Philips), Eddinne Bahaa Sarroukh (Innovation Lead Philips Foundation) and Koen Joosse (Program Director, Philips Foundation).

CONTENTS

ABBREVIATIONS	6
EXECUTIVE SUMMARY	7
BACKGROUND	7
METHODS	7
SCOPE	7
KEY FINDINGS, KEY PATHWAYS OF REVISED TOC, AND ROADMAP	8
1. INTRODUCTION	11
METHODOLOGY FOR THIS SYNTHESIS REPORT	12
THE (ORIGINAL) CONCEPT OF THE CLC	13
CLC AND STUDY AREAS	15
STRUCTURE OF THE REPORT	16
2. SUMMARY OF THE CONCLUSIONS AND RECOMMENDATIONS FROM THE KENYA AND SOUTH AFRICA STUDIES	17
KEY FINDINGS FROM THE CLC EVALUATIONS IN KENYA AND SOUTH AFRICA	18
3. KEY FINDINGS FROM KEY CLC EXPERT INTERVIEWS	29
INTRODUCTION	30
CORE CONCEPT	30
THE ROLE OF COMMUNITY HEALTH WORKERS	31
HEALTH STATUS OF TARGET POPULATION	32
COLLABORATION: CO-CREATION OF ECO-SYSTEMS	33
ENGAGEMENT AND EMPOWERMENT OF THE COMMUNITY	33
DIGITALISATION	34
4. PERSPECTIVES FROM CURRENT THINKING ABOUT THE ROLE OF PHC IN RELATION TO UHC AND THE SDGS: BRIEF AND GENERAL LITERATURE REVIEW	35
SHORT HISTORY OF PRIMARY (HEALTH) CARE	36
LEVELS OF CARE AND PRIMARY MODELS	36
VARIETY OF INTERPRETATIONS OF PRIMARY (HEALTH) CARE AND REDEFINITION OF THE CONCEPT	40
IMPORTANCE & RATIONALE OF PRIMARY (HEALTH) CARE WITHIN HEALTH SYSTEMS AND FOR UNIVERSAL HEALTH COVERAGE	41
5. DISCUSSION: THE RELATION BETWEEN THE MAIN PATHWAYS AND OUTCOMES IN DIFFERENT CONTEXTS	44
INTRODUCTION	45
CONTRIBUTION OF VARIOUS PATHWAYS TO OUTCOMES	46
CONTEXTUAL FACTORS - KENYA & SOUTH AFRICA	52

6. LESSONS LEARNED, REVISED THEORY OF CHANGE AND ROADMAP	53
MAIN LESSONS LEARNED	54
REVISED THEORY OF CHANGE FOR THE CLC.....	54
SUGGESTED ROADMAP	59
CLC BRANDING: (RE) DEFINE THE KEY FEATURES OF THE CLC PLATFORM:.....	60
PERFORM COSTING STUDIES, AND EXPLORE OPPORTUNITIES FOR FINANCING AND SUSTAINABILITY	65
SHOULD THE CLC MOVE TOWARDS A SOCIAL FRANCHISING MODEL?	66
DEFINE A COMMERCIAL STRATEGY	67
 ANNEXES.....	 68
 REFERENCES	 70

ABBREVIATIONS

ANC	Antenatal Care
CHV	Community Health Volunteer
CHW	Community Health Worker
CLC	Community Life Centre
DHIS2	District Health Information System 2
EMR	Electronic Medical Record
EPI	Expanded Programme on Immunisation
FBO	Faith-based Organisation
FP	Family Planning
HIV	Human Immunodeficiency Virus
INGO	International Non-governmental Organisation
KII	Key Informant Interview
KIT	KIT Royal Tropical Institute
LED	Light-emitting Diode
LMIC	Low- and Middle-income Country
M&E	Monitoring and Evaluation
MoH	Ministry of Health
MOM	Mobile Obstetrics Monitoring
MoU	Memorandum of Understanding
NCD	Non-communicable Disease
NGO	Non-governmental Organisation
NHIF	National Hospital Insurance Fund
OECD	Organisation for Economic Co-Operation and Development
PHC	Primary Health Care
PHCPI	Primary Health Care Performance Initiative
SDG	Sustainable Development Goals
SDH	Social Determinants of Health
TB	Tuberculosis
ToC	Theory of Change
UHC	Universal Health Coverage
UNICEF	United Nations Children's Fund
WHO	World Health Organization

EXECUTIVE SUMMARY

BACKGROUND

Philips has been deploying Community Life Centres (CLCs) in Kenya, the Democratic Republic of Congo, and South Africa since 2014. The CLCs endeavour to contribute to Universal Health Coverage (UHC) by increasing quality of care and effective coverage of services, strengthening management and support functions, and promoting community engagement. KIT Royal Tropical Institute (KIT) was approached by the Philips Foundation to conduct an independent, mixed-method evaluation with the overall aim to generate evidence on the effects of two CLCs in Kenya and one mini-CLC in South Africa on access, utilisation, and quality of primary care. In the two preceding country reports, specific key findings and lessons learned from each study area were presented in detail in accordance with the evaluation objectives. In this synthesis report, we present a summative discussion on the insights gleaned from all CLCs evaluated holistically, going beyond the primary results and conclusions of the individual Kenya and South Africa country reports. In this way, a broader picture of the overall contributions of the CLC platform is brought to light in conjunction with our recommendations for the CLC concept as a future model of primary health care delivery.

METHODS

Mixed-method evaluations, including qualitative and quantitative elements, were employed in the design, data collection, analysis, and interpretation stages of the two country evaluations. For this synthesis report, additional interviews have been done with key experts having been closely involved in the original design and/or in the implementation of the CLC platform. In addition, a more general literature review has been performed on current thinking about the role and importance of Primary Health Care within health systems and in relation to quality of care, UHC and the Sustainable Development Goals (SDGs).

SCOPE

This synthesis report describes the overall conclusions and recommendations of the Kenya and South Africa evaluations, the key informant interviews as they pertain to the development and deployment of the CLC platform¹ as well as the opportunities and challenges for its future development and scaling up, the overall lessons learned, a revised Theory of Change (ToC), and a discussion on the future of the CLC concept with a suggested roadmap.

1. The terms 'CLC-concept' and 'CLC-platform' are used interchangeably in this report.

KEY FINDINGS, KEY PATHWAYS OF REVISED TOC, AND ROADMAP

Conducting multiple evaluations in diverse settings emphasised the influence of context on ToC pathways and outcomes. Key findings for each setting thus overlapped on some evaluation objectives but diverged on others. Overall, the primary care services were appreciated by CLC clients, well-aligned with national health priorities and the local burden of disease, and of sufficient quality. While continued contacts with local partners were present at all locations, structured foundational collaboration with local health authorities and ongoing dialogue with target communities on their evolving needs differed by location; these relationships should be clearly specified to manage expectations. The community health worker/volunteer (CHW/V) outreach component of the CLC concept was not fully realised in all CLCs evaluated and would benefit from additional planning and alignment with existing local CHW/V policies. Not only is the emphasis in the CLC focussed on backpacks, but other aspects of community empowerment are not or are insufficiently addressed, such as health literacy, continuous dialogue with different groups in the community on health needs, and on their perceived quality of care provided in the CLCs.

Concerning utilisation, the CLCs in Kenya aligned with increasing service demand, but a lack of complete digitised facility-level data in Kenya and CLC-specific digitised data in South Africa prevented us from drawing conclusions on the effect of CLCs on primary care utilisation. Improvements in physical assets and in technologies, such as infrastructure, electricity, healthcare equipment, electronic medical record system, and water supply, contributed to the attractiveness and safety of the CLCs, but care should be taken to ensure the process components of such investments: so that staff are continuously and adequately trained to fully utilise and fully benefit from the provided technical equipment; and that equipment and technology are properly maintained and embedded in functional processes. While a pleasant and safe work environment serves as extrinsic motivation for CLC staff, human resources management practices should be integrated to bolster complementary intrinsic motivation. In terms of sustainability, continuous monitoring and reporting systems are needed across all facilities to maintain ongoing support from county or district authorities and other stakeholders. Finally, the evaluation revealed that the location of the CLC is vitally important. Each CLC/mini-CLC attracts a diverse population based on the availability of alternative primary care options in the area, its political environment, and local sociocultural norms such as inclusivity towards marginalised groups. The question whether the CLC really targets poor and vulnerable groups has been an important aim according to key experts. Our conclusions on this point are in fact mixed.

Improving primary care delivery in low- and middle-income countries (LMICs) is a key part of achieving the SDGs and UHC. The CLC platform for primary health care is poised to accomplish this but needs clearer profiling and branding, which can be adapted to local contexts. This may require a trade-off between, on the one hand, a participatory approach (“co-creation”) and the need for alignment, and on the other hand, the need for branding of the CLC. We propose a revised ToC for the CLC platform to harmonise the original Philips concept of the CLC with concepts from the

Primary Health Care Performance Initiative (PHCPI) framework, terminology in the international literature, and a lens towards UHC and SDGs.

Key pathways of the revised ToC include:

- Connecting community and primary care services with other levels of care;
- Community orientation, engagement and empowerment;
- Ensuring a healthy, safe, and appropriately equipped environment;
- Tracking, training, and learning;
- Promoting governance and networks of collaboration; and
- Guaranteeing financial sustainability and equity.

Based on our evaluation we provide a summary outline of the steps to take and choices to be made of possible options for a future CLC including:

- Recognising the importance of better branding or profiling of the CLC, an outline of issues is presented divided in input and process components on which more specific choices are needed. These issues and options are presented along the three main components of the revised Astana definition of PHC; and overlap with the six pathways in the proposed revised ToC. Within the ToC, we recommend identifying and highlighting key features of the CLC platform in which both input and process components receive equal attention, non-health components such as early childhood development activities are integrated, and community components are expanded beyond the utilisation of CHW/Vs to incorporate continuous dialogue and feedback mechanisms. By identifying the specific components which would define a typical CLC, the concept can gain strength as a platform which meets people's health needs, addresses the social determinants of health, and empowers and engages individuals, families, and communities.
- The proposed ToC presents a more holistic view of a future CLC. Within the framework of this ToC, the choices that will define the future CLC brand, will also need to specify what role Philips and/or the Philips Foundation want to play in this future CLC, and which aspects it wants to integrate, but wants to leave up to other partners, like governments, NGOs or private stakeholders. Whether these choices see the future CLC as a mere charity intervention, as part of corporate social responsibility (perspective of the Philips Foundation); or at the same time as a means to potentially strengthen Philips' market share as a company specialised in medical innovations and technologies in primary care (perspective from Primary Care Solutions), is up to Philips to decide. In both cases, the choices made need be financially or commercially sustainable, while aiming for universal access. The business model or entrepreneurial approaches for the CLC follow from and partly lead the specific choices made for the future CLC.
- Performing costing studies, and validation studies through operational research of a 'standard' CLC. This is needed in order 'sell' or 'scale' the platform or concept. These costing studies should take a comprehensive view, and not just include revenues from direct fees or revenues from insurance claims, as they often do not represent the full cost of service provision in the context of countries like Kenya or South Africa. Although in countries like South Africa and Kenya, external aid is not a sustainable option, donor money may be welcome in further developing the

platform. In countries like DR Congo or Ethiopia, donor money may also part-fund the initiative itself.

- Linking to financing reforms for UHC, that are going on in most countries and that generally aim for increased public domestic funding for the health sector (through either insurance models or general revenues), and getting accredited as CLCs for funding through such mechanisms.
- Scale-up with a possible business model of social franchising (with the advantages of economies of scale), in which Philips should get explicit on the role it wishes when sharing this role of franchisor with other actors (e.g. NGOs specialised in health) in a specific country context.

● ● ● 1. INTRODUCTION

In 2019, KIT Royal Tropical Institute (KIT) received an assignment from Philips Foundation to conduct an independent, mixed-method evaluation (2019-2021) to generate evidence regarding the effects of Community Life Centres (CLCs) on access to, utilisation, and the quality of primary care services in Kenya and South Africa. The two CLCs evaluated in Kenya are situated in Kiambu and Mandera county. The CLC evaluated in South Africa is situated in Diepsloot. The first two are part of the public health system, the third is run by a private, not-for-profit, non-governmental organisation (NGO) with close links to the public health authorities.

Specific objectives of the country evaluations were:

1. To assess the relevance of the services offered through the CLCs.
2. To assess healthcare-seeking behaviours (barriers, preferences, and responsiveness to needs) within the catchment population of selected CLCs.
3. To assess trends in healthcare utilisation using selected tracer conditions in the CLCs emphasising reproductive, maternal, neonatal and child health services, and including both services provided at the facility as well as outreach activities initiated from the facility.
4. To evaluate perceived and realised quality of healthcare provided to the population in the CLCs.
5. To assess the appropriateness of support and management functions of the CLCs.
6. To explore the overall outcomes of the CLCs and draw lessons about the contribution of the CLCs to the elements listed in specific objectives 1-5.

METHODOLOGY FOR THIS SYNTHESIS REPORT

This synthesis report first summarises the overall key findings and lessons learned from the country evaluations in Kenya and South Africa.

For these country evaluations, an evaluation framework was used and Levesque's conceptual model was applied.⁽¹⁾ A mixed-methods, cross-sectional design was used, combining various quantitative and qualitative information collection tools in one study. In each country, qualitative and quantitative data were first analysed separately and then compared and combined for the overall analysis and distillation of key findings and conclusions. A control facility for each CLC was selected to explore the plausibility of a causative link between the CLC-specific interventions and outcomes measured. A desk review, client exit interviews, facility observations including observations of selected provider-client encounters, analysis of routine reporting data from District Health Information System (DHIS2), in-depth interviews with key informants, and focus group discussions were the techniques applied for the studies in both countries. In Kenya, a household survey was also conducted. Two separate country reports have been produced and shared with Philips Foundation containing the methodology and outcomes of the two studies.

The second part of this synthesis consists of the summary of six key expert interviews with respondents who have been close to the development and implementation of the

whole CLC platform. These interviews raised questions on the original concept of the CLC, what experts see as the main factors contributing to success and what is needed to sustain these outcomes, and finally how these experts judge the possibilities and opportunities to scale-up this primary care approach.

The general literature review following the key informant interviews (KIIs) is meant to put the conclusions and lessons learned from the evaluation, together with the insights from key experts, in the context of current thinking about primary health care (PHC), its importance and its relationship with Universal Health Coverage (UHC) and the Sustainable Development Goals (SDGs). The literature review does not aim to be exhaustive on specific interventions or approaches applied within primary or community care.

Following a realist approach, the synthesis report then continues with a discussion to answer the question: “What is it about this program (the CLC approach or concept) that works, for whom, in what circumstances?” (2), or in other words: Which intervention pathways² (described in the next section) cause which outcomes under which contextual circumstances? It aims to contribute to the further development and scaling of CLCs, taking into account contextual differences and requirements.

The report concludes with a discussion on the opportunities of the CLC primary care delivery model and proposes a revised Theory of Change (ToC), with a general outline on a roadmap that could be followed in the further development of the CLC.

THE (ORIGINAL) CONCEPT³ OF THE CLC

With the introduction of the CLC platform, Philips is aiming to expand access to quality care by strengthening primary and community healthcare in particular. It is designed to offer a community-driven holistic approach by starting from the needs and requirements of the local communities and aligning with and integrating into local health systems. The first CLCs were developed for Kenya in three locations (Kiambu, Mandera and Makueni) as well as in the Democratic Republic of the Congo and South Africa.

It is believed that digital and technological innovations are foundational to expanding access and achieving UHC; whether it be an informatics infrastructure that allows for performance measurement by systematically tracking outcomes and costs, introducing primary care technological solutions, or self-diagnosis and telehealth platforms that bring care closer to the patient wherever they reside.

2. The realist approach talks about Context-Mechanisms-Outcome arrangements, with “mechanisms” at its core, describing whether and how they lead to certain outcomes, depending on contextual factors. In the proposed ToC of Webster and Hanson, developed in a collaborative process with Philips staff, the term “pathways” has been used and mostly link to the key characteristics described in the section “The original concept of the CLC”. In the remainder of this synthesis report, we will use the term “Pathways” in order to avoid confusion on terminology.

3. The terms “CLC platform”, “CLC approach”, “CLC program” and “CLC concept” are used in documentation and by stakeholders when talking about the CLC. While “concept” and “approach” generally have a more abstract connotation, and “platform” or “program” refer often the operational aspects of the CLC, the terms have been used interchangeably in this report.

It takes a broad perspective of health by looking at the living conditions of communities, offering an environment with electricity and lighting, water supply, and security, as well as opportunities for social and economic activities at the premises of the CLC.

Finally, the approach aims to build partnerships with a variety of stakeholders, such as local communities, government, academic institutions, NGOs, international organisations, and private sector companies and providers, in order to share benefits and risks while strengthening health systems and help reduce the direct costs for the healthcare users.

In the CLC brochures, the defining elements can be considered as the four pathways through which the CLC would reach its expected outcomes and impacts (3,4).

1. A Healthy and Safe Environment:

Security is offered through light-emitting diode (LED) area lighting, water, electricity (solar), and waste disposal arrangements, as well as new infrastructure or refurbishments of existing installations. This environment should not guarantee only an appropriate functioning of the primary care institution, but it would also allow businesses and economic activities to flourish in and around the compound, or social activities for the surrounding communities. A business hub offering commercial training for start-ups, and early child development activities form part of this healthy and safe environment.

2. Tooling, Training and Tracking; this pathway is further specified in two elements:

- a. Connecting community and primary care with other levels of care (secondary and tertiary care). Timely referral for complications, community outreach programs, and physical connection with other levels through transportation are explicitly mentioned elements here, as well as internet connectivity within the health system.
- b. Providing high quality of care: standards of care are improved through the use of technological and innovative equipment, both at the CLC and in support of community volunteers (backpacks). Improving workflows and training is also mentioned here, including training for facility management, medical technical training, and training for use and maintenance of technologies.

3. Sustainability; containing two key elements:

- a. Operational sustainability: this involves continuous monitoring and support, maintenance and continuous training. Monitoring, evaluation, and learning seems to be part of both 2b and 3a.
- b. Financial sustainability: the documentation says that communities and stakeholders are actively engaged to realise this goal. New and alternative

sources of funding are mentioned without specification of possible mechanisms, apart from economic activities alongside the CLC that could offset costs for patients. Generating interest and support from national and international stakeholders and donors for the CLC concept (see also pathway 4) could be one of the mechanisms to reach financial sustainability. Paying for services is another mechanism for reaching financial sustainability, particularly in the case of South Africa.

4. Developing an Ecosystem of Collaborations:

Collaboration is sought with governments and with international organisations or NGOs for strategic partnerships. The approach is mentioning co-creation, co-ownership, and co-management. Communities are not explicitly mentioned in these ecosystems of collaborations.

A ToC for the Philips CLC platform was developed by Webster and Hanson (5) after a series of interviews with Philips and Kiambu country staff validated during a ToC workshop with Philips and county staff. This ToC was inspired by and compatible with the framework from the Primary Health Care Performance Initiative (PHCPI), a global partnership dedicated to strengthening PHC as a cornerstone for health systems worldwide, promoting performance measurement and accountability in order to target context-specific improvements in PHC.

CLC AND STUDY AREAS

In Kenya, the evaluation study was conducted in Kiambu and Mandera counties. The CLCs in Kenya are operated through an agreement between Philips and the Ministry of Health (MoH) and realised through the upgrading of existing facilities from level two to level three. The technology package of the CLCs includes solar power, indoor and outdoor LED lighting, health care equipment, laboratory equipment, refrigeration, information technology solutions, and water supply and purification. In both areas, community health workers (CHWs) were trained and equipped with a CLC outreach kit. In Kiambu, the CLC was established in Githurai-Lang'ata health centre located in the Ruiru sub-county, which borders Nairobi, and has an estimated population of 180,000 inhabitants. It is an urban, high population density area and the number of health service providers is high. In Mandera, the CLC was established in 2017 in Dandu Health Center, within 30 km of the Ethiopian border. Mandera is a rural county with a low population density and fewer health facilities compared to Kiambu.

In South Africa, the evaluation study was conducted in Diepsloot Township, Gauteng Province, a very densely populated township with about 450,000 inhabitants in the north of Johannesburg, with only two government clinics. In Diepsloot Township, Philips established a primary health clinic on wheels (2015) and a mini-CLC (2017), both in collaboration with Rhiza Babuyile.

The “Health Clinic on Wheels” is a mobile clinic with a maternal and childcare section and a dental care section providing primary health (antenatal care [ANC], vaccinations, healthy baby clinic and growth monitoring, family planning [FP], HIV counselling) and preventive dental care. The mini CLC-Diepsloot is a private clinic consisting of a single container providing ANC, vaccinations (healthy baby clinic and growth monitoring), and FP. The technology package of the mini-CLC includes solar power, indoor and outdoor LED lighting, healthcare equipment and refrigeration. Since 2019, the mobile clinic and the mini-CLC have been co-located and operated as a single facility (CLC-Diepsloot); this CLC was the object of the South Africa evaluation.

STRUCTURE OF THE REPORT

This synthesis report starts with a summary of the conclusions and recommendations from the Kenya and South Africa evaluations in Chapter 2. This is followed by a summary of the six KIIs in Chapter 3, involving respondents who were close to the development and the implementation of the CLC concept. Chapter 4 contains the general literature review.

The main pathways between the defining elements of the CLC and expected outcomes and impacts are discussed in Chapter 5, together with the main contextual factors that influence these links.

The main overall lessons learned, our proposal for a revised ToC, and the opportunities for the CLC platform as a future model for PHC delivery are presented as a proposed roadmap for the future in Chapter 6.

● ● ● 2. SUMMARY OF THE CONCLUSIONS AND RECOMMENDATIONS FROM THE KENYA AND SOUTH AFRICA STUDIES

KEY FINDINGS FROM THE CLC EVALUATIONS IN KENYA AND SOUTH AFRICA

The key findings and recommendations based on the evaluation of two CLCs in Kenya and one mini-CLC in South Africa are summarised below and organised according to the specific evaluation objectives as outlined in the introduction.

Key findings	Recommendations
Relevance of services provided through CLC (Objective 1)	
<ul style="list-style-type: none"> The co-creation process constitutes an important element of the CLC concept. In Kenya, this process provided an opportunity for a baseline assessment of the health needs of the catchment population, as well as laying a foundation for collaboration with stakeholders, fundamental for the coherence and sustainability of the CLCs activities. In South-Africa, no documentation on a punctual and precise formal process could be identified. However, the initiating international non-governmental organisation (INGO), Rhiza Babuyile, was already actively involved in the community and identified a need for healthcare-related activities. In Kenya, continued contacts with county health authorities and important partners were present; in South Africa, continued contacts were reported between the CLC, local health authorities, other NGOs, churches and social workers. A continuous dialogue with target communities on their perceptions and expectations from the CLC and on their evolving health needs was absent in Kenya and in South Africa; it was less clear to what extent the continuous contacts with other stakeholders were specifically addressing these. The services provided at the CLCs in Kenya and South Africa are generally well-aligned with national priorities and policies and the local burden of disease. Particularly, the emphasis on primary care and maternal and child health problems responds well to the current local context. 	<ul style="list-style-type: none"> This co-creation process is a strong participative element of the CLC concept that should be built upon and extended to a more continuous dialogue not only with local authorities, but also with communities, community representatives, and other stakeholders in order to monitor and identify evolving health needs, explore opportunities for broader health promotion, as well as gauge stakeholders perceptions on the service delivery, challenges and expectations. Philips should take care to define and preserve the core elements of the approach/concept of the CLC, striking a balance between the participative nature of the co-creation process, the necessary alignment with country health policies, and the profiling or “branding” of the CLC platform. An explicit Memorandum of Understanding (MoU) should specify the initial and ongoing role of Philips and all other partners involved in order to manage expectations. Addressing currently unmet (or insufficiently met) demands for certain services, like mental health services, or services for certain vulnerable groups like adolescents, may increase visibility and profile of the CLCs. The CLCs could attempt to be more proactive and distinctive in this sense, as long as they remain within the general scope of the national policies and strategies.

- Both in Kenya and South Africa some health problems seem to receive less attention than what might be expected in light of the burden of disease. In Kenya, this is particularly true for mental health problems, eye problems, substance abuse, and skin diseases; in South Africa, for human immunodeficiency virus (HIV), non-communicable diseases (NCDs), mental health problems, and violence-related problems. This lesser attention is not specific for CLCs, but CLCs also do not differentiate themselves in this respect from the control facilities.
- Reported issues where perceived needs of the Kenya respondents were not satisfied (i.e., cancer screening, essential drug supply, posting of sufficient and appropriately qualified human resources, and availability of an ambulance) related to problems or services that are usually not part of the service package or mandate of a primary care institution, or that depended on supply systems that were part of the responsibility of MoH/county health authorities.
- It should be noted that the evaluated mini-CLC in South Africa is doing initial screening for HIV, tuberculosis (TB), and chronic NCDs after which patients are being referred to the public service; this mini-CLC will be replaced by a full primary health centre, providing a more comprehensive primary care package.
- In its CLC concept, Philips has important tools and training elements to improve community health worker and volunteer (CHW/V) outreach and community link to service provisions. In South Africa, the CLC did not have a dedicated CHW program that could benefit from this Philips specificity. In Kenya, CHVs were supposed to play an important role as an interface between community and primary care facilities through reaching out to remote and vulnerable groups, informing the community on health issues, and guiding people with health problems to the CLCs.
- Proper MoU with health authorities about mutual responsibilities and commitments (e.g., in terms of resource allocation for staff or supplies in case of increased utilisation rates), and regular dialogue with community representatives should assist in managing false expectations from CLCs that are profiled as 'Philips (CLC) specific'.
- Philips and CLC-implementing NGOs should align with existing policies on the role of CHWs/CHVs while at the same time profiling the CLC with the 'Tooling, training and tracking' element of its approach.
- If backpacks are continued to be seen as a CLC-distinguishing element it is essential to compose the content primarily driven by tasks as defined in the community health service packages. Innovative tools and equipment need to be in line and complementary to other tools and supplies needed for these service packages.

- Initial CHV training in Kenya included training on the tools and equipment available in the backpacks and clinical training on the CHV modules. Refresher trainings of CHVs, which is part of the CLC concept, were not provided.
- At CLC-Githurai (Kenya) the number of CHVs was considered insufficient, the backpacks that were supplied by Philips were insufficient for all the CHVs in the area, and not all equipment remained functional over time.
- Generally, the tools and equipment supplied in the backpacks did fit into the community service package as defined in the community health policy of Kenya. It was not clear whether the content of the backpack supplied by Philips was complementary to other tools and items supplied by county health authorities to cover the entire community service packages that CHVs have as their mandate.
- Planning should include assessment of numbers of backpacks needed, the maintenance of its contents, follow-up training and monitoring of its use, and substituting of consumption items and supplies. CHVs everywhere show certain attrition rates and anticipating sharing of backpacks by CHVs who work from home in remote areas may not be realistic. The result of these operational challenges is that an innovation, which is very good in design, is over time not giving the results and potential that could otherwise be expected.
- An appropriate balance should be found between the perceived attractiveness of new equipment and tools (their 'symbolic' value from the perspective of county health authorities, CLC staff and/or CHVs) and the evidence for real benefits for the ultimate beneficiaries. Although goodwill and trust are important assets in relation to the CLC concept, appearances in terms of perceived quality should not confound the "true" impacts that essential components of the CLC have on effective coverage and health status of populations served. An example is the use of ultrasound at a primary care facility: people are usually delighted to see images of their baby, but at the same time we should not lose track of the precise indications and potential for reducing maternal and neonatal mortality and morbidity.
- Innovative equipment such as automated blood pressure measurement or pulse oximetry should not be used in isolation, but as part of an integrated approach to cardiovascular risk screening and assessment or management of childhood illness approach, following World Health Organisation (WHO) guidelines, assessing various risk factors simultaneously, with linkage to advice, treatment and referral as appropriate.
- Innovations introduced by Philips as pilot experience beyond national guidelines should be linked with appropriate (and independent) operational research to assess acceptability, feasibility and effectiveness. This is strategic for marketing purposes and to strengthen the profiling of Philips' primary care approach.

Key findings

Recommendations

Effectiveness: Access, Utilization trends and Quality of Care (Objectives 2,3,4)

- Effective coverage relates to needs, utilisation/coverage, and quality of care. Findings on the three components are summarised below:
 - Needs: In Kiambu county (Kenya), most people experiencing a health problem find their way to a health care provider. The CLCs in Kenya provide services in line with expressed health care needs with slight differences between Mandera and Kiambu corresponding to their rural and urban contexts. The mini-CLC in South Africa does not provide a comprehensive package of primary care services.
 - Utilisation: Generally, in Kenya, an upward trend was observed in maternal, child and reproductive care indicators at the county and sub-county level indicating the CLCs are in sync with increasing service demand. In South Africa, at the sub-district level, an increasing trend is observed for the first antenatal care visit (ANC1), but coverages frequently exceeded 100%, indicating there is a systematic problem in the reporting of these consultations thus impacting the quality of available DHIS2 data. Due to a lack of complete facility-level data in DHIS2-Kenya for the health facilities around the CLCs, and a lack of CLC-specific data in DHIS2-South Africa, we could not ascertain the CLCs' relative contribution to these services. This prevented us from reaching a conclusion on whether the CLC approach had a particular effect on utilisation beyond the level of other facilities in the county.
 - Quality of care: Overall, in Kenya and South Africa, CLC clients were satisfied with the behaviour of health facility staff. Staff and health care providers were considered to be friendly and respectful and clients were satisfied with the ability to discuss health problems. A few exceptions occurred in CLC-Githurai where rudeness of staff was reported. In South Africa, the behaviour of the health staff at the CLC was perceived as better compared to the control facility with statistically significant higher satisfaction levels.
 - Dissatisfaction with waiting time and unavailability of medications was perceived differently by CLC users in Kenya versus South Africa.
- Integrate quality of care in the health management plan of the CLC through, for instance, improved health education and information to waiting clients, regular satisfaction surveys or panels, local analysis of coverage progress, and integrated structural feedback loops.
 - Part of the CLC modules should be continuous training of staff on both technical and interpersonal skills. This component should be guaranteed by the collaborating partners and specifically included in the MoU.
 - Specifically for South Africa, it is recommended to negotiate with sub-district authorities to appear as a separate reporting unit in the DHIS2. The CLC model demonstrates great potential for bolstering primary care utilisation, therefore, it will be vitally important to single out CLC data and report CLC utilisation metrics directly to the DHIS2 in order to measure progress in this area.

- In Kenya, the percentage of clients who considered their waiting times unacceptable was consistently higher among CLC clients compared to the control facility clients, although in CLC-Dandu, this was only 12% of users compared to 40% in CLC-Githurai. This might be partly due to rural and urban populations having a different appreciation of waiting time. In South Africa, only 6% of CLC clients considered their waiting time unacceptable compared to 63% at the control facility.
- In Kenya, drug stock-outs were reported to be frequent in all facilities while the percentage of clients dissatisfied with the availability of medicines was consistently higher among CLC clients compared to control facility clients. In South Africa, the percentage of people dissatisfied with the availability of drugs was lower at the CLC compared to the control facility. In Kenya, these differences could be due to having higher expectations or a higher workload at the CLC not being matched with a larger supply of medicines; in South Africa, the patient load is lower at the CLC compared to the control facility.
- In terms of structural quality elements, the CLCs are appreciated for their infrastructure (except for the mini-CLC in South Africa being limited in space) and equipment. Water supply systems, electricity and lighting, and waste disposal arrangements, together with infrastructure refurbishments, make a very positive contribution to the image and reputation of the CLCs. Lighting also contributes to the security of the premises, thereby favouring access in the evening and night.
- Ultrasound was only available in the Kenya CLCs, but in CLC-Dandu, the ultrasound was not fully operational due to lack of staff capable of performing ultrasounds.
- In Kenya and South Africa, the observed technical quality of services, i.e., adherence to evidence-based guidelines, scored fairly well with small differences. In Kenya, the control facility scored slightly higher and in South Africa, the CLC scored higher on technical aspects of consultations related to chronic conditions but lower for ANC consultations compared to the control facility. The small sample size does not justify any firm conclusions.

Key findings	Recommendations
Appropriateness of Support & Management functions of the CLC (Objective 5)	

- | | |
|---|--|
| <ul style="list-style-type: none"> • In relation to human resources management, supply systems, reporting and accountability procedures and systems, and mechanisms for social accountability, CLCs in the Kenyan and South African contexts conform to government policies and guidelines and do not differentiate themselves from (public) control facilities. | <ul style="list-style-type: none"> • In order to benefit fully from the typical CLC inputs, Philips could consider paying more attention to the ‘training and tracking’ module, either through precise collaboration agreements and follow-up with other stakeholders and public authorities, or by obtaining more autonomy in these areas so that CLCs can profile themselves appropriately. This would enhance the operational sustainability of the CLC concept. |
| <ul style="list-style-type: none"> • The set of clinical and coaching modules, aiming at improving clinical and management practices in the CLC concept, were not available to the evaluation team. Continuous training and supervision is the mandate of county health authorities and were not different in CLCs compared to control facilities. • The overall impression in Kenya is that the process components (skills training and in-service guidance and follow-up) could be strengthened in comparison to the physical assets and technologies of the CLC concept (solar panels, water supply, lighting, ultrasound equipment, electronic medical record (EMR) system, internet connectivity, etc.). | <ul style="list-style-type: none"> • The ‘training and tracking’ part of the CLC concept should be reviewed by Philips to assess the alignment with MoH procedures and systems, and if considered needed, to conduct appropriate follow-up and prominence in the implementation of the CLC concept. |

- The potential of an EMR software system in both reporting of services provided; in individual patient management and follow-up is currently underexploited. EMR was only present in CLC-Githurai although not fully functional, due to non-familiarity with the system of the staff, stolen computers, and perceived workload. In South Africa, Mobile Obstetrics Monitoring (MOM), a cloud based software, has been used for maternal monitoring during a pilot period. CLC shared MOM data which was a compilation of CLC Hanipark and the mini-CLC.
- Lacking information of national and county budgets, as well as precise investment and operational costs of Philips funded components, we were not able to assess the comparative costs of running a CLC compared to a control facility. Also here, a priori, the sample of services studied would be rather small with many confounders. Whether business hub activities could contribute to the funding of CLCs was not within the scope of our study.
- An EMR can be one of the components to profile a Philips CLC, and it can offer important advantages as an innovative technology to improve primary care delivery, both in terms of facility management and individual patient management. It is preferable to introduce it on a regional or district level, and not in isolated facilities, because of the interrelations and (counter)referrals between different levels in a health system. The MOM is an example of an EMR with a more limited scope (maternal monitoring); in this case, it would also make sense when it is applied more system (region, district) wide, and not in an isolated CLC, where no deliveries take place, but only ANC.
- A proper balance needs to be sought between initial investment in physical components and training, and longer-term follow-up, harmonisation with DHIS2 and patient management for chronic diseases (particularly NCDs, HIV, TB, but also preventive services like ANC and expanded programme on immunisation [EPI]). Appropriate operational research should also accompany the introduction of this physical technology and identify operational bottlenecks. Once the EMR is properly functioning, visually attractive outputs can be produced to inform facility and patient management decisions (as also highlighted by Webster and Hanson referring to 'dashboard' formats).
- The issue of relative costs and benefits of the CLC, and therefore financial sustainability and value for money, needs further comparative costing and/or cost-benefit studies in the context of public-private arrangements in primary care.

Key findings

Recommendations

Overall Outcomes & Sustainability (Objective 6)

- It is plausible that the CLCs have contributed to effective coverage of the services upon which they focus, although we cannot quantify this contribution. The triad of ‘Needs served—Utilisation of essential services—Quality of Care’ show a diverse picture in Kenya and South Africa. In Kenya, the high quality of care concerns mainly structural elements of quality while in South Africa the CLC scored better than the control on attitude of staff and perceived quality. On the technical quality we could not make firm conclusions.
- In a system with empanelment of primary care providers, community members have to register with a preferred primary care provider. Consequently, the catchment population for which a primary care facility is responsible is clear. Relative contributions of primary facilities to effective coverage of services in a county can then be precisely estimated and attributed. Such a system of empanelment would depend on evolving health policies in relation to primary care.
- Philips should take care to define and adhere to their minimum set of “essential” or “distinguishing” features of the CLCs. When it ‘just’ financially supports a neat infrastructure with appropriate equipment, it may not be very different from any other newly opened primary care facility. Typical features, that are at the same time Philips-specific, like backpack tools for CHWs, ultrasound, EMR, etc., should help in profiling the CLC as well as strong partnerships with organisations that deliver empowerment and life skills and contribute to the financial sustainability of the CLC. Physical assets and technologies in terms of equipment should then be accompanied by appropriate guidance, training, maintenance, and follow-up of such innovations. In order to sustain the existence of CLCs, Philips – given its market position in the health care field – needs strong alliances with investing partners, whether governments, NGOs, or private, not-for-profit entities.
- Facility-level utilisation rates and the various dimensions of quality of care should be carefully monitored in order to adjust the allocation of drugs or staff to the facility in response to increased workload if the CLC attracts more users. This will prevent negative feedback loops on quality of care. In publicly run facilities, as in Kenya, such precautions may also need to be included in a MoU.

- Responsiveness to needs and overall satisfaction of services at both CLCs was generally satisfactory across users as well as stakeholders. Specifically in South Africa, the CLC gained a lot of trust and appreciation and was known for the friendly attitudes of the staff.
- Particularly for (undocumented) migrants, the CLC is a preferred choice, and the same seems to apply for adolescents, who consider the CLC as more friendly to their specific needs (e.g., FP, sexual and reproductive health issues).
- CLCs are established in areas that are usually relatively poor: this is the case in the urban suburb of Kiambu, and in Mandera, the CLC attracts people from across the border who otherwise don't have access to services.
- In order to profile the CLC (even) more, explicit attention could be given to currently insufficiently addressed health problems (e.g., mental health, adolescent health problems, eye care) and/or to neglected or stigmatised groups in the population.

- Financial protection (protection from high costs related to use of healthcare services, while at the same time suffering from loss of income due to illness in a context where most of the population is working in the informal sector) is an important goal for health systems. Primary care services in Kenya are in principle free, but in the absence of adequate drug supply, people may be referred to pharmacies where they must pay, and often informal fees apply. Our study showed that this occurred more often in CLC-Dandau than in the control facility.
- In Kiambu, both at the CLC and control facility, more facility clients were part of a prepayment plan (health insurance scheme) (45–50%) than in Mandera (4–7%). It should be noted that in Kenya, primary care services are primarily funded through general taxes (covering around 42% of total health expenditures), and not through social health insurance (National Hospital Insurance Fund [NHIF], covering around 8% of total health expenditures), notwithstanding the hospital services part. At CLC-Dandau, users were more often charged for services than in the control facility, despite primary care services being officially free. Reasons for this could not be uncovered.
- Where the public facility of Diepsloot South Clinic offers services free of charge, the CLC charges modest fees that may nevertheless constitute a constraint to poor people. However, distances in Johannesburg can be quite big, and having an accessible health service nearby may reduce transport costs; besides, the CLC currently has less problems of drug stock outs, so although people pay fees, they are less often referred to private pharmacies to buy drugs. At CLC-Diepsloot, more users had a prepayment plan than at the control facility; in the context of South Africa, these are voluntary insurance plans, showing that users of the CLC were likely slightly better off as compared to users of the control facility.
- Together with community representatives and county authorities, it could be considered promoting transparency on disclosing fees to be paid and discuss opportunities and mechanisms to reach out to neglected and poor population groups. CLCs could, for instance, actively distribute information on health insurance schemes, although the relative contribution of these schemes to the funding of primary care is unclear at this moment.
- In order for CLCs to promote financial access and inclusiveness, they should explore possibilities for safety nets for the poor, and/or alignment and accreditation with public, pooled financing arrangements (e.g., government funded programmes, social health insurance, or national health insurance schemes) for all its citizens that most countries are currently developing in their national UHC policies.

- The non-health components of the CLC concept – business hub, early child development activities, and electricity, lighting, and water supply beyond the healthcare facility itself – were not part of the explicit scope of this study. We therefore cannot state to what extent these elements contributed to improved living conditions for the people living nearby the CLC compounds. In general, places where several services and ‘markets’ are concentrated geographically can play an important role in making a healthcare facility better known and accessible (‘approachability’ in the Levesque framework).
- From the experts interview with Rhiza Babuyile, it became clear that the focus is on skills building, business development, and product sales for livelihood; all such that the target population gets more control over their lives.
- The extent to which Rhiza Babuyile subsidises health activities through other non-health activities is unknown to us.
- To what extent these not directly health-related activities increase the average living conditions and socio-economic level of the entire target population of the CLC, allowing them to pay the modest fees for the health services, should not be overestimated: such benefits would probably only accrue to a small group of beneficiaries. However, it is possible that some of these non-health activities may generate income by the organising NGO, that can be used to cross-subsidise CLC access for poor groups unable to pay for services. This mechanism can be explored further to see how and to what extent it can contribute to the sustainability of the CLC model.

●●● 3. KEY FINDINGS FROM KEY CLC EXPERT INTERVIEWS

INTRODUCTION

In this chapter, the interviews with six key informants⁴ are presented. During the expert interviews, questions were asked about the original idea of the CLC, their views on how it works, what needs to be strengthened, and the future of CLCs. It should be borne in mind that this chapter is a compilation of insights and opinions from these key informants and does not always correspond to the key findings on the Kenya and South Africa cases as summarised in the previous chapter. Where these ideas and insights are coloured by the position and perspective of each of the key informants, it is also clear that certain insights and future perspectives are not always based on or aligned with current insights about PHC, UHC, and public health in general. Nevertheless, they provide a good background for what the CLC is or should be according to the founders and some key implementers, and these general ideas are useful in the translation into a roadmap for the ‘future CLC’ as we will elaborate on in the final chapter.

The chapter is organised along the main concepts or defining elements of the CLC, as described in Chapter 1, and that are considered as the pathways towards outcomes.

CORE CONCEPT

The basic concept was launched in 2013 with the elementary thinking that there was a need for innovation for Africa, capacity strengthening and co-creation, and last but not least value engineering (a systematic, organised approach to providing necessary functions in a project at the lowest cost). During so-called ‘Roadshows from Cape Town to Cairo’, Philips identified major health system inefficiencies and came to the conclusion that there was not one single solution for strengthening health systems and creating universal access. The creed “Leaving no one behind and reaching out to the most vulnerable” was one of the core aims of the CLC, namely by targeting poor populations and creating access to health in a safe environment.

In the interviews with the two experts who were founders and thought leaders of the CLC concept, it became clear that the four main elements – providing a healthy and safe environment; tooling training and tracking; sustainability; and collaboration/co-creation – were considered an appropriate way to address what they defined as the vertical nature of health systems and services and the need for more horizontal approaches as engaging the community, using technological aids to improve service delivery. The CLC’s core focus was to have both vertical and horizontal services in place supported by a functioning referral system.

The original idea was that the CLC would attract people in the catchment area who would otherwise be using local and traditional healers or who would bypass primary services to go to higher level care facilities providing higher technological care,

4. The key informants were two people working for Philips internationally and involved in the setup of the CLCs, one person working for Philips and working in one of the CLCs in Kenya, two county officials in Kenya, one provincial health education expert in South Africa (a business developer at Philips since 2021), and one person leading the NGO implementing the mini-CLC in South Africa.

leading to inefficient health systems. Lack of access to clean water and electricity also compromised quality of service delivery and it would also directly disadvantage the health conditions of the surrounding population. All key informants underlined the fact that a CLC would be best placed in areas where high levels of poverty would affect the health status of people.

In 2015, the overall aim of a CLC was “to create a safe and attractive environment for the local community and to be an enabler for social & economic activities” (3). The key informants also underlined that part of the realisation of CLCs was the upgrading and improvement of primary care centres to provide access to quality primary care services for under-served populations. As one of the founders of the CLC concept brought forward: “CLC started as a product but it became a process that needs time to be implemented and was to be led by leaders with creative ideas”.

According to the founders, the original idea of building a healthy environment and moving the health facility to the next level by applying the CLC model was operationalised in Gathurai Lang’ata in Kenya. This was seen as the standardised model, after which it was meant to be adjusted and contextualised to other settings. Gathurai Lang’ata became the so-called ‘testing and research facility’: a ‘living lab’ or ‘solar clinic’ to test out the idea of providing electricity and water and making it sustainable by modular business approaches. Safety was one of the core concepts: by providing lighting, a safer environment was realised, but also to services where people felt safer being referred.

A more holistic approach was chosen with water, electricity, a maternity ward, and outreach to the community by CHWs and CHVs equipped with backpacks with basic utilities in Lang’ata. Leadership by the governor who embraced this holistic approach was considered very significant in this process. Later, this model was indeed replicated in Mandera, Makueni, South Africa, Democratic Republic of the Congo (DR Congo), Mali, and Ethiopia: in areas where there was a need for high quality primary care services, accessible by the population, who are otherwise deprived from access to health care.

THE ROLE OF COMMUNITY HEALTH WORKERS

One of the pillars of the CLC was outreach to the community by community health workers and volunteers who were trained in reaching out and referral. These close-to-community health workers were later also equipped with backpacks that consisted of several items. Different versions of the backpack existed and some were mentioned to consist of blood pressure monitor, solar lamp, and a small ultrasound. One of the original ideas had been that the CHWs could be allowed to ask for small payments for the services provided using the innovative tools in their backpacks (i.e., a portable ultrasound or some lab tests). In Mandera, the 12 CHWs and 12 backpacks were seen as very effective by a key informant. In the backpacks there were blood pressure and temperature monitors, oxygen saturation meters and weighing scales for children. In some of the implementation areas, the contents of the backpacks disappeared or were sold.

The key informants working at country or district level in the two countries highly valued all elements of the CLCs but also concluded the CLCs do not come cheap; financial and technical support is needed to sustain the innovative technologies. In Mandera, no service contract by Philips was in place anymore during the study and a non-functioning ultrasound or other technical problems which lasted for a long period were observed. In Makueni, there was originally an agreement with the county for maintenance but it expired in 2020. In DR Congo, another CLC was implemented with an investment of the county and support from World Bank, and partly by out-of-pocket payments of the populations. All these experiences show that the question of how to maintain the innovative technology of the CLC paid for and provided by Philips, is a highly relevant.

The county official in Kenya underlined that at the moment, the CLC is the preferred primary care facility focusing on prevention, access to care and cure, and also outreach activities to the community by CHW/Vs. The CHWs were paid by partners for a year and are also active in 'community engagement forums'. Those were informal forums to identify needs of the populations which discussed issues of accessibility and efficiency on a yearly basis.

HEALTH STATUS OF TARGET POPULATION

The key informants underlined that the population targeted by the CLC in Githurai Lang'ata and Mandera was quite poor and often suffering from airborne diseases as the ventilation in their houses is sub-standard. NCDs were highlighted as a major problem, and to treat them the facility needs to have at its disposal drugs, laboratory, good access and commodities. When key informants were asked for specific problems that need to be addressed in the future, various problems or services were mentioned: antenatal care, cancer, sexual and gender-based violence, unintended pregnancy, medication stockouts, and a lack of services for transgender people and adolescents. For South Africa, the need for condoms and affordable spectacles were also listed. Teenage pregnancy and gender-based violence were acknowledged as huge problems in both Kenya and South Africa but no special youth-friendly or gender-transformative trainings existed.

The key informants underlined that in a good level three facility, all of these components should be there. But often, the target groups had different expectations: they knew about the borehole, the electricity and the ultrasound in the Kenyan CLCs and therefore also had higher expectations in other areas of service provision, e.g., more hypertension care for diabetic patients, cancer screening and care, or the need for ambulances. In South Africa, the patients did not come for the technological innovations but because of the good reputation of the CLC staff: people liked how they were attended to and did not mind paying a small fee because they knew they would be well served.

COLLABORATION: CO-CREATION OF ECO-SYSTEMS

Originally, Philips added small new technologies to the existing service, but at the co-creation table, it became clear that there was a need for a more holistic approach with parallel innovations of services like water supply, sanitation and electricity. One of the philosophies of the CLC, therefore, became the development of so-called collaborating and co-creating ecosystems. The key informants working at the county and/or provincial/district levels were aware of this and stressed that this was one of the strong elements of the CLCs. The co-creation process can be viewed differently according to the key informants such as the strong linkage between public and private actors, or the collaboration with international health partners, while others pointed at the collaboration between different sectors such as health, commerce, and education. The health and water & hygiene systems, but also the development of commercial activities in relation to the security and electricity provided, were mentioned as a result of the co-creation process. It was not clear whether the innovations concerning water supply, lighting, electricity and sanitation concerned only the compound of the CLC (in the pathway “Providing a healthy and safe environment”) or also the wider population served by the CLC.

All key informants mentioned the link to UHC, health insurance, that a higher percentage of coverage of the services was needed, and more financial investments or alternatives to create more sustainability are warranted.

Co-creation was strived for by the people responsible for the CLCs: with the government, with other private providers, with INGOs and NGOs and also across sectors. In Mandera, the county and Philips collaborated with United Nations Population Fund. In Makueni, this was done through the collaboration “Partnership for Primary Care”, together with Kenyan authorities, Amref and funding from the Dutch Ministry of Foreign Affairs. In South Africa, collaboration between Rhiza, provinces, and local and INGOs besides Philips was mentioned such as Achmea. Here the CLC was considered to be more of a social enterprise which the key informants acknowledged gave a total other dimension to the concept.

ENGAGEMENT AND EMPOWERMENT OF THE COMMUNITY

All key informants underlined that the context – both in health system organisation and country and geographical – influences how the CLC is implemented. Some of them underlined the continuous necessity to look at the needs of the community and to do health seeking behaviour studies to stay informed. All mentioned that community empowerment and engagement is essential in the CLC but maybe not addressed enough in the CLCs presently implemented. More regular consultations with the community were needed to be able to be more responsive to their needs. Empowerment of people and strengthening partnerships with them is needed in order to prevent inefficiency and realise more responsive and safe services for people. In South Africa, Rhiza, as the implementor of the CLC, applied the so-called Rhiza Babuyile model that is based on “Develop, Produce, Reinvent and Trade”.

Beside health services, skills development, agriculture and enterprise development were also part of Rhiza's activities with the idea to increase the level of subsistence of the community and their health status. In South Africa, key informants spoke about the "Rhiza family" and the fact that the CLC had an excellent reputation and therefore even attract poor people willing to pay a fee.

When the key informants were asked for advice; the development of road maps and way forward with all stakeholders including the community was mentioned. There is a need for practical guidelines for CLCs, but also a comparison with similar models provided by the Development Bank of South Africa was recommended. In South Africa, the intention is to reach out to the community and engage them in several ways; not only health-specific, but also to empower them with knowledge and skills. For the other CLCs the outreach is generally done via the close-to-the-community providers.

DIGITALISATION

Within the focus on tooling, training and tracking, a lot of health management and information data is collected, but what distinguished this from other primary care facilities was not clear. The key informants all underlined the need of information and innovation in data management. Therefore, digital health and digital platforms exchanging data and information were underlined as a future need. Beyond data collection, using digital health techniques to reach out to the community and to provide and collect information, was also found to be important.

●●● 4. PERSPECTIVES FROM CURRENT THINKING ABOUT THE ROLE OF PHC IN RELATION TO UHC AND THE SDGS: BRIEF AND GENERAL LITERATURE REVIEW

This chapter will provide a very short introduction to the concept of PHC: the way it has been originally defined as well as how it has been interpreted and implemented across the world. It also situate the primary care level within the different levels or service delivery platforms within a health system and stresses the key strategic importance of PHC within health systems and in relation to the strategic goals of UHC and the SDGs. The aim of this chapter is to provide a background to current thinking on the role of PHC within health systems and relate this to the current and future role that the CLC platform can and may play.

SHORT HISTORY OF PRIMARY (HEALTH) CARE

Primary Health Care has been a prominent part of the agenda since the Alma Ata Declaration of 1978 (6), a document that after 40 years remains relevant on how health should be seen in the perspective of human development, with its emphasis on core values of universal access, equity, intersectoral action, community participation and empowerment, and appropriate use of resources.

The comprehensive approach of this vision also had political implications, both in terms of the distribution of power between the haves and have-nots and the redistribution in resource allocation that would be required.

In 2008, these principles were reviewed extensively and reconfirmed in the World Health Report 2008: “Primary Health Care: Now more than ever” (7); and in a series of eight Lancet papers: Alma-Ata, Rebirth and Revision(8). In 2018, 40 years after the Alma-Ata conference, a commemorative and review conference was held on PHC: “From Alma-Ata towards universal health coverage and the Sustainable Development Goals” in Astana (9). The declaration signed between world health leaders was followed by a vision document that reviewed the experience with PHC and provides a description of how PHC might evolve in the 21st century (10).

LEVELS OF CARE AND PRIMARY MODELS

Within national health systems, different levels of care, sometimes also called service delivery platforms, are distinguished.

Disease Control Priorities (DCP3) distinguishes five platforms that correspond to these ‘levels’ of care (11):

- Population-based health interventions (examples include mass media campaigns, cigarette taxes, insurance regulations, etc.; many such interventions are intersectoral and not a direct mandate of a MoH, although the MoH promotes such interventions through a Health in All Policies or intersectoral approach).
- Community-based services: this involves different types of community volunteers, school health programmes, and campaigns in the community. Often not considered a ‘formal’ level of the health system.

- Health centres: the primary care level is the first point of contact with the formal health system. Although there are common elements to define primary care, there are also many different arrangements through which it is delivered (see 'Primary Care models').
- First-level hospitals, in many places called 'district' hospitals: essential features are the presence of inpatient care (patient beds), and the capacity to do surgery (though minor surgery can also be found at primary care level).
- Specialised hospitals, sometimes divided in secondary and tertiary services, depending on the technical level.

The distinction and organisation of health systems in levels of care serves not only an efficiency purpose (specialised and often expensive equipment and specialists cannot be exploited efficiently at 'lower' levels), but also a quality purpose: allowing certain specialised diagnostic procedures, treatments or interventions to be done at primary or first referral level hospitals would mean that health workers doing such interventions would not see enough cases to maintain their expertise. For every technology employed (CT scan, X-ray, Caesarean section, brain surgery, etc.), there is a critical mass of cases needed in order to maintain sufficient practice. In specific situations or places (e.g., small islands, sparsely populated rural areas) there may be compromises made to this general rule.

In 1992, Barbara Starfield articulated the four pillars of primary care practice (12): first-contact care (and gate-keeping function), continuity of care (person- and population-focused, not disease focused, and longitudinality of care), comprehensive care (covers the large majority of health problems, except those that are too uncommon to maintain competence), and coordination of care (integrating care when patients have to be seen elsewhere). Other characteristics are derived from these main features: family orientation, community orientation and cultural competence.

Starfield also considers four characteristics for health systems focusing on PHC: equitable distribution of services across the population (according to needs rather than demands); progressive financing under a publicly accountable body; low or no co-payments for primary care; and comprehensiveness of services.

Starfield considers the primary care level as the "organising focus and crucial foundation of health systems". She has shown that countries with stronger primary care do better both in terms of health outcomes and costs. Primary care-oriented health systems also have fewer inequities in health.

There are a number of generally agreed upon and common features of primary care facilities or services (12):

- Person-centredness, holistic: taking the person in his/her personal, social, family and home context
- Comprehensiveness: looking at the widest possible range of health and social problems that a person may have, including preventive, curative, rehabilitative, health promotion and palliative aspects of these problems

- Integratedness: problems are taken care of at one time, in one place, and by one coordinating provider, or a small multidisciplinary team closely cooperating
- Continuity of care: continuity is guaranteed not only over the entire disease episode, but also in relation to different health problems over a person's life span, and care that is provided by other professionals, either at referral level or within the team at the primary care level is coordinated.

Beyond these common characteristics, primary care is delivered in a large variety of organisational arrangements, determining differences across primary care types that can be called “models”. From the description, it should be clear that these “models” are not representing a limited set of “classes” or “types” of primary care facilities, but more of a continuum across a number of important variables.

Service packages vary in definition (e.g., are deliveries part of the package, do services have laboratory support, does a primary care facility have beds?) in some situations, the service package may even be so broad that a similar facility in another country would be considered a first referral hospital. In some countries, primary care focuses mainly on curative care, and services like maternal care, vaccinations or child welfare services are under the responsibility of other providers or public health entities. In connection to the service package, the type of equipment, assets, infrastructure, and the range of drugs that are allowed may differ across primary care facilities.

In connection to the first point, the type of health worker(s) that are usually occupying a respective level also varies; it is not only the formal education background of health workers that may differ, also the team they constitute with other workers at the same facility. There can be medical doctors working at this level (family doctors), and they can be working with other categories of primary level workers (physiotherapists, laboratory workers, midwives, support staff, etc.). In low- and middle-income countries (LMICs), there are usually no medical doctors working at the primary care level, although this is changing gradually, starting in urban areas and middle-income countries. In a few sub-Saharan African countries, the training for family medicine is also taking shape.

Family Medicine is a rather new discipline in sub-Saharan Africa (13), and where a special training for providers exists, they may be working more at the district hospital level. The curriculum was to some extent inspired by courses for family medicine in Western countries, but integrating skills of some key specialisations (medicine, surgery, obstetrics, and paediatrics), besides having management skills to lead a district health management team.(14) This positions the family medicine provider somewhere between an “all-around specialist” at the smaller, district hospital, and a leader of a district health management team, with more emphasis on primary care, public health, and community approaches.

With respect to management and ownership: in most LMIC situations, primary care facilities are run by the state (public), or by NGOs or faith-based organisations (FBOs) (not-for-profit, with different collaboration arrangements between NGOs, FBOs, and

the government). Increasingly, there are also private providers that operate at the primary care level, with a variety of formal and informal (traditional) health workers. Most of these private providers are paid through out-of-pocket financial arrangements, although they may also be funded through public financing arrangements, after a kind of accreditation procedure of this public financing source. Private providers at the primary care level can go into large scale networks of primary care facilities through social franchising models (15) (e.g., in South Africa), a model that we will come back to in Chapter 6, when discussing the future of the CLC platform.

Ownership partly relates to the way primary care facilities are financed and paid for: fee-for-service, capitation systems, case based payment, and budgets. Related to ownership status are the accountability relations (e.g., reporting, planning, and performance). This can be towards public authorities (always present to some extent, even in the case of private services, because of laws and regulations), third-party payers (like insurances, health maintenance organisations), and financial accountability (either private, state, or third-party payers like insurance). The degree of autonomy of primary care facilities depends on institutional and decentralisation arrangements in the country.

The population they serve may vary between a few thousand in high-income countries, and up to 50,000 or 100,000. In LMICs, an often found “median” for this catchment population is between 10,000 and 15,000 people. Many countries have different types of services depending on whether primary care facilities are urban or rural, and in rural areas, smaller units are sometimes found in sparsely populated areas (as dispensaries, or under other names) with more limited service packages and smaller catchment populations. The extent to which primary care providers have a well-defined population for which they are responsible is called empanelment: “the act of assigning individual patients to individual primary care providers (PCP) and care teams with sensitivity to patient and family preference.” (16)

Apart from the broader variables described above, related to the population served, the scope of services provided, and ownership and financing modalities, there may be other differences:

- Role in relation to other levels of care (district hospital, tertiary care): the primary care level often (but not always) has a deciding role in referrals to more specialised levels of care; the so-called “gate keeping” role.
- Role and distinction between the “community platform” (Community services, which are generally not considered part of the ‘formal’ health care delivery system, that are working with volunteers like e.g. traditional birth attendants and village health workers) and the primary/PHC level: Activities in the community led by the primary care level are called “outreach” (vaccination campaigns, home visits by providers); whereas other activities are led by community volunteers, or schools (in case of school health), but get support and supervision from the primary care level.
- Community engagement modalities: ownership, health committees, volunteers, co-payments, social accountability arrangements, etc.

VARIETY OF INTERPRETATIONS OF PRIMARY (HEALTH) CARE AND REDEFINITION OF THE CONCEPT

Since the launching of the PHC concept in Alma-Ata, there have been various interpretations of PHC:

- In some countries, PHC has been seen mainly as a system of community health workers and volunteers, inspired by the bare foot doctor approach in China. (17)
- The Alma Ata declaration talks about PHC as essential care, affordable in the context of each country, discussing the importance of intersectoral involvement, self-reliance, and community participation. It stresses that it should be scientifically sound, but that it also relies on community workers and traditional practitioners. In short, the Alma Ata declaration aspires to a comprehensive approach to the organisation of health systems and the role of social determinants of health (SDH) and intersectoral action, based on the principles of social justice, equity and universality. Within this broader statement on PHC, the declaration of Alma Ata also defines PHC as the first level of contact, with the minimal service package that it constitutes, and the integrated character and coordinating role in relation to the health care continuum. Whereas in LMICs the term PHC is more often used, albeit with differing definitions across countries, in the context of Organisation for Economic Co-operation and Development (OECD) countries the term 'primary care' is more commonly used. (6,18,19)
- Ever since the Alma Ata conference, there has been a discussion between selective and comprehensive approaches towards PHC, that expressed itself also in the establishment of vertically organised health programs, and an emphasis on highly cost-effective interventions. (17,20) An example was the acronym used by UNICEF of GOBI-FFF (emphasising Growth monitoring, Oral rehydration, Breast feeding, Immunisations; Food supplementation, Female education, & Family planning). We still see this debate emerging in discussions on vertical programs and global health initiatives. (21,22)
- At a conference in Harare (Zimbabwe) in 1987, the importance of district health systems was discussed as a means of strengthening PHC. (23) In some countries, the entire district health system is considered as PHC, including the district hospital. In line with this idea, in some African countries like Nigeria, the family doctor is trained also to deal with the most common problems in the four essential specialties: surgery, obstetrics, paediatrics and internal medicine.

In support of the Declaration of Astana on PHC, WHO and UNICEF published a vision document on PHC, reviewing the evidence accumulated in the past 40 years, and offering a perspective on how PHC should progress in the 21st century. (10) In this document, Primary Health Care is defined as "...a whole-of-society approach to health that aims equitably to maximise the level and distribution of health and well-being by focusing on people's needs and preferences (both as individuals and communities) as early as possible along the continuum from health promotion and disease prevention to treatment, rehabilitation and palliative care, and as close as feasible to people's everyday environment."

PHC is further defined by three inter-related and synergistic components (24):

1. Meeting people's health needs with comprehensive health services, including promotive, protective, preventive, curative, rehabilitative, and palliative care, throughout their life cycle. In this service provision, there is a role for primary care to individuals and families and a role for more population-oriented public health services. The primary healthcare service fulfils an important role in the coordination of the care to individuals and families, not just throughout their life cycle, but also across different levels of care: community-based services, a broader team of health and social services at the primary level (social care, dentist, midwife, physiotherapist, psychologist, etc.), and referral or specialised services.
2. Addressing the broader social determinants of health: the social and physical environment in which people live and work, as well as the individual and cultural factors that shape their behaviours. Factors like social protection, green spaces and walkability of neighbourhoods, housing, education, road safety, public transport, labour opportunities, and clean air and water are all of critical importance to health.
3. Empowering and engaging individuals, families and communities: this starts from engaging people as a source of information on their perceptions of health needs, and on their perception of the quality of services, which can contribute to user satisfaction and increased use of services and compliance to advice and treatments. It also concerns the involvement of individual and communities as advocates for policies that promote and protect health. It may involve people as co-developers of health actions and services, or as co-managers. Apart from this, individuals and families play an important role as self-carers or as caregivers.

In summary, there are many service and organisational arrangements for primary care and primary health care. They vary from solo practitioners or family doctors that focus on curative health services (often found in developed countries) to community-oriented primary care services (25) that more fully integrate the three components of the PHC definition above.

IMPORTANCE & RATIONALE OF PRIMARY (HEALTH) CARE WITHIN HEALTH SYSTEMS AND FOR UNIVERSAL HEALTH COVERAGE

At the Global Conference on PHC in Astana, Kazakhstan, participants from across the world have reaffirmed the commitments and principles of PHC, considering PHC as the most inclusive, effective and efficient approach to enhance health and well-being. (9) (24) There is evidence from developed countries that primary care oriented health systems have benefits for the coverage of essential services and for health outcomes. (26) A review on the contribution of primary care to health and the performance of health systems in LMICs showed an improvement of access to a range of preventive and curative services, particularly for the poor, and at reasonable cost. (18,27) Both access and quality of care are important, but recent evidence shows that quality may become more important to lower death rates worldwide than further improvement in access (28).

Health systems based on a PHC approach are likely to be more effective, more inclusive, and of potentially better quality compared to systems where PHC is less developed (24,28,29). PHC offered close to where people live implies good accessibility, and through a team at primary care level that can have a life course approach to people's and families' health problems, guarantees continuity of care in a comprehensive and culturally appropriate way. A participatory approach, involving people, would enhance people's demand, motivation and commitment for health improving interventions. Likewise, various community-based interventions, including the deployment of CHW/Vs, would ensure a better interface between neglected and marginalised groups and primary care facilities. The primary care level would also constitute the most appropriate place for community engagement and empowerment.

The PHC approach would also favour taking into account people's local context and living situation, and in that way address the SDH, including individual and family characteristics and behaviours, underlying many health problems. Close collaboration among sectors, like housing, social protection and inclusion, education, agriculture, road safety, walkability of environment, with green spaces, public transport systems, and the potential of health and communication technologies would also be promoted and facilitated in a local context.

PHC has the potential to be more efficient and economical: PHC offered at a close distance implies shorter travel to reach it, there are no very expensive skills and technologies needed, and the primary care level functions as the “gate-keeper” to the more specialised services of first and specialised referral levels. Prevention and health promotion are often more cost effective. Public investments in primary care have been proven to benefit poorer people more than overall public expenditures (30).

However, these potential advantages of PHC do not always materialise, particularly in the context of LMICs: people are attracted to the higher level technologies of hospitals, the presence of medical doctors (or the absence of doctors at the primary care level), and, in generally underfunded health systems, primary care facilities often rank low in the distribution of scarce resources, be it skilled workers, medicines or funding. In such circumstances, many people bypass the first level services, and hospitals are overcrowded with patients that could have been dealt with at the primary care level. Urban based hospitals, and their urban clients, usually have more influence with health authorities to get additional resources, and skilled health workers—already in short supply—prefer posting in urban contexts. In addition, certainly not all SDH can be addressed in the local context, as some require action at the national level, and others even at the global level.

A recent review on the performance of PHC systems in LMICs revealed many areas that need further research; some evidence is presented, but the existing evidence may be context dependent. (31) Four areas were specifically identified for future and priority research: (1) quality of care, safety and performance management; (2) PHC policies and governance; (3) organisational models of care; and (4) financing for PHC. (32) Both the review and the identification of priority research areas were guided by the PHCPI framework.(33)

The CLC approach, as described in the brochure “The Philips Community Life Center: A community-driven and integrated approach to strengthening primary healthcare” (3) matches well with both the PHCPI framework and the PHC Vision document from WHO and UNICEF. This will be further discussed in following chapters

● ● ● **5. DISCUSSION: THE RELATION BETWEEN THE MAIN PATHWAYS AND OUTCOMES IN DIFFERENT CONTEXTS**

INTRODUCTION

In this chapter, we will discuss how core pathways have influenced observed outcomes in different contexts. (34) Pathways not only refer to the resources and activities put in place in an intervention, but also to the behaviours, beliefs, decisions, and choices made by the target population of that intervention. The target population could include health staff, users of health services (e.g., the community), or other actors. Context not only refers to the Kenya or South Africa country case studies, but also to factors like the urban or rural CLC setting, the sociocultural context, the health system context with its level and nature of financing, and the presence of other stakeholders, such as donors or alternative providers. The discussion on the key pathways follows the description of the CLCs defining elements, as they have been presented in the section “The (original) concept of the CLC”. In the ToC of Webster and Hanson (5), we also find these elements, albeit described differently, and not just under the “Pathways” columns of the ToC, but also under inputs/activities, outputs, or outcomes. In Figure 1 we have visualised the matching of the four CLC defining elements within the steps of the ToC. An additional element in the ToC is the commercial strategy that has a twofold aim, leading (1) to economic and commercial activities, thus promoting socio-economic development (albeit very locally), and (2) to Philips product sales.

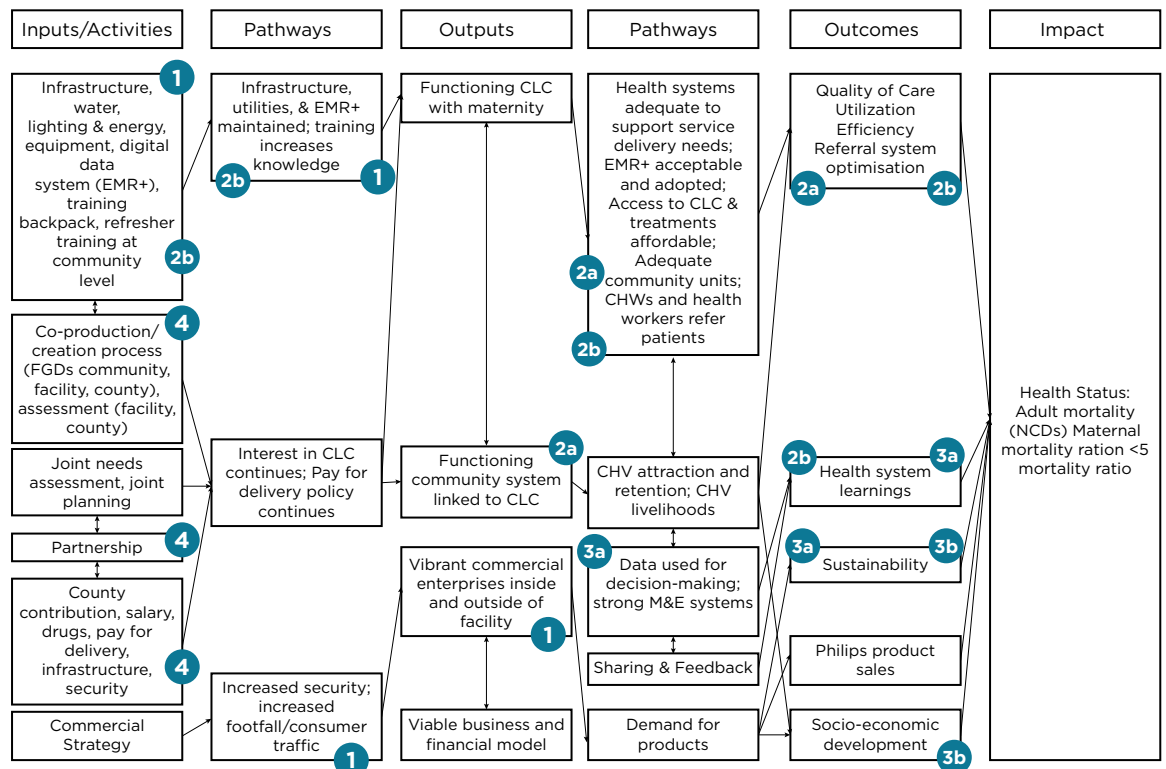


Figure 1. Community Life Centre Theory of Change by Webster and Hanson (5) matched to CLC defining elements. Legend:

1. A Healthy and Safe Environment
- 2a. Connecting community and primary care services to other levels of the health system
- 2b. Technological equipment
- 3a. Operational sustainability
- 3b. Financial sustainability
4. Developing an ecosystem of collaborations

CONTRIBUTION OF VARIOUS PATHWAYS TO OUTCOMES

An important statement needs to be made upfront: there is no one mechanism that will lead to expected outcomes in a healthcare environment. As has become clear even from the short literature review in Chapter 4, health systems, and PHC systems are complex social institutions operating in various contexts. It is often hard to anticipate what a change at one level may accomplish at the level of outcomes and impact. This also became apparent from the interviews with the key experts, and even in the descriptions of the main pathways (see Chapter 1); we see already the overlaps across the four defining characteristics or pathways.

The PHCPI was created to permit more systematic research on the interrelations of what are generally understood as key elements or characteristics of PHC. In order to improve outcomes, various levels or pathways need to work in a complementary way.

INFRASTRUCTURE: A HEALTHY AND SAFE ENVIRONMENT (1)

A sufficient infrastructure in terms of space, lighting, surroundings, water supply, etc. certainly contribute to the attraction of the CLC, for both staff and communities. This was clearly demonstrated in our Kenya and South Africa case studies, where such assets made a very positive contribution to the image and reputation of the CLCs. The attraction will also be partly related to the availability of equipment, and sometimes technologies, that are not found elsewhere, such as ultrasound. The feeling of safety may also be enhanced, at least on the premises of the CLC. However, this does not apply to people who may have to travel long distances to the CLC at night.

From the side of health staff, working in a pleasant and well-equipped environment is usually an extrinsic motivator, the absence of which may lead to dissatisfaction (35,36). To enhance intrinsic motivation, human resources management practices that promote (a) autonomy of workers (e.g., freedom of choice on how to organise one's work), (b) competence of staff, (c) relatedness to the team and to the people served, and (d) the sense of doing meaningful work, through feedback from supervisors or clients, are particularly essential (36–38).

A safe and well-equipped environment (lighting, electricity, enclosure, internet, water) is also assumed to be beneficial for social and economic activities. This assumption is probably not incorrect, even more so when these economic activities are further promoted by offering business training, as happens in the business hubs. However, to assume that such activities will have a substantial impact on the overall economic development of the area to the extent of increasing people's livelihoods, and therefore having sufficient means for financial access to health care, is exaggerated. The benefits of economic activities (businesses that benefit from assets of the compound) and from training through business hubs will only have a modest impact. If these non-health services would be paid for, there is a possibility that they might cross-subsidise CLC health activities, but then the cost of such services would need to be higher than the production costs of these services (e.g., electricity, water, and business training) and although we did not investigate this, it appears unlikely.

Some experts also saw the innovations concerning water supply, lighting, security, electricity and sanitation in a broad perspective of intersectoral action, but it was unclear among these experts how and to what extent these innovations would benefit the wider population beyond the compound of the CLC (in the pathway “Providing a healthy and safe environment”) or mainly serve the CLC as a health facility. In the case of Githurai CLC, the borehole water is managed by the Ministry of Water and the community, and it is piped to households in the area, so it has a wider community impact, but its primary aim is not to increase general access to safe water.

Economic activities such as shops may contribute to more crowding of the area surrounding the CLC, and indirectly enhance health care utilisation. This relationship may also work the other in reverse: where many people come to visit a health facility, shops and traders are attracted to do their business, as can be seen at any busy hospital.

TOOLING, TRAINING AND TRACKING (2)

Connecting community and primary care services to other levels of the health system (2a) involves connecting to community-based activities, undertaken by CHWs or CHVs, other community organisations, or school health initiatives. Activities undertaken by the CLC team in the community are usually called outreach and can be undertaken in collaboration with community actors. This element of connecting community and primary care to other levels of care is mentioned as a component under “Tooling, training, and tracking”. It specifically mentions community outreach and appropriate technologies for CHVs in backpacks.

This element was clearly present in Kenya, although there were comments from IDIs—also acknowledged by the key experts—on whether the continuous training, the support for maintenance of equipment included in the backpacks, or even the number of backpacks was sufficient compared to the number of CHVs being supported. Promoting continuous community dialogue around health needs or perceptions of the quality of service provision appeared not as strong a component: in the CLC approach, the emphasis was on the CHW/Vs, the services they provide, the innovations in their tools and equipment, and the ‘referral’⁵ they make to the CLCs. In the final chapter we have elaborated further on the opportunities to strengthen the community orientation and engagement in a broader way, also outside the potential of CHW/V networks, as has been referred to in Chapter 4.

Connection is also with secondary and tertiary hospitals. This can take the form of referral procedures, with systems of referral letters and counter-referral (continuation of treatment and follow-up of patients after having consulted a hospital). Referral systems can be supported by digital information systems. Another part of the referral is the physical transport of emergencies to hospitals, e.g., through ambulances. An ambulance was not part of the standard CLC package. We also didn’t come across CLC-specific procedures or information systems in relation to referral. From the Kenya

5. Although not incorrect, the term “referral” is usually reserved for the linkages between primary care level and (secondary or tertiary) hospitals. CHWs are said to act as an interface between communities and the primary care level, and to facilitate or motivate people for the use of primary care services.

case studies as well as from the interviews with some national key experts, and even from the CLC documentation, it was not always clear that ambulances were not part of the standard CLC, signalling a need for expectation management concerning this point.

Technological equipment (2b) may improve diagnostic or treatment processes, both for the package of care provided at the CLC and for the community package offered by CHW/Vs.

In the key elements that the Philips brochure defined for the CLC, technological innovations were mentioned under “Tooling, training and tracking”, that has as its aim to improve quality of service provision.

Ultrasound was only available and also functional in one of the evaluated CLCs in Kenya. Backpacks were part of the interventions in Kenya, but there were several issues in relation to their quantity, the maintenance, and continued supply of consumable parts, as well as the continuous training and guidance on their use. As part of the CLC defining element “Tooling, training and tracking”, improvement of workflows and training of staff is explicitly mentioned (3). Although some initial training was provided in the case study countries, we feel that more attention should be paid to this process component, even more because it is important in promoting the feeling of competency and autonomy of staff, important for intrinsic motivation.

The more visible technological innovations could have had a symbolic value, either from the perspective of users of services or the staff engaged in activities, and a true value, in the sense of contributing directly to health outcomes and impacts, responsiveness, financial protection and efficiency or value for money. For instance, technologies such as ultrasound can be attractive at the primary care level and appealing for pregnant women, but how and to what extent does it contribute to addressing emergency obstetric care and lowering maternal mortality ratios? These two sides are also not unrelated, technology appeals to both users and staff and can promote user attendance and staff motivation. Both from the country studies and in the opinion of the key experts, the primary health services were highly appreciated, and quality of services was assessed as sufficient. In both contexts the leadership and commitment by county and/or district/provincial management was essential in kicking off the CLC process, as confirmed by various respondents in both the country studies as well as in the key expert interviews.

Another issue is whether the physical technologies (innovative equipment) fits in the package of care offered at the primary or community level, within the context of a particular country. The image of a well-organised and equipped infrastructure, particularly when this facility is known to be supported by an organisation like Philips, may easily lead to high expectations, as we noticed through interviews, for instance, in relation to the presence of ambulances, but also sometimes for specialised services that normally are not part of the normal primary care package in that specific country context (like X-ray, ultrasound, or cancer screening), or in relation to drug stockouts.

No application of consumer applications has been seen in Kenya or South Africa, but such applications may have an added value in the follow-up of patients for chronic care, or for self-diagnosis and self-care, for instance, in the case of NCDs. There was also no application of telehealth innovations with diagnostics or treatment advice at a distance.

SUSTAINABILITY (3)

This CLC pathway is subdivided in operational sustainability (3a) and financial sustainability (3b).

Operational sustainability (3a) has been described as monitoring and evaluation through continuous performance measurements, with continuous training in order to support service readiness, quality and responsiveness. The description has overlaps with the description of “Tooling, training and tracking”. Internet connectivity, data reporting systems and EMRs also constitute technological or innovative technologies and equipment, which means tooling for the purpose of tracking.

In the sphere of Monitoring and Evaluation (M&E) two elements should be distinguished. Firstly, registries and reporting on service provision and other activities through DHIS2, with its feedback loops to facility management. And secondly, patient/family files, that can be organised in EMRs, and that primarily serve the purpose of patient documentation and tracking follow-up visits for chronic diseases, vaccinations, or TB and HIV treatments, or those of a family over the course of their lifetimes. An EMR system was available in CLC-Kiambu but was not fully operational. Although the EMR can be a very useful innovation for primary care, we saw that the system was underexploited, and besides, such a system when functioning in isolated primary care facilities will miss the needed support from the county or district levels.

Financial sustainability (3b) was described as finding new and innovative funding sources for the CLC, next to uncovering and remediating operational inefficiencies. When no or insufficient public funding sources are available, people need to pay out-of-pocket for service provision, that can pose challenges for accessibility by the poor.

In Kenya, the CLCs functioned as public facilities, with primary care being free for users, and funded through general revenues from the government. Kenya is also creating insurance schemes like Linda Mama that funds maternal care for the entire population.⁶ The fact that primary care facilities including the CLCs are funded through government revenues does not imply that this funding is sufficient or sustainable: when resources fall short, people are sent to private pharmacies, or they may have to pay informal fees. Experts referred to the Makueni collaboration with Amref and FMO, where it was suggested that increased use of primary care would increase enrolment

6. According to National Health Accounts 2017, the Kenyan health system is funded through general government revenues (42% of funds), donor contributions (18% of funding), NHIF (8% of funds), private or voluntary insurances (10%), and through out-of-pocket funding (24%). Primary care is in principle free for users, and funded through general revenues. The NHIF runs also some separate insurance schemes like the Linda Mama programme that covers the entire population and is funded through general revenues. It is unclear how much insurance contributes to the financing of primary care, but it is currently negligible.

in Social Health Insurance (the main NHIF scheme), but this expectation is far from realistic given the informal structure of the labour market in countries like Kenya. (39,40)

In South Africa, CLC-Diepsloot functioned as a private, not-for-profit facility that applied small user fees for its services. The relative amounts of NGO funding through Rhiza (for instance, salaries of staff), through contribution from Philips (mainly investment costs), or through county or government subsidies (that made contributions through drugs and supplies, supervision and training) was not clear. In order to judge the future sustainability of the CLC, and to have an idea on costs when compared to fully public primary care facilities, more precise studies will be needed.

The extent to which collateral activities like business development training, promotion of commercial activities in the compounds of the CLC (because of their attractiveness in terms of basic assets like security, electricity, internet connectivity, or because of the fact that health services attract clients for these businesses) can in a way cross-subsidise the primary care provision of the CLC needs to be further explored. We think it is unrealistic to assume that the business hubs will elevate the general socioeconomic level of the surrounding population. Some will definitely benefit from these collateral development activities, but in order to guarantee access to care for the poor and vulnerable, financial safety nets (exemption mechanisms) or pooled financing arrangements organised at the country level will be needed.

We think financial sustainability should first address the need to monitor and get a clear picture of the comparative costs of the CLC model. We were not able to obtain detailed income and expenditure information on the CLCs in either Kenya or South Africa. As part of the inputs for primary care institutions are through government or donor budgets and subsidies and/or through allocations in kind (investments, drugs, training or supervision provided, etc.), obtaining detailed costing information requires careful planning, and full collaboration of all sources of funds or contributions in kind, a situation that is nearly impossible in an a posteriori study.

In terms of payments for health services, the CLC will need to align to financing policies in the countries where they are set up: currently there is a move in all countries towards increased pooled funding for health systems (either through general taxes like in the model of the UK, or through the creation of a social or national health insurance). In its “collaborations”, Philips should strive to align with such policies and ensure the eligibility of the CLCs to get reimbursed through these public or pooled financing arrangements.

In the Kenya and South Africa case studies we have seen that a core aim of the CLC was “leaving no one behind and reaching out to the most vulnerable”, that is, targeting poor populations and creating universal access to health. In South Africa, we saw that the CLC was more used by the slightly better off, shown by the fact that more users of the CLC had a voluntary health insurance compared to the users of the control facility. At the same time, even with the small user fees applied in CLC-Diepsloot, people

may still be better off attending the CLC, as distances are large in Johannesburg, and transport costs may sometimes outweigh the small fees they had to pay at the CLC. Although services at public facilities are said to be free, drug scarcity often means people must purchase drugs in private pharmacies, whereas in the CLC-Diepsloot, there were fewer stockouts, and drugs were usually included in the fees.

The place where CLCs are situated may have an influence on the extent to which poorer people are preferentially served. This is for instance the case in Mandera, where the CLC was mainly attracting Somali and Ethiopian populations from across the border. The same can be said about Githurai, which is a relatively poor area in Nairobi. In this location, there was a variety of alternative services available, public, private and informal. In Diepsloot, the CLC seems to have been attractive for foreign citizens with an undocumented status, who showed reluctance to visit public facilities because they have to identify themselves.

Access to services and equity does not only refer to affordability and financial access. At least as important is the empathy that health workers show towards minorities and vulnerable or stigmatised groups, such as the LGBTI+ community, adolescents, people with an undocumented status, etc. There were clear indications from the country studies as well as from the expert interviews that in terms of empathy, the CLCs outperformed the control facilities in both Kenya and South Africa.

ECOSYSTEMS OF COLLABORATION (4)

Initially a co-creation process involving the target population, local authorities, and potential partners identifies the local priorities. Beyond the initial co-creation process, there is continuous engagement and dialogue through contacts with stakeholders such as potential funders and with local authorities. This was done as an explicit process in Kenya, whereas in Diepsloot, Rhiza already had already been involved for longer in the same area, allowing them to identify health service needs. We observed that continued engagement and dialogue with community representatives or community organisations was less developed. According to general experiences with PHC, such engagement could lead to more commitment from the community side, such as interest in CLC services and willingness to pay for certain services. Services may become more responsive to client needs. Perceptions of community members about their health needs and their perception of the quality of care may constitute important feedback loops for continued quality improvement and addressing the evolving needs of communities. A continued dialogue may also contribute to managing expectations and resolving issues about unjustified expectations, i.e., because the expectations go beyond the service package of a primary care institution, or funding certain services is not foreseen in the budget of the stakeholders involved.

Collaboration with other actors to promote and explore the potential for intersectoral action, behaviour change, and addressing important determinants of health in the area are reflected in the business hubs and the early childhood development activities. We believe there is a potential for a broader approach to health promotion here, particularly in the case of South Africa, where the intermediary NGO (Rhiza) is already

implementing a broader range of development activities, particularly in education, agriculture and women empowerment. We already observed that the 'Healthy and Safe environment' refers mainly to the compound and the direct surroundings of the CLC, and not to the living conditions of the general and particularly poor populations that the CLC targets.

CONTEXTUAL FACTORS - KENYA & SOUTH AFRICA

In the country reports of Kenya and South Africa, we have elaborated on the contextual considerations that have to be taken into account when making inferences on how pathways lead to expected outcomes.

Country and health systems context in which CLCs operate: Sociocultural contexts influence many determinants that are crucial for health outcomes, such as the relative size of public, private and informal providers, food security & nutritional practices, degree of urbanisation, stage in the epidemiological and demographic transition, employment and overall economic development and income, relative size of the formal and informal economic sector (in turn determining fiscal space and public expenditures for health), education, the strength of public institutions and governance, etc.

At the local and facility level of the places where CLCs are installed, there are other determinants, like the presence of alternative providers, the sometimes hazardous presence or absence of an inspirational facility head, a district supervisor, or other influential and dynamic people who can make a large difference when comparing two facilities, the presence of NGOs in the area that are running health-related initiatives. Sometimes the ownership or management of a facility by an NGO or FBO may have a large impact on organisational culture.

● ● ● 6. LESSONS LEARNED, REVISED THEORY OF CHANGE AND ROADMAP

MAIN LESSONS LEARNED

The main lessons learned from the whole evaluation process are summarised here:

- The CLC concept is generally well received by users in terms of perceived quality. Part of this perceived quality is related to structural elements like the appropriate infrastructural environment or the innovative equipment; notably in the CLC-Diepsloot, this was less the case and here, the CLC profiled itself more on the relational aspects of health care provision.
- Relative emphasis was observed on physical improvements including infrastructure, health care equipment and less on process including maintenance of health care equipment and continuous skills training.
- Insufficient profiling of the CLC distinguishing features has been observed, however this is desirable to brand the CLC concept.
- Strategies on community engagement and empowerment have been too narrowly identified with community health worker networks, and within the support to these community health workers network, emphasis has been too narrow on innovative equipment and backpacks.
- Financial sustainability seems to seek solutions into 'naïve' assumptions of business hubs or count on international donors which is not a sustainable strategy, certainly not for middle-income countries like Kenya or South Africa, where financing strategies need to strengthen domestic sources of public financing.
- The moment to further develop the CLC platform is there: in international health policies in relation to low- and middle-income countries, a lot of attention is currently paid to quality of care and the importance of primary (health) care. The experience and further development of the CLC platform can build upon and take benefit from this ongoing discussion.
- The Philips name is an asset, not only for the sake of seed money, but also for its role as a big player in innovative health technologies. Philips can work further on this leadership position, and access international donors for the investment costs needed to develop the CLC further (see proposed roadmap).

REVISED THEORY OF CHANGE FOR THE CLC

We propose a revised CLC ToC which is based on the same conceptual framework that also served as a starting point for the ToC elaborated by Webster and Hanson (5), coming from the PHCPI.⁷

In Table 1 we have slightly adapted the terminology and the order of the key defining elements of the CLC platform, in order to align them to the PHCPI framework and to the triad from the definition of PHC in the WHO/UNICEF Vision document. (24)

7. The PHCPI is a collaboration between WHO, Gates Foundation, UNICEF, and World Bank in partnership with the Ariadne Labs and Results for Development, launched in 2015 with the aim of measuring and promoting improvements in PHC in 135 LMICs.(41,42) (43) The PHCPI framework is again inspired by a more general framework of health systems monitoring and evaluation, that is the IHP+ framework, that also forms the basis for the WHO Global Reference List of 100 Core Health Indicators, including the health-related SDGs.

For each of the revised elements we provide a short description and include observations as to how the Philips CLC could profile itself in that specific area, or what would be the main opportunities and challenges. We have tried to remain as close as possible to the original terminology and titles for the key defining elements as stated in the section “The (original) concept of the CLC” from Philips documentation. But we have at the same time chosen to remain as faithful to the health systems and PHC concepts and terminology as they are commonly used in the international literature. We think this harmonisation with terminology used in the literature is important for (external) stakeholders when reading about the CLC platform. This table is tentative and should be further completed in a process together with Philips, the Philips Foundation, and possible other stakeholders or partners. Box 1 provides a narrative description of the revised ToC, and in Table 2, we present the revised ToC.

TABLE 1. ADAPTATION AND ALIGNMENT OF CLC ELEMENTS

KEY PATHWAYS OR DEFINING ELEMENTS FOR THE CLC	DESCRIPTION WITH REFERENCE TO PHCPI FRAMEWORK*	PHILIPS CLC SPECIFICITIES & OPPORTUNITIES (Including commercial opportunities)
Addressing population health needs with quality services	<ul style="list-style-type: none"> Meeting people's health needs with comprehensive, integrated, continuous, and person-centred care. (D1) Includes Access (C3) and High Quality of PHC (C5). 	Note: This is not a pathway like the others, it is the common purpose of the CLC, to which all 6 pathways contribute.
1. Connecting community and primary care services with other levels of care and with other sectors	<ul style="list-style-type: none"> Connecting to community-based activities: outreach, networks of community health volunteers (CHVs), school health (C1d) Designing and implementing appropriate referral systems for specialised and hospital care; aligning with country-specific arrangements for empanelment and gate keeping. (C5d) Identifying opportunities for addressing SDH and action through other sectors. (C5d, D1a) 	<ul style="list-style-type: none"> CHW backpacks; training and follow-up Communication systems (IT connectivity); transport systems for referrals
2. Community orientation and engagement	<ul style="list-style-type: none"> Initial and continuous needs assessment; system for regular community dialogue on community perceptions of health related issues and perceptions on service provision; (A3a, b) Guidance, support and supervision of community health workers or volunteers (C1b; C1d) Systems of co-management or co-ownership as appropriate in specific contexts; social accountability arrangements (A1c) 	<ul style="list-style-type: none"> Support to community based workers/ volunteers and activities, aligned with country policies; technical innovations (support for both hardware and software, support and follow-up)
3. Healthy, Safe and appropriately Equipped environment	<ul style="list-style-type: none"> Refers to facility infrastructure (B2) 	<ul style="list-style-type: none"> See elements in brochure: infrastructure, water, lighting (solar), waste disposal arrangements, solar power supply. Technological innovations: hardware
4. Tracking, Training & Learning	<ul style="list-style-type: none"> Performance measurement & management; information systems; facility management and leadership (C2) Learning and innovation (A3c); quality management infrastructure (A1b) Information systems: both for reporting on services provided (DHIS2), and patient/family files for follow-up of patients/clients. (B3) 	<ul style="list-style-type: none"> EMR, digital support systems Human resources for health arrangements Technological innovations, software side: maintenance, support and supervision.
5. Governance & Networks of Collaboration	<ul style="list-style-type: none"> Networks of collaboration (A1a; A1c; D1a; C2b) Alignment with national policies (A1a) Public-private partnerships; ownership relations Relations for intersectoral action: addressing SDH and behaviour change & Communication 	<ul style="list-style-type: none"> Ecosystems of collaboration Hubs of economic activities within the compound of CLCs may contribute to intersectoral action and wider development
6. Financial sustainability & Equity	<ul style="list-style-type: none"> Financing policies: domestic revenue generation, priority allocation for PHC, payment systems (A2; C4c) Diminishing dependence on out-of-pocket payments (A2; C3a) Right to health, responsiveness & equity (E2; E3) 	<ul style="list-style-type: none"> CLCs should get access to (be eligible for) public (pooled) funding arrangements, in accordance with country financing policies (UHC policies). Careful monitoring of comparative costs of CLC model, as compared to public providers. Pro-poor and inclusiveness

* Letters and numbers correspond to those used by Ratcliff et al (43) in their presentation of the Primary Health Care Performance Initiative conceptual framework.

BOX 1. NARRATIVE DESCRIPTION OF THE REVISED THEORY OF CHANGE

The two top layers of the revised ToC refer to impacts and outcomes. Note that we have followed the bimodal outcomes of effective (read: quality) coverage of services according to need and promoting healthy behaviours and addressing societal risk factors for health.

The main defining CLC elements have been formulated as six main pathways (red colour):

1. Connecting community and primary care services with other levels of care
2. Community orientation and engagement: dialogue on developing health needs and on their perceived quality of the services provided; also social accountability; networks of CHVs/CHWs offering services at the community platform may be part of this pathway.
3. Ensuring a healthy, safe and appropriately equipped environment: Note that the 'tooling' element has been included here.
4. Tracking, training & learning: M&E and continuous quality improvement processes
5. Promoting governance & networks of collaboration
6. Guaranteeing financial sustainability & equity

The components through which each of these pathways are realised are described in the row below (blue colour). They can be seen as either specific activities or strategies to be further defined, depending on the country context and local priorities, but also with a keen eye to opportunities for Philips to profile itself.

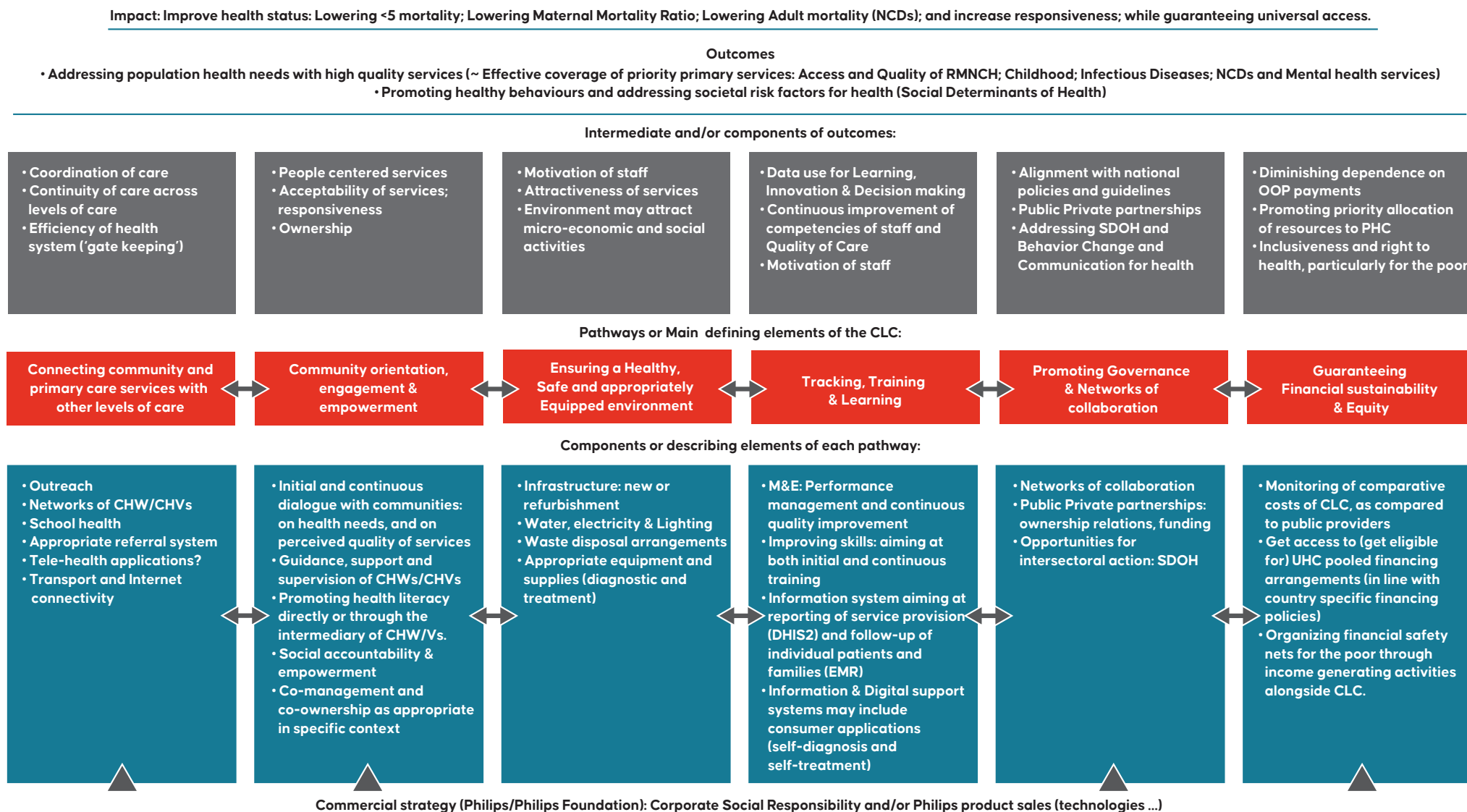
Each of these six pathways has a set of intermediate objectives to which they contribute (grey colour).

As health systems are complex systems, there is no single pathway leading to desirable outcomes and impacts. The relative effort that needs to be put in place for each of the pathways will depend on the context and the baseline situation. Besides, health systems are in continuous development, with health reforms changing the organisation of health systems, but also with changing health needs, in part through the effects of the demographic and epidemiological transitions, and also due to the increasing awareness and consequent demand of the populations. Global absolute burdens of disease may be decreasing worldwide and in most countries, the demand for health services will increase parallel to development and an increasingly assertive citizens.

The arrows across the different pathways and their constituent parts intend to provide a schematic view of the many interactions and feedback loops across them: governance that serves as a kind of cement between all the constituent parts; tracking and learning not just for reporting, but to feed into management decisions; continuous dialogue with communities, individuals and neglected groups in order to ensure that services are responsive to their needs; and to monitor that truly no one is left behind, not just for affordability reasons, but also because of the stigmatisation of certain groups.

At the bottom and detached from the ToC framework itself, is the commercial strategy for Philips and/or the Philips Foundation that may be based on corporate social responsibility or Philips product sales, or a mix of the two, voiced in a clear and transparent way.

TABLE 2. REVISED THEORY OF CHANGE



SUGGESTED ROADMAP

The following cannot and is not meant to be an exhaustive and detailed description of the future CLC, but a summary outline of possible options for a future CLC. The future CLC needs to be a platform for PHC with a clear profile or branding that can subsequently be adapted to local contexts.

The structure of this roadmap follows the steps below:

Firstly, the importance of better branding or profiling while still maintaining the principles of a participative process and alignment with national policies and guidelines needs to be recognised. The proposed ToC serves as a more holistic framework in which the specifics and distinguishing features of the future CLC need to be defined and choices be made.

Next, in three subsections, the content areas in which choices can or should be made by Philips on the branding or profiling of the CLC are presented and briefly discussed:

- i. Meeting people's health needs through service delivery at the primary care level: this corresponds to the first of three main components of PHC from the Astana Vision document, as well as to the first outcome in the revised ToC. This section is further subdivided into several physical input components and process components. In the revised ToC, all six pathways interact towards this outcome.
- ii. Promoting healthy behaviours and addressing the social determinants of health: this relates to the second component from the Astana Vision document, as well as to the second outcome of the revised ToC. It is also found in the fifth column of the pathways in the revised ToC: promoting networks of collaboration that can contribute to the intersectoral action on the SDH. It should be borne in mind that not all intersectoral action fits the mandate of a primary care facility, so activities should focus on the local environment.
- iii. Empowering communities, families, and individuals: this relates to the third component of the Astana Vision document and has its focus in the second pathway of the revised ToC: "Community orientation, engagement, and empowerment".

The next section stresses the urgent need for comparative costing studies once the process of branding and profiling has redefined a new "standard CLC". This should be linked to exploring possibilities for the financial sustainability of the future CLC by ensuring funding from either external sources or (preferably) through domestic public financing arrangements (general revenues and/or social/mandatory health insurances). At the same time, the options chosen within a newly defined "standard CLC" will need continuous operational studies or evidence from existing literature to validate and strengthen their base. This step will help to define and operationalise the more entrepreneurial approaches that will guarantee the financial sustainability of the CLC while aiming at universal access.

The last steps are related to the scale-up of the CLC, for instance, through a social franchising business model that can offer economies of scale, and the precise role and interests of Philips and the Philips Foundation.

CLC BRANDING: (RE) DEFINE THE KEY FEATURES OF THE CLC PLATFORM:

We suggest that based on the revised ToC Philips or the Philips Foundation, identify within each of the newly defined six pathways, what they see as specific to the concept of a CLC. In principle, the co-creation process is a laudable participative process, at the same time, in order to preserve the basic characteristics of the CLC platform, some basic common features need to be defined and clearly visible in all CLCs, wherever they are implemented. Apart from the participative nature of the co-creation process, in which continuous community dialogue merits an important place, another principle that needs to be guaranteed is alignment with national policies, guidelines, and strategies. But we think that within the scope of an overall participative co-creation process, and while guaranteeing good alignment with the national policies, there remains space for the identification of specific and easily identifiable and visible elements that would define a typical CLC, through which profiling of the CLC concept can gain strength.

In the following three subsections, we briefly discuss the opportunities for each of the three elements of PHC as defined in the vision document of Astana (24,29) in relation to the CLC platform: (i) Meeting people's health needs through service delivery at the primary care level; (ii) Addressing the social determinants of health; and (iii) Empowering and engaging individuals, families, and communities.

1. MEETING PEOPLE'S HEALTH NEEDS THROUGH SERVICE DELIVERY AT THE PRIMARY CARE LEVEL

When identifying the common features for primary care delivery, both physical assets and technological equipment (input) components and training, maintenance and appropriate process components should be included.

The physical input components have already received attention in the development of the CLC platform:

- Infrastructure: refurbishment or new spaces, furniture, lighting with solar energy, waste disposal, electricity also through solar installations, water supply, enclosures to ensure the safety of the compound. The basic assumption that these assets could also allow commercial and social activities to take place within the compound is valid; the possibility that these activities offer scope for income generation (paying for space, electricity, internet, business training, etc.) needs to be further explored, but this could be one method of generating the funds needed to provide a safety net for vulnerable and poor groups who have difficulties accessing healthcare services of the CLC.

- Innovative technologies for diagnostics or treatment: these need to be identified in alignment with the service packages that are foreseen for the platform of primary care or for the community package. We think there could be space for technologies beyond the standard country packages for the respective levels, provided this is done on a pilot basis, with proper follow-up and documentation.
- Consider digital health technologies (ICT hardware plus software) as recommended by WHO (44)
 - a. Systems for facility management: for monitoring and reporting on services provided, financial management, human resources management, supply chain management, and equipment and asset management linked with appropriate internet connections to ensure transmission of data to district/county authorities and subsequent feedback. A precaution here would be that such systems would be most useful only in case they are implemented at the level of a district, province, or country, and not at the level of an individual CLC. Information on services provided permits monitoring of coverage for essential interventions: this means that services provided are evaluated in relation to an eligible population. A system of empanelment, where individuals have chosen or are assigned to 'their' preferred primary care provider, and where providers consequently know the population for whom they are responsible, is essential in order to allow coverage calculations.
 - b. Client health records: longitudinal tracking of clients is particularly useful for chronic diseases (NCDs, HIV, TB) but also for follow-up of pregnant women and children for growth monitoring, vaccinations, and overall development during their first three years. Appointment schedules for follow-up visits could be linked to messages to personal devices through SMS or other applications, depending on the context. As summarised by WHO (44) compared to paper-based systems for health services, digital tracking can reduce obstacles in the continuity of care by promoting timely follow-up visits.
 - c. Clients: a third domain of digital technologies that may be explored are personal health tracking, or the use of consumer applications for the self-monitoring of healthy behaviours (physical activity, weight, blood pressure and/or diagnostic data, etc.). Community health volunteers and community health workers could play a role in linking such systems to the CLC. For the time being, such applications may still be experimental, but given the fact that Philips is a large player in this field, it is worth mentioning.
 - d. Health care providers: digital systems can also be used in order to link the CLC to the hospital and referral level, through telehealth applications (referral at a distance, teleconsultations, interpretation of imaging products by specialists at a distance, etc.). Specific applications need to be tested in an environment where they can be run by locally available staff and given the restrictions of internet access.
 - e. Health care providers training: continuous training of both the staff of CLCs or community volunteers can be supported by e-learning technologies and the use of clinical vignettes.

With regard to these same assets and technological components, there is an investment cost and a recurrent cost that needs to be considered. Large and very visible investments can easily create expectations, from the sides of users, staff, and health authorities, particularly when the name of an internationally renowned enterprise is featured on the signboard of a CLC. We observed this when drug shortages or lack of ambulances were seen as shortcomings of the CLC, or when people wished to see certain services like cancer screening that are not part of a normal primary care package in a particular country. Clear communications, clarification of roles and responsibilities, and expectation management need to be part and parcel of the CLC concept and its implementation. A final remark is that we should be aware that technological innovations have or can have a perceived (symbolic) value, either from the perspective of users of services, or the staff engaged in activities, and a “true” value, in the sense of contributing directly to health outcomes and impacts, responsiveness, financial protection and efficiency or value for money. The two sides are not unrelated, technology is appealing to both users and staff and, therefore, can promote user attendance and staff and motivation.

The operational process components of these assets and technological innovations have received less attention: (continuous) training of staff, maintenance, operational costs and the embedding in functional processes (for information management, or quality management, etc.):

- Systems for maintenance, repair and spare parts need to be carefully planned for, including their associated costs. As an example, we saw that backpacks for CHWs were expected to be shared with several agents and that provisions for the renewal of consumption items and supplies hardly seemed to exist. Although the existence of a “Philips backpack” is fine for marketing such a set of innovative tools and equipment, within a specific country context, the contents of a backpack should be led by the comprehensive package of community services that CHW/Vs are supposed to provide to the people, and not just the gadget-like technological tools.
- Continuous training and supervision, together with the necessary guidelines and operating instructions. Despite requests from our side, we have not been able to assess the “training modules”, either on the use of technologies, on patient flows, or on specific management of a CLC. Somehow this has led us to conclude that this part has been relatively neglected and needs more attention. This will become easier when the key physical assets and technologies that profile a CLC become standardised. Training is not only about clinical diagnostic and treatment procedures, the use of technologies, or management procedures. At least as important for the perception of good quality care are aspects of team building for staff, client-centred approaches and proper communication styles and attitudes, particularly in relation to vulnerable and stigmatised groups. Creating an organisational culture in this sense would be an important asset for a future CLC, and specific training materials could be developed to strengthen such aspects.
- Something similar applies to the data management systems/technologies: the physical input components (computers, EMR, etc.) need to be embedded in complete information systems, with the purpose of the subsystems, information

flows, and decision making by users at different levels well integrated. The challenge with such information systems is that they can hardly be expected to work properly just for isolated CLCs: they are probably best implemented at the district or regional level, with national expansion when such systems have been thoroughly piloted.

- Referral systems: in CLC documentation, the term ‘referral’ is also used in connection to CHV/Ws who guide people to a primary care facility. As community services are mostly not part of the formal health system, the term referral is usually reserved for connections from a CLC or primary care institution to the district hospital or beyond. The role of CHV/Ws is more considered as an interface or facilitator between community members and a primary care facility. This component, included in the revised ToC as “Community orientation and engagement”, is discussed below. Strengthening referral systems has to do with communication between CLC and hospital and vice versa, either paper-based through referral (and counter referral) letters, or digital data/information exchange. When a formal “gate keeping” system exists, it is easier to reinforce such a system, but in most LMIC contexts, people bypass the primary level and are allowed to go directly to a hospital. For emergencies, there is also the challenge of physical transport like ambulances. The question is whether an ambulance is one of the essential elements of the CLC concept, and besides, the investment in an ambulance needs to be supported by appropriate management and support measures, to keep an ambulance functional, and to prevent frivolous use. If an ambulance is not part of the CLC concept or depends on the co-creation process, proper expectation management would be needed.

For all the operational process components and interventions, it is clear that they need to be aligned with national priorities and policies, but as mentioned under the physical input components, we think there is sufficient space for innovations and profiling of the CLC concept.

2. ADDRESSING THE SOCIAL DETERMINANTS OF HEALTH THROUGH HEALTH PROMOTION

The non-health components have not been an explicit focus of our evaluation of the CLCs in Kenya and South Africa. Although it is acknowledged that elements like commercial activities, business training, early child day-care activities or social activities that can take place at the compound of a CLC constitute worthy activities, and it cannot be denied that they may indirectly contribute to better health, they are not considered as a mandate within a health system.

The WHO, in its definition of a health system, included the condition that health system activities are those whose *primary purpose* is to promote or enhance health. It relates to influencing healthy behaviours and addressing societal determinants of health. In the revised ToC, the non-health components have been integrated into the pathway “Promoting governance and networks of collaboration” as well as under the outcomes. It is one of the three essential components of the revised definition of PHC.

Early childhood development activities could be comprised under that definition, given the importance of the first 1000 days for both the health and other opportunities of a child. Media campaigns on healthy behaviours, road safety arrangements, clean alternatives for indoor cooking, tax measures like “sin” taxes for alcohol, tobacco or sweetened drinks, are all examples of how important determinants can be addressed to improve health. For a more exhaustive overview of key interventions, some of which can be actively promoted at the primary care level, we refer to “Essential Universal Health Coverage: Interventions and Platforms” and why this is one of the three mainstays of the reaffirmed definition of PHC. (24,45)

3. PROMOTE COMMUNITY EMPOWERMENT AND ENGAGEMENT AND STRENGTHEN COMMUNITY HEALTH WORKER NETWORKS

In the CLC case studies in Kenya and South Africa, as well as in the documentation around the platform, the community component has received due attention through the process of initial needs assessment, and the training and equipment of community health workers and volunteers, where the emphasis has been slightly skewed towards the backpack with its innovative tools and equipment. The following paragraphs briefly describe options for community empowerment and engagement, including the networks of community health volunteers:

Community orientation and engagement should not be entirely and narrowly identified as networks of community health workers or volunteers and their activities, although they can play a pivotal role at the interface between the health formal health system and individuals, families, and the community at large.

To empower communities, it is necessary to create a mechanism for continuous dialogue with the community, as well as with priority and vulnerable groups within it. This is important in order to explore evolving health needs and to get feedback on perceptions of the CLC and the quality of services provided. Linked to such a continuous dialogue are systems for social accountability that can take the form of simple complaint boxes, with appropriate action taken on the basis of these complaints, up to more complex co-management structures, also dependent and aligned with national policies defined for this purpose.

Creating health literacy: This is the dimension of empowering people and offering them the knowledge and skills for self-care or for providing informal care to their peers and families. Mobile information technologies and consumer applications for monitoring their health and accessing reliable health information could be opportunities in this field that could be explored in the context of the future CLC.

The networks of community health workers themselves: the starting point here is the nationally defined package of individual and community-wide services anticipated for CHW/Vs. Technological and innovative tools can be an important and attractive component for CLCs to focus on when such technologies are well aligned with national

guidelines. A recent review stressed that the most pressing challenges that CHWs face are lack of supplies, inadequate supervision, and low compensation or incentives, with the common denominator of inadequate financing (46).

PERFORM COSTING STUDIES, AND EXPLORE OPPORTUNITIES FOR FINANCING AND SUSTAINABILITY

An urgent effort should be made to document and monitor the comparative costs of running a CLC: for this purpose, investment costs need to be distinguished from recurrent costs, and all cost categories need to be included, including the costs of salaries and drugs, even when these are currently covered by the government. It is preferable to present these costs for a given population served (e.g., per 15,000 people served). When this proves difficult, as most often no system of empanelment exists, then the total costs can be expressed as a total yearly cost, with a clear indication of the volume of work accomplished (total number of outpatient consultations, number of pregnant women followed up in ANC, total deliveries attended to, the total number of children having been attended to for under-five consultations, total childhood vaccinations delivered, etc.). Such costing exercises should be done across a fair number of facilities, in order to reach a representative estimate. Additionally costs per facility need to be matched with costs for a similar facility that is government-funded.

CLCs should also link to financing reforms for UHC, that are going on in most countries and are generally aim at increasing public domestic funding for the health sector (through either insurance models or general revenues). CLCs need to get accredited to be eligible for funding through such financial arrangements.

In Makueni county, a Partnership for Primary Care (P4PC) has been set up in collaboration between Makueni County, Philips and Amref; the first public-private partnership model for primary care in Africa. The key roles of the partners had been defined as follows:

- Philips: support and maintenance of health technology (related to the proposed ToC pathway “Ensuring a healthy, safe, and appropriately equipped environment in our proposed ToC);
- Makueni county: supporting community engagement, managing facility staff, and addressing the drug and consumables supply chain (related to the proposed ToC pathways “Community orientation, engagement & empowerment”; and “Ensuring a healthy, safe, and appropriately equipped environment);
- Amref: focussing on the areas of training and capacity building of human resources for health, quality management, facility management, service delivery management including National Health Insurance Funds (related to the proposed ToC pathways “Tracking, training, learning”; “guaranteeing financial sustainability & equity”.

A Makueni feasibility study provides some information on the incremental revenues generated through various insurance policies (revenues for services provided

coming from Linda Mama, Edu-Afya and NHIF Voluntary insurance schemes) as well as revenues from fees paid for ultrasound examinations, but it does not provide a comprehensive picture of the funding of the participating primary care facilities, nor a comparison of such costs with non-project facilities.⁸ (47) One detailed costing study has been conducted in Makueni (Kenya) including detailed costs overview of three components: 1) investment costs; 2) (additional) human resources; 3) costs of primary care service delivery. In this model, the costs for primary care will almost double from 10 USD/per person to 18 USD per person (personal communication). Opportunities for financing these increased costs are sought in increasing the claims within the various insurance policies run by the National Hospital Insurance Fund. The assumption is being made that with increased quality of care at the primary care level the costs of higher-level care will be lower (personal communication). While it may be true that individual acts or services are cheaper when provided at the primary care level as compared to the same services being provided at the hospital level, generally the costs for primary care and even more for hospital care tend to increase when countries move from low-income status to middle- or high-income status, despite a concurrent decrease in the burden of disease.

SHOULD THE CLC MOVE TOWARDS A SOCIAL FRANCHISING MODEL?

With the expansion of the CLC platform in various countries, the social franchising model might be a promising business model (15,48). To move towards this business model, the roles of the franchisor (a private stakeholder or NGO, in collaboration with Philips or the Philips Foundation and franchisees need to be clearly defined. As mentioned earlier, franchisees can have a certain freedom to choose their options dependent on various contextual factors, such as the burden of disease, structure and organisation of the local health system, level of funding available, and cultural perceptions and preferences. But the 'branding' needs to be readily identifiable.

To benefit from the business advantages of a franchising model, the role of the franchisor in tasks such as supervision, data management, organisational practices, supply system design, continuous training, supplies, and financial management needs to be clearly defined and well-coordinated with national and local health authorities.

While the social franchising model has always been one of the business model ideas, Philips or the Philips Foundation never had the ambition to be 'running' either CLCs or a franchising company, but rather have a collaborating role in a partnership where an NGO or private company would manage such a franchise. Challenges would relate not only to the sustainability of the business model but also to the precise coordination and division of responsibilities between the franchisor and the legitimate authorities

8. At the national level, health care in Kenya is funded through the following sources: General tax revenues (42%); Donor funds (18%); National Hospital Insurance Fund (8% of overall expenditures, whereas the main insurance policy covers around 19% of the population, mostly the formally employed); Private (Voluntary) insurances (10%); and Out-of-Pocket expenditures (24%). In the Makueni study, only a few of these sources have been contemplated. The NHIF has been designed particularly for hospital services, although some specific packages like the Linda Mama also reimburse primary care maternal services.

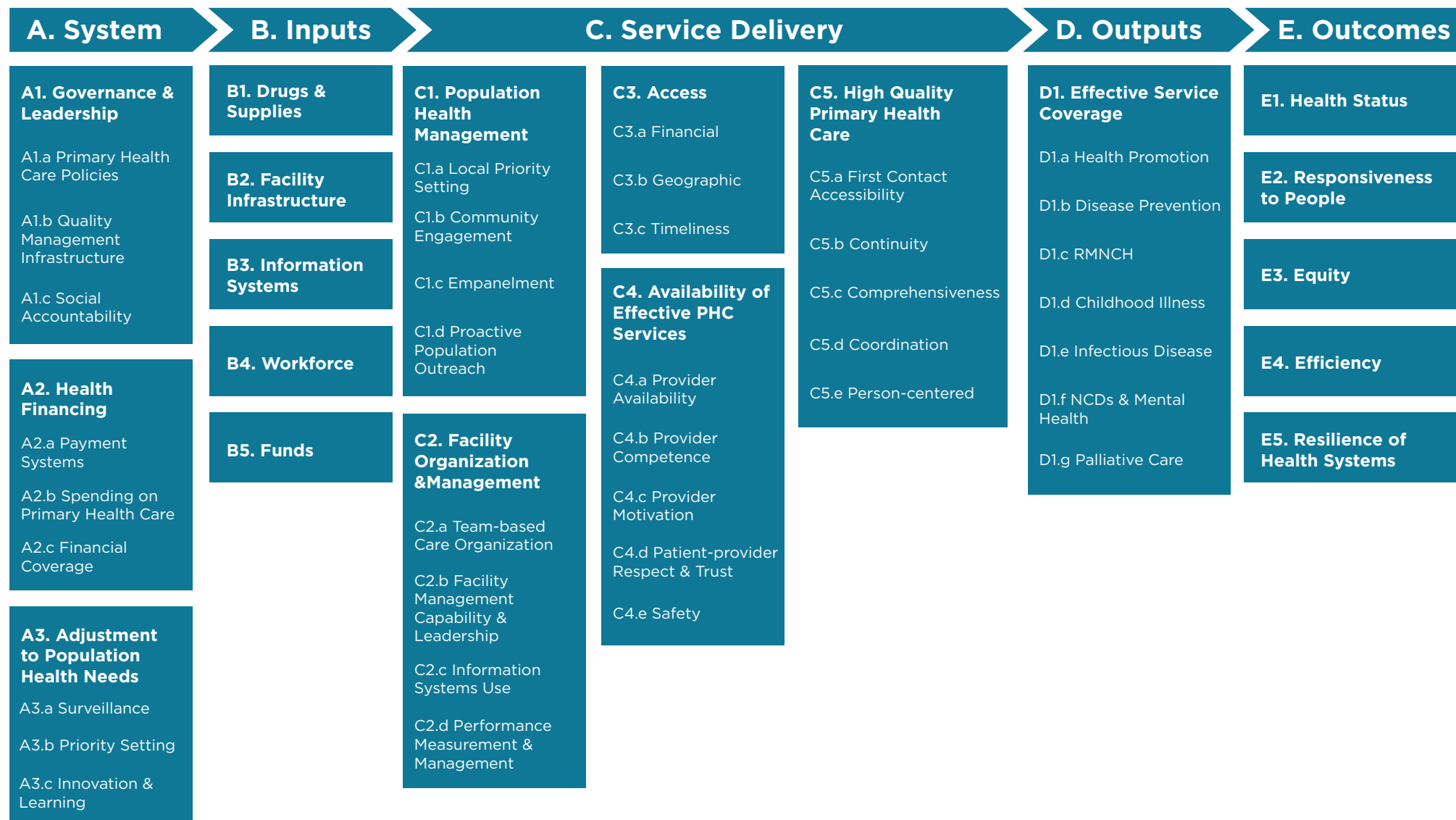
responsible for health policies. Philips role would always be limited to specific responsibilities in relation to assets, technologies and certain support services.

DEFINE A COMMERCIAL STRATEGY

A relevant question is whether the CLC is an initiative merely run by the Philips Foundation as an example of corporate social responsibility, or whether Philips want to pursue a double aim, and where applicable, use the CLC as a model where specific technologies are implemented and/or piloted. The proposed Theory of Change presents a more holistic view of a future CLC. Within the framework of this ToC, the choices that will define the future CLC brand, will also need to specify what role Philips and/or the Philips Foundation want to play in this future CLC, and which aspects it wants to integrate, but wants to leave up to other partners, like governments, NGOs or private stakeholders. Whether these choices see the future CLC as merely a charitable intervention, as part of corporate social responsibility (perspective of the Philips Foundation), or as a means to potentially strengthen Philips' market share as a company specialised in medical innovations and technologies in primary care (perspective from Primary Care Solutions), is up to Philips to decide. In both cases, the choices made need be financially or commercially sustainable, while aiming for universal access. We think the two approaches are not mutually exclusive, and the leading role Philips plays in medical innovations can be considered as an asset in promoting the future CLC. The business model or entrepreneurial approaches for the CLC follow from and partly lead the specific choices made for the future CLCs.

●●● ANNEXES

The Primary Health Care Performance Initiative (CPCI) conceptual framework (33) (43).



Social Determinants & Context (Political, Social, Demographic & Socioeconomic)

● ● ● REFERENCES

1. Levesque, J-F, Harris, M, Russell, G. Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International Journal for Equity in Health*. 2013; doi: 10.1186/1475-9276-12-18.
2. Pawson Ray., Greenhalgh Trisha, Harvey G, Walshe K. Realist review — a new method of systematic review designed for complex policy interventions. *Getting the most out of the findings*. 2005;10(20):21-34.
3. Philips. The Community Life Center A community-driven and holistic platform for strengthening primary healthcare. 2017 p. 1-12. Available from: https://images.philips.com/is/content/PhilipsConsumer/Campaigns/CA20150326_CO_001/CA20172102_CO_001-AAA-en_AA-Community-Life-Center-brochure-feb-22-2017.pdf (Accessed November 5th, 2021)
4. Philips Healthcare Africa. The Philips Community Life Center. A community-driven and integrated approach to strengthening primary healthcare. Available at: <https://careersdocbox.com/Nursing/73793098-Healthcare-africa-the-philips-community-life-center-a-community-driven-and-integrated-approach-to-strengthening-primary-healthcare.html> (Accessed November 5th, 2021).
5. Webster JH K. Assessment of CLC Platform, Githurai-Langata Clinic, Kiambu County, Kenya. Final report June 2017 (internal report). 2017.
6. WHO. Declaration of Alma Ata on Primary Health Care. 1978. Available from: https://www.who.int/publications/almaata_declaration_en.pdf (Accessed November 5th, 2021)
7. WHO. World Health Report 2008: Primary Health Care: Now more than ever. 2008. (WHR). available from: <https://apps.who.int/iris/handle/10665/43949> (Accessed November 5th, 2021).
8. Alma-Ata: Rebirth and Revision. Series 1-8. *The Lancet*. Volume 372, Issue 9642, 2008; Available from: <https://www.thelancet.com/series/alma-ata-rebirth-and-revision> (Accessed November 5th, 2021).
9. WHO, UNICEF. Declaration of Astana. WHO. 2018;2893-4. Available from: <https://www.who.int/docs/default-source/primary-health/declaration/gcphc-declaration.pdf?ua=1> (Accessed November 5th, 2021).
10. WHO&UNICEF. A Vision for Primary Health Care in the 21st Century: towards universal health coverage and the Sustainable Development Goals. 2018; Available from: <https://apps.who.int/iris/handle/10665/328065> (Accessed November 5th, 2021).
11. Jamison et al., Gelband, Horton, editors. *Disease Control Priorities: Improving Health and Reducing Poverty*. 3rd edition. [Internet]. (DCP3, 9 volumes). Available from: <http://dcp-3.org/disease-control-priorities> (Accessed November 5th, 2021).
12. Starfield, Barbara. Primary care and equity in health: the importance to effectiveness and equity of responsiveness to people's needs. *Humanity @ Society*. 2009; <https://journals.sagepub.com/doi/10.1177/016059760903300105>
13. Flinkenflögel M, Sethlare V, Cubaka VK, Makasa M, Guyse A, De Maeseneer J. A scoping review on family medicine in sub-Saharan Africa: Practice, positioning and impact in African health care systems. *Human Resources for Health*. 2020;18(1):1-18.
14. Moosa S, Downing R, Mash B, Reid S, Pentz S, Essuman A. Understanding of family medicine in Africa: A qualitative study of leaders' views. *British Journal of General Practice*. 2013;63(608):209-16.

15. Robinson. Social franchising primary healthcare clinics - a model for South African National Health Insurance? *South African Med J*. 2015; 105 (7).
16. Safety Net Medical Home Initiative. Empanelment: Establishing Patient-Provider Relationships. 2013. Available from: <https://www.safetynetmedicalhome.org/sites/default/files/Implementation-Guide-Empanelment.pdf> (Accessed November 5th, 2021)
17. Cueto, Marcos. The ORIGINS of Primary Health Care and SELECTIVE Primary Health Care. *American Journal of Public Health*. 2004; 94 (11): 1864-1874.
18. Hone, T, Macinko, J, Millett, C. Revisiting Alma-Ata: what is the role of primary health care in achieving the Sustainable Development Goals. *Lancet*. 2018 Oct 20; 392 (10156):1461-1472 doi: 10.1016/S0140-6736(18)31829-4.
19. Muldoon, L, Hogg, W, Levitt, M. Primary Care (PC) and Primary Health Care (PHC): What is the Difference? *Canadian Journal of public health*. 2006; 97(5):409-11DOI: 10.1007/BF03405354
20. Walsh, Warren. Selective Primary Health Care — An Interim Strategy for Disease Control in Developing Countries. *N Engl J Med*. 1979; 301:967-974 DOI: 10.1056/NEJM197911013011804
21. WHO. Maximizing positive synergies between health systems and Global Health Initiatives. 2008. Available from: https://www.who.int/hrh/events/2009/maximizing_positive_synergies_samb.pdf?ua=1 (Accessed November 5th, 2021).
22. Lawn, et al. Alma-Ata 30 years on: revolutionary, relevant, and time to revitalise. *The Lancet*. 2008; 2008 Sep 13;372(9642):917-27. doi: 10.1016/S0140-6736(08)61402-6.
23. WHO. Declaration on strengthening district health systems based on primary health care: Harare, 1987. 1987. Available from: <https://apps.who.int/iris/handle/10665/61958> (Accessed November 5th, 2021).
24. WHO, UNICEF. A vision for primary health care in the 21st century: towards universal health coverage and the Sustainable Development Goals. 2018. Available from: <https://apps.who.int/iris/handle/10665/328065> (Accessed November 5th, 2021).
25. Mash B, Ray S, Essuman A, Burgueño E. Community-orientated primary care: a scoping review of different models, and their effectiveness and feasibility in sub-Saharan Africa. *BMJ Global Health*. 2019;4(Suppl 8):e001489.
26. Macinko, Starfield, Shi. The Contribution of Primary Care Systems to Health Outcomes within Organization for Economic Cooperation and Development (OECD) Countries, 1970–1998. *Health Services Research*. 2004; 2003 Jun;38(3):831-65. doi: 10.1111/1475-6773.00149.
27. Kruk, M.E. et al. The contribution of primary care to health and health systems in low- and middle - income countries: A critical review of major primary care initiatives. *Social Science & Medicine*. 2010; 70(6):904-11. doi: 10.1016/j.socscimed.2009.11.025.
28. Kruk M., Gage AD., Arsenault C., Jordan K., Leslie HH., Roder-DeWan et all. High-quality health systems in the Sustainable Development Goals era: time for a revolution. *Lancet Glob Health*. 2018 Nov;6(11). doi: 10.1016/S2214-109X(18)30386-3
29. Edelman A. et al. Modified scoping review of the enablers and barriers to implementing primary health care in the COVID-19 context. *Health Policy & Planning*. 2021;24. 36, 1163-1186 DOI: <https://doi.org/10.1093/heapol/czab075>

30. Alexander S, Preker JL. Spending wisely : buying health services for the poor. 2005. Available from: <https://openknowledge.worldbank.org/handle/10986/7449> (Accessed November 5th, 2021).
31. Bitton et al. Primary healthcare system performance in low-income and middle-income countries: a scoping review of the evidence from 2010 to 2017. *BMJ Global Health*. 2019; 2019;4:e001551. doi:10.1136/bmjgh-2019-001551
32. Hirschhorn LR et al. What kind of evidence do we need to strengthen primary healthcare in the 21st century? *BMJ Global Health*. 2019;4:e001668. doi:10.1136/bmjgh-2019-001668
33. PHCPI. The PHCPI Conceptual Framework [Internet]. Available from: <https://improvingphc.org/phcpi-conceptual-framework> (Accessed November 5th, 2021).
34. Westhorp, Gill. Realist impact evaluation, an introduction [Internet]. A methods lab publication; 2014. Available from: <https://odi.org/en/publications/realist-impact-evaluation-an-introduction> (Accessed November 5th, 2021)
35. Herzberg F. Work and the nature of man. World Publishing Company, Cleveland; 1966.
36. Borghi J et al. How to do (or not to do). Measuring health worker motivation in surveys in low- and middle-income countries. *Health Policy and Planning*. 2018; Mar 1;33(2):192-203. doi: 10.1093/heapol/czx153.
37. Deci E., Olafsen A, Ryan R. Self-determination theory in work organizations: the state of a science. *Annu Rev Organ Psychol Organ Behav*. 2017; 4:19-43
38. Thomas, Kenneth. The Four Intrinsic Rewards that Drive Employee Engagement [Internet]. The Workplace; 2009 [cited 2021 Oct 18]. Available from: <https://iveybusinessjournal.com/publication/the-four-intrinsic-rewards-that-drive-employee-engagement/> (Accessed November 5th, 2021).
39. Yezbeck A, et al. The case against Labor-tax-financed Social Health Insurance for Low-Middle-Income Countries. *Health Affairs*. 2020; 39 (5) doi/10.1377/hlthaff.2019.00874
40. Mbau R, Kabia E, Honda A, Hanson K, Barasa E. Examining purchasing reforms towards universal health coverage by the National Hospital Insurance Fund in Kenya. *Int J Equity Health*. 2020 Dec;19(1):19.
41. Veillard et al. Better Measurement for Performance Improvement in Low- and Middle-Income Countries: The Primary Health Care Performance Initiative (PHCPI) Experience of Conceptual Framework Development and Indicator Selection. *Milbank Quarterly*. 2017; Dec;95(4):836-883. doi: 10.1111/1468-0009.12301.
42. Bitton et al. Primary Health Care as a Foundation for Strengthening Health Systems in Low- and Middle-Income Countries. *J Gen Intern Med*. 2017 May; 32(5): 566-571. doi: 10.1007/s11606-016-3898-5
43. Ratcliffe HL, Schwarz D, Hirschhorn LR, Cejas C, Diallo A, Garcia-Elorrio E, et al. PHC Progression Model: a novel mixed-methods tool for measuring primary health care system capacity. *BMJ Glob Health*. 2019 Sep;4(5):e001822.
44. World Health Organization. WHO guideline: Recommendations on digital health interventions for health system strengthening. [Internet]. Geneva, Switzerland; 2019 p. 1-150. Available from: <https://www.who.int/publications/i/item/9789241550505> (Accessed November 5th, 2021)

45. Disease Control Priorities. Volume 9. Annex 3c. [Internet]. 3rd edition. Available from: http://dcp-3.org/sites/default/files/chapters/Annex%203C_Interventions%20in%20EUHC.pdf (Accessed November 5th, 2021)
46. Zulu J, Perry, H, editors. Community health workers at the dawn of a new era. *Health Res Policy Sys.* 2021;1-11.
47. Intellect, AAVISHKAAR GROUP. Partnership for Primary Care (P4PC) Makueni Feasibility Study. 2020 May.
48. Schlein, Karen et al. Private sector delivery of health services in developing countries: a mixed-methods study on quality assurance in social franchises. *BMC Health Services Research.* 2013; 3;13:4. doi: 10.1186/1472-6963-13-4.

KIT Royal Tropical Institute
P.O. Box 95001
1090 HA Amsterdam
The Netherlands

Visiting Address
Mauritskade 64
1092 AD Amsterdam
The Netherlands

www.kit.nl
info@kit.nl
T: +31 (0)20 56 88 711



KIT Royal
Tropical
Institute