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# Advancing Sustainability of Primary Healthcare Services

*A Multiple Case Study of Donor-Funded  
Non-Communicable Disease Programmes*

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# Abstract

The unprecedented decline in external health aid has disrupted health services across low- and middle-income countries, many of which are simultaneously facing rising levels of non-communicable diseases and weak primary healthcare, increasing the need to examine how donor-driven non-communicable disease programmes can be sustained beyond programme completion. This thesis unfolds how sustainability of such programmes can be achieved, by drawing on new institutional theory and the concept of institutional work to elicit how development actors shape institutional arrangements across healthcare system levels to enhance programme sustainability. A multiple case study design was employed to examine three programmes funded by the World Diabetes Foundation in Georgia, Jordan and Timor-Leste, which were selected through purposeful sampling. The study drew on qualitative data sources, including semi-structured interviews and programme documents. A within-case thematic analysis was performed, followed by a cross-case analysis in which findings were compared across cases. The study demonstrated that sustainability was fostered, when programme activities were integrated into institutional structures transcending levels of the national healthcare system. Moreover, findings showed that sustainability was strengthened when programmes built on existing national service delivery arrangements.

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# List of abbreviations and definitions

## Abbreviations

- CwD: Children with Diabetes
- EML: Essential medicines list
- GHP: Global Health Programme
- HCC: Healthy Community Clinic
- HCP: Healthcare professional
- HIV: Human Immunodeficiency Virus
- HMIS: Health management information system
- IR: Implementation Research
- LMICs: Low-and-Middle Income Countries
- M&E: Monitoring and evaluation
- MoH: Ministry of Health
- NCD: Non-Communicable Disease
- NCDA Georgia: Non-Communicable Diseases Alliance in Georgia
- NGO: Non-Governmental Organisation
- NIE: New Institutional Economics
- ODA: Official Development Assistance
- PHC: Primary healthcare
- PIS: *Programa Integradu Saúde*, Integrated Health Programme
- RHAS: Royal Health Awareness Society
- ToT: Trainer-of-trainers
- UHC: Universal Health Coverage
- UNHCR: United Nations High Commissioner for Refugees
- USAID: United States Agency for International Development
- WDF: World Diabetes Foundation
- WCO: World Health Organization, Country Office
- WHO: World Health Organization
- WHO SEARO: World Health Organization, South-East Asia Regional Office

## Definitions

**Primary healthcare (PHC):** PHC was defined in 1978 through the Alma Ata Declaration as the first level of contact for individuals to receive care through the national health system (Foo et al., 2025). As such, PHC brings essential health services closer to communities and builds on a whole-of-society approach to ensure equitable health and well-being (Foo et al., 2025; WHO, 2025a). PHC ranges from “*health promotion and disease prevention to treatment, rehabilitation and palliative care*” (WHO, 2025a), and additionally includes empowerment of individuals and community engagement to foster social participation and self-care. Moreover, PHC encompasses multi-sectoral policies that address wider determinants of health (WHO, 2025a).

**Non-communicable diseases (NCDs):** NCDs are chronic in nature, often last over a long duration of time and are caused by “*a combination of genetic, environmental, physiological and behavioural factors*” (WHO, 2025b). Common examples include cardiovascular diseases such as heart attacks and hypertension, chronic respiratory diseases such as asthma, diabetes and cancers. NCDs can be prevented by targeting modifiable risk factors such as unhealthy diets and air pollution, while management of NCDs encompasses healthcare services, including detection, screening and treatment (WHO, 2025b).

# 1. Introduction

People in low- and middle-income countries (LMICs) are disproportionately impacted by non-communicable diseases (NCDs) with approximately 75% of NCD-related global deaths occurring in these settings. NCDs are explicitly acknowledged on the sustainable development agenda and reflected in Sustainable Development Goal 3.4, which includes a target of reducing one-third of premature mortality from NCDs by 2030 (WHO, 2025b). Moreover, primary healthcare (PHC) systems are foundational to effective health systems and should provide accessible and affordable services as a first point of care (Foo et al., 2025). Amid increasing healthcare expenditures from a rising NCD burden and competing health priorities, PHC is widely regarded as a key strategy for service delivery in resource-constrained settings. However, approximately 85% of people in LMICs lack access to affordable and effective PHC (Foo et al., 2025), while global underinvestment in NCDs persists (Richter et al., 2022).

Efforts to address the growing NCD burden through effective PHC models are further complicated by the recent and unprecedented decline in official development assistance (ODA) and external health aid, which has disrupted health service provision across LMICs (OECD, 2026; WHO, 2025c). This has increased the need for scrutinising how benefits from donor-driven global health programmes (GHPs) focused on NCDs in PHC-settings can be sustained following programme completion and withdrawal of funding (Milenova et al., 2025). This is particularly salient given the likelihood of continued constraints on external health aid. Despite this, sustainability remains a persistent challenge across time-bound GHPs, often due to inadequate sustainability and exit planning. Consequently, programmes may end abruptly, risking the loss or reversal of service delivery improvements achieved during implementation (Ozawa et al., 2016; Milenova et al., 2025). Furthermore, a research gap persists in understanding the processes and strategies that underpin the sustainability of GHPs (Milenova et al., 2025; Nwaozuru et al., 2025).

## 1.1 Research aim

This thesis aims to nuance understandings of how development actors can advance sustainability of interventions that are introduced through programmes focused on PHC services related to NCDs. As NCDs continue to place pressure on health systems in LMICs,

understanding how institutions can be shaped to foster sustainability through time-bound development programmes is critical to sustainable health system strengthening.

This study uses a qualitative multiple case study design to examine how development actors influence the institutional structures that underpin NCD service delivery through selected programmes funded by the World Diabetes Foundation (WDF). Examining WDF programmes is relevant, since private philanthropic actors are expected to play a larger role in financing and delivering health interventions given declining ODA (Kenny, 2025). This increases the importance of scrutinising the sustainability of their programmes. By drawing on new institutional theory and the concept institutional work, the study examines the strategies actors use to shape institutional arrangements across programme stages to ensure sustainability. Hence, these strategies reflect how actors attempt to support the continuation of PHC service activities beyond programme completion and the withdrawal of external support. Relatedly, the study sheds light on the various institutions across healthcare system levels that development actors engage with to establish a basis for sustainable service delivery. Overall, the study contributes to knowledge on how development practice can support sustainable health system strengthening, by focusing on ways in which development actors can influence institutions to promote NCD services in LMICs.

## **1.2 Research questions**

The following overarching research question will guide this study: *How do development actors engage in institutional work to achieve sustainability of programmes that focus on primary healthcare services for people living with non-communicable diseases?*

This will be answered through the following supportive research questions:

- *What types of institutional work do development actors undertake across different stages of health programmes?*
- *Which institutional arrangements across healthcare system levels do development actors prioritise to ensure sustainable service delivery through supportive institutional environments?*

## 2. Literature review and conceptualisation of sustainability

This section presents results from the literature review and then conceptualises sustainability in relation to the study's research questions based on the reviewed literature.

### 2.1 Literature review

Literature was identified through the *Web of Science* and *PubMed* databases. Appendix A contains an overview of the keywords, search string and inclusion/exclusion criteria used, while illustrating the selection process.

The review presents findings on GHP sustainability from 24 articles, which predominantly represent qualitative studies (n=15). Additionally, four studies used a mixed-methods approach, while one study was quantitative and another deployed a systems-based approach. Furthermore, findings from three reviews were included. Notably, 11 studies applied a case study design, covering both single-case studies (n=7), multiple-case studies (n=3) and one comparative case study. The studies were primarily conducted in the African context (n=14), while two studies took place in India, one study examined cases from both Africa and Europe, and seven studies focused broadly on LMICs.

The review is structured according to three themes: 1) *Partnerships, programme champions and power asymmetries*, 2) *Contextualisation, adaptability and systems approach* and 3) *Ownership, institutionalisation and transition planning*.

#### 2.1.1 *Partnerships, programme champions and power asymmetries*

Scholars position partnership as foundational for sustainability, emphasising the importance of early-stage relationship and trust building (Leffers & Mitchell, 2011; Upvall & Leffers, 2018; Kiendrébéogo et al., 2021; Ramaswamy et al., 2016). Based on experiences from global nursing partnerships, Leffers and Mitchell (2011) presented a conceptual model, underscoring that sustainable partnerships are rooted in engagement processes characterised by cultural bridging, collaboration and mutual goals. Drawing on perspectives from healthcare professionals (HCPs) from LMICs, Upvall and Leffers (2018) expanded the model to include an early relationship building phase, centered on trust, role negotiation, two-way communication and transparency on expectations and goals. Relatedly, Mbalinda et al. (2017)

highlighted trust and two-way communication as important factors for sustainability in a case study on North-South, South-South nursing partnerships in Uganda. Upvall and Leffers (2018) further emphasised that sustainability warrants a continuous focus on partnership development and negotiation. Lessons learned from Universal Health Coverage (UHC) projects in Benin, Namibia and Uganda support this, suggesting that trust building should be succeeded by amplifying early successes to ensure continued engagement (Kiendrébéogo et al., 2021). Lastly, a multiple-case study on partnership models in maternal and neonatal health emphasised the importance of face-to-face interaction and contextually sensitive engagement processes to sustainability (Ramaswamy et al., 2016).

Several studies identify programme champions as vital for building trust, securing stakeholder engagement and providing programme stability (Leffers & Mitchell, 2011; Mbalinda et al., 2017; Ramaswamy et al., 2016). A systematic review of GHP exit strategies across LMICs found that fostering champions at several institutional levels helped mobilise resources and ensure sustainability of health services post-exit. Case studies of antiretroviral therapy programmes in Uganda presented similar findings, emphasising how programme champions provided leadership, mobilised resources and contributed to sustaining the programmes in PHC facilities (Zakumumpa, Bennett & Ssengooba, 2016; Zakumumpa et al., 2018).

Meanwhile, donor-recipient power asymmetries have been identified as an inhibitor of programme sustainability (Carter & Notter, 2022; Knittel et al., 2023; Upvall & Leffers, 2018). Using a systems-based analysis of development models for health, Knittel et al. (2023) highlighted how power asymmetries undermine local decision making and consequently sustainability. Moreover, power asymmetries cause misaligned priorities between donors and national partners, inflexible programme models and misalignment with national policies (Knittel et al., 2023; Upvall & Leffers, 2018). A capacity building project for critical care nurses in Zambia displayed strategies for countering power asymmetries through reciprocal knowledge exchange (Carter & Notter, 2022). Tuhebwe et al. (2023) also emphasised reciprocity, but went further by arguing that a power analysis should be applied throughout the project cycle to decolonise GHPs and increase programme sustainability.

### ***2.1.2 Contextualisation, adaptability and systems approach***

The literature addresses several facilitators and inhibitors of sustainability related to contextualisation, adaptive practice and a systems approach, which unfold during the design and implementation phases of GHPs. One facilitator entails performing ongoing needs assessments with multiple stakeholders throughout the design and implementation phases (Kiendrébéogo et al., 2021; Leffers & Mitchell, 2011; Mbalinda et al., 2017). Relatedly, Torpey et al. (2010) presented an operating model for sustainability in PHC facilities informed by a HIV service delivery programme in Zambia. Programme activities were designed based on a facility assessment conducted with stakeholders from district health offices and hospital management boards, ensuring contextual appropriateness. While this exemplifies best practice, Knittel et al. (2023) argued that inadequate contextualisation and assumptions about local needs frequently causes misaligned priorities between donors and local actors and consequently unsustainable outcomes. Knittel et al. further found that adjustments to the programme direction were limited after initiation of activities (2023).

Similarly, Milenova et al. (2025) highlighted programme rigidity as a barrier to sustainability, supporting several scholars' emphasis on adaptability as crucial to sustainability (Kiendrébéogo et al., 2021; Milenova et al., 2025; Nwaozuru et al., 2025). Relatedly, a recent review on health intervention sustainability in Africa positions sustainability as a dynamic process that includes adaptation and learning throughout the project lifecycle (Nwaozuru et al., 2025). Also, Kiendrébéogo et al. (2021) underlined the importance of continuous learning for UHC and sustainability. Moreover, Torpey et al. (2010) exemplified how adaptive practice can be supported by quality systems, by enabling corrective measures through continuous data-collection and identification of quality gaps in service provision at facility level, thus promoting sustainability through adaptation. Similarly, a review on systems thinking in public health rehabilitation programmes emphasised the importance of feedback loops, continuous learning and real-time data for decision making (Nafees, AboAlfa & Alkhaldi, 2025). Bandali et al. (2022) highlighted the benefits of adaptive programming through the 'Pathways of Change' tool for a women's sexual health programme. The tool sets a high-level sustainability goal with annual indicators, while allowing interventions and quarterly milestones to be continuously adapted, enabling flexible and contextualised implementation. A similar

approach was recommended by Milenova et al. (2025), who found that focusing on outcomes rather than fixed activities yields context-appropriate pathways and sustained impact.

Adaptability is especially pertinent given the many cultural, social, economic and political factors that increase the complexity of sustaining GHPs. For instance, two studies on ART service delivery identified external constraints for sustainability stemming from weak infrastructure such as road networks and electricity supply, which hindered laboratory testing and medicine supply in remote facilities (Zakumumpa et al., 2018; Zakumumpa, Bennett & Ssengooba, 2016). Meanwhile, a systems approach enables better sustainability planning through a holistic understanding of system linkages and complexities (Nwaozuru et al., 2025). Zakumumpa et al. (2018) related sustainability to interactions between health system building blocks as defined by WHO (2007), underscoring the importance of following a systems approach rather than delivering vertical interventions within individual building blocks. These findings are supported by a retrospective evaluation of two health system strengthening programmes in Cameroon and Chad (Mimche et al., 2018). Using a root cause analysis, the study showed that weak *health workforce* and *leadership/governance* building blocks led to reprogramming, grant interruption, high staff turnover, and insufficient exit plans, ultimately jeopardising sustainability. Consequently, Mimche et al. (2018) concluded that programmes should ensure sufficient strength of the health workforce and leadership/governance structures prior to focusing on other building blocks such as service delivery or information systems.

Furthermore, several studies offer examples of efforts to strengthen *health workforce* and *leadership/governance* capacity. A qualitative study of a public-private partnership focused on maternal mortality in Uganda and Zambia showed that upfront investments in staffing and infrastructure within the Ministry of Health (MoH) secured important institutional capacity from which the partnership could build (Palaia et al., 2019). Moreover, Chelagat et al. (2021) examined the sustainability of institutional improvement projects in Kenyan health facilities. A leadership programme across management levels, followed by team-based coaching, was associated with lasting improvements in work environment, service delivery, and workforce capacity. This highlights the value of strengthening leadership at all levels rather than focusing solely on frontline HCPs (Chelagat et al., 2021). Other studies also highlight trainer-of-trainer (ToT) models as a sustainable and efficient way of building institutional

capacity. As such, ToT enables a rapid and self-sustaining cascade of training, by transferring skills to a group of trainees, who subsequently become trainers of others (Carter & Notter, 2022; Dharmayat et al., 2019; Mormina & Pinder, 2018).

Several scholars underline the importance of capacity building, while highlighting human resource constraints and staff turnover as significant inhibitors of sustainability (Chelagat et al., 2021; Milenova et al., 2025; Mimche et al., 2018; Nwaozuru et al., 2025; Sgaier et al., 2013; Torpey et al., 2010; Zakumumpa, Bennett & Ssengooba, 2016; Zakumumpa et al., 2018). Some provide recommendations on retention strategies and incentives to foster workforce motivation, including a clear division of roles and responsibilities, allowing HCPs to have influence over their work and recognition through salary, rewards and benefits (Milenova et al., 2025; Zakumumpa, Bennett & Ssengooba, 2016; Zakumumpa et al., 2018). These strategies were deemed especially important for sustainability during scale-up of services that bring increased workload (Zakumumpa, Bennett & Ssengooba, 2016; Zakumumpa et al., 2018) or when withdrawing donor funding, which can create uncertainty among staff (Milenova et al., 2025).

### ***2.1.3 Ownership, institutionalisation and transition planning***

Ownership at both national and community level is repeatedly mentioned in the literature as a precursor for programme sustainability (Chelagat et al., 2021; Dharmayat et al., 2019; Leffers & Mitchell, 2011; Mbalinda et al., 2017; Nwaozuru et al., 2025; Palaia et al., 2019). Several scholars emphasise how active community engagement and participation throughout the project cycle promotes empowerment and local ownership (Dharmayat et al., 2019; Leffers & Mitchell, 2011; Nwaozuru et al., 2025). Moreover, Palaia et al. (2019) related ownership to the notion of institutionalisation, showing how national ownership is fostered when working within the existing health system instead of building parallel structures. They further highlighted that active involvement of the MoH during implementation helped build institutional memory, strengthening ownership and ensuring continuation of the programme (Palaia et al., 2019).

These findings are supported by several others, who underscore the association between sustainability and institutionalisation and the importance of alignment with national

structures, policies and resources (Carter & Notter, 2022; Dharmayat et al., 2019; Mormina & Pinder, 2018; Nwaozuru et al., 2025; Torpey et al., 2010; Zakumumpa, Bennett & Ssengooba, 2016). Such alignment entails utilising national supply and logistics management systems to source and distribute commodities (Torpey et al., 2010; Nwaozuru et al., 2025). Another example includes enforcing existing national guidelines and operating procedures through service delivery, while supporting the MoH in defining these when missing (Torpey et al., 2010). Alignment further encompasses integrating programme data and digital health tools into existing MoH supported servers and national monitoring and evaluation (M&E) systems (Dharmayat et al., 2019; Torpey et al., 2010).

Furthermore, long-term funding and resource constraints are widely cited as a barrier to programme continuity (Dharmayat et al., 2019; Nwaozuru et al., 2025; Palaia et al., 2019; Sgaier et al., 2013; Zakumumpa et al., 2018). Nwaozuru et al. (2025) and Zakumumpa et al. (2018) related this to the significant dependence on external funding and thereby meeting donor priorities. Zakumumpa, Bennett & Ssengooba (2016) found that larger health facilities, such as hospitals, were better at attracting and diversifying funding streams than smaller facilities. This advantage stemmed from their stronger M&E systems and ability to demonstrate results to donors, while smaller facilities struggled with evaluations due to limited human resources. Also Milenova et al. (2025) underscored the importance of diversifying funding streams for programme sustainability. Moreover, a study examining a WHO HEARTS intervention found that integrating hypertension management into existing HIV care infrastructure required few financial resources, suggesting that sustainability could be enhanced through integrated care models (Muddu et al., 2023).

Transition plans and exit strategies are considered highly influential on programme sustainability. Several scholars underscore that programmes should start planning for transition from the outset, by coordinating with governments, gradually increasing local stewardship and considering which local resources and structures will remain upon transition when designing programmes (Kaliel et al., 2018; Milenova et al., 2025; Palaia et al., 2019; Sgaier et al., 2013; Torpey et al., 2010). Relatedly, a study examined how an HIV/AIDS prevention programme was transitioned from a private foundation to the Indian Government using a gradual approach, which allowed for stepwise adjustments, fostering sustainability

(Sgaier et al., 2013). Ozawa et al. (2016) examined the same programme, measuring several indicators of transition readiness and institutionalisation to determine their effect on sustainability. Using quantitative regression analysis, the study found a positive association between transition readiness and continued service delivery, while institutionalisation was not considered a predictor of sustainability.

Palaia et al. (2019) further stressed the importance of allocating enough transition time to ensure stakeholder commitment and allow activities to be absorbed into national structures. In examining pediatric HIV/AIDS programmes in nine African countries Kaliei et al. (2018) found that transition plans excluded trained clinical staff, leaving them redundant after project completion instead of transferring them into government services. Sgaier et al. (2013) highlighted that transition success depends on aligning programme activities with government structures to ensure complimentary service delivery. Additionally, both Kaliei et al. (2018) and Milenova et al. (2025) recommended strong involvement of stakeholders in transition planning to harmonise perspectives and negotiate aims for the transition. Meanwhile, Milenova et al. (2025) noted that the impacts of donor transitions remain largely unassessed in the literature, while Kaliei et al. (2018) argued that transition planning is insufficient in many GHPs. Some scholars propose using graduation criteria to guide a gradual withdrawal of technical support and external resources (Milenova et al., 2025; Torpey et al., 2010).

It is notable that most of the reviewed literature focused on sustainability within the areas of HIV/AIDS (n = 6), nursing (n = 4) and maternal and child health (n = 3) in addition to global health more broadly (n = 7). Aside from Muddu et al. (2023) examining a hypertension management project, no other scholars focused on the sustainability of GHPs related to NCDs. This study seeks to address this research gap, by examining how sustainability is approached in programmes focused on NCDs.

## **2.2 Conceptualisation of sustainability**

The literature review revealed conceptual ambiguity around GHP sustainability, evidenced by inconsistent definitions across studies. Furthermore, only 10 of the 24 articles offered a definition of sustainability. This study attempts to overcome this conceptual ambiguity, by

conceptualising sustainability in relation to the research questions through a synthesis of definitions in the reviewed literature.

Overall, sustainability is defined as a continuation of programme activities and health services that maintain and consistently achieve health benefits among recipients once external donor funding and technical assistance ends (Chelagat et al., 2021; Dharmayat et al., 2019; Leffers & Mitchell, 2011; Mimche et al., 2018; Nwaozuru et al., 2025; Sgaier et al., 2013; Torpey et al., 2010; Zakumumpa, Bennett & Ssengooba, 2016). Sustainability further entails embedding the programme within the healthcare system or within an institutional structure and thereby integrating it into available healthcare services, policies and organisational routines (Chelagat et al., 2021; Dharmayat et al., 2019; Leffers & Mitchell, 2011; Muddu et al., 2023; Sgaier et al., 2013; Torpey et al., 2010; Zakumumpa, Bennett & Ssengooba, 2016).

Torpey et al.'s (2010) concept *operational sustainability*, which consists of a *technical* and a *programmatic* dimension, is used to further delineate the scope of this study. The concept helps unfold how different strategies, processes and programme management practices can support the sustainability of PHC services. Torpey et al. (2010) further recognised social and financial dimensions of sustainability, relating to sustained community demand and long-term funding, respectively. However, these dimensions fall beyond the scope of this study. *Technical sustainability* represents the continuous provision of health services, underpinned by WHO's health system building blocks (2007), including adequate human resources, clinical infrastructure, medical commodities, health management information systems (HMIS) and national policies, standards and guidelines. *Programmatic sustainability* refers to the management, coordination and implementation of programme activities. This includes establishing systems, processes and institutions that ensure continuous service delivery (Torpey et al., 2010).

The framework (figure 1) below was developed for this study, by integrating findings from the literature review with concepts of *operational*, *technical*, and *programmatic sustainability*. It draws on Shediak-Rizkallah and Bone's (1998) framework for conceptualising programme sustainability, particularly regarding design and implementation factors and overall

sustainability outcomes such as continuation and integration and by incorporating elements such as *partnership*, *processes* and *technical sustainability*.

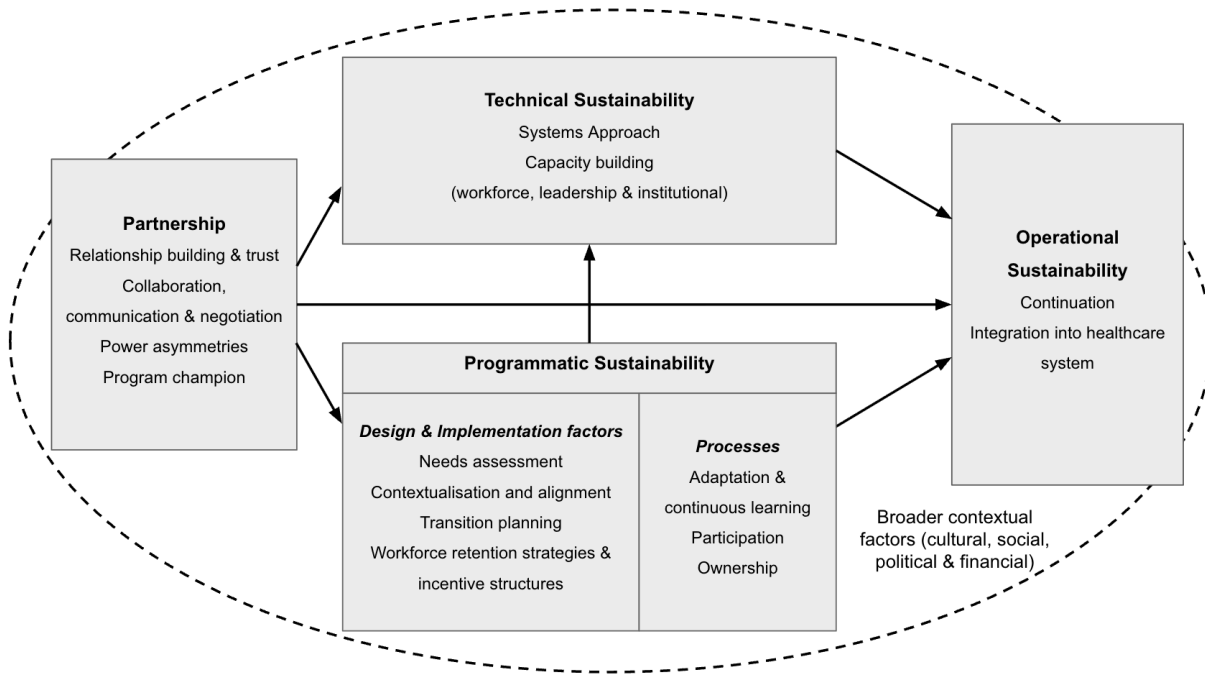


Figure 1: Conceptual Sustainability Framework

### 3. Theory

The theoretical framework presented below was developed inductively, guided by patterns and themes in the data, ensuring its relevance for illuminating the most salient findings (Braun & Clarke, 2023).

This study's theoretical foundation departs from New Institutional Economics (NIE), which comprises several strands that share the premise that institutions are essential to understanding the organisation and development of societies. Overall, institutions are socially constructed rules and norms that shape belief systems and behaviour, enforced by society (Ménard & Shirley, 2022a). This study is centered around Douglass North's contributions to NIE and how diverse institutional arrangements contribute to societal development. North places himself within *new institutionalism*, a multidisciplinary strand that succeeds early economic NIE scholars and moves beyond understanding the productive or economic effects of institutions, by centering on "*how existing institutions come into being, and how they change over the long term*" (Leys, 1996, p. 84). The inclusion of social and political perspectives on how

institutions are formed has drawn social scientists to this strand of NIE. Relatedly, it holds value for this study, by offering a lens to examine institutional design around the provision of NCD services (Harriss, Hunter & Lewis, 2003).

North posits that individual rationality cannot alone explain human interaction, rather interaction unfolds within an institutional framework, which constitutes “*the rules of the game in a society*” (Ménard & Shirley, 2022a, p. 1). New institutionalists focus on the dynamics between institutions and organisations, illustrating how ‘rules’ shape behaviour within organisations, which can in turn respond and impact institutional arrangements. Hence, institutions are considered ‘rules of the game’ and organisations its ‘players’, albeit players can act as agents for institutional change (Harriss, Hunter & Lewis, 2003).

Different institutional layers comprise these environments. The ‘macro’ layer consists of rules and norms that together frame the overall environment. This layer was the primary focus of North and for instance enables regulatory enforcement, incentives, protection of rights and state capacity to provide public goods (Ménard & Shirley, 2022a). The ‘micro’ layer encompasses institutions that shape interaction within and between organisations and are more prone to change. Recent scholars have additionally proposed a ‘meso’ layer that acts as an intermediate, by translating, implementing and enforcing macro-layer rules to specific domains within the micro-layer (Ménard & Shirley, 2022a). Institutions can be of formal and informal character at all layers. Formal institutions are codified and enforceable rules including laws or formal directives, whereas informal institutions reflect the dominant beliefs, culture and norms that give rise to particular forms of human interaction and social sanctioning (Ménard & Shirley, 2022a).

Standing on *new institutionalism* as its theoretical foundation, this study draws on the work of Thomas Lawrence and Roy Suddaby, scholars in the field of organization studies. It deploys their concept of *institutional work* to examine how development actors seek to shape institutions and thereby strengthen NCD service provision (Lawrence & Suddaby, 2006; Lawrence, Suddaby & Leca, 2009). Relatedly, *institutional work* complements *new institutionalism* due to their shared focus on institutional design. While North emphasizes macro-layer configurations of institutions, *institutional work* captures how such arrangements

are actively shaped and enacted by various actors (Harriss, Hunter & Lewis, 2003; Lawrence, Suddaby & Leca, 2009).

*Institutional work* provides a lens for empirical analysis of “*the purposive action of individuals and organizations aimed at creating, maintaining, and disrupting institutions.*” (Lawrence & Suddaby, 2006). The concept offers an entry-point into understanding the processes of institutional change and contributes to answering a fundamental question among new institutionalists; namely when and why institutions change? While these scholars typically examine the question from the macro-layer, North argued that accumulated incremental changes in less fundamental institutions can reshape macro-layer institutions. Hence, creating, maintaining or disrupting less foundational institutions could result in fundamental changes to key institutions governing the provision of NCD services at PHC level (Lawrence & Suddaby, 2006; Ménard & Shirley, 2022b).

Just as new institutionalists acknowledge agency and institutional change through the dynamics between organisations and institutions (Harriss, Hunter & Lewis, 2003), the concept of *institutional work* is fundamentally centred around agency (Lawrence, Suddaby & Leca, 2009). As such, the interplay between institutions and agency of actors is neither dominated by institutional arrangements that confine agency, nor can individuals or organisations unrestrictedly shape institutions (Lawrence, Suddaby & Leca, 2009). Hence, Lawrence, Suddaby and Leca recognise that all actors “*are embedded in an institutionally defined context*”, while institutions in turn are shaped by human interests and actions (2009, p. 5).

The analytical focus of *institutional work* is to examine how individuals and collective actors attempt to influence institutions (Lawrence & Suddaby, 2009). Hence, studies of *institutional work* focus on the ability and awareness among actors in shaping institutions, which are seen as a product of their - to a large degree - intentional actions. Lastly, studies would emphasise the institutional rules that govern these actions (Lawrence & Suddaby, 2009). *Institutional work* covers three forms of practice. The first examines the strategies used by actors to *create institutions*, while focusing on who these actors are and the conditions for such action (Lawrence, Suddaby & Leca, 2009). For instance, this can entail political work to reconstruct rules or attempts to reconfigure belief systems (Lawrence & Suddaby, 2006). The second

entails *maintaining institutions* to uphold their relevance and effectiveness over time. While institutions are often perceived as self-producing, Lawrence and Suddaby (2006) argue for the relevance of actions that seek to ensure adherence to rules and enforce the norms and belief systems that underpin institutions (Lawrence, Suddaby & Leca, 2009). Lastly, *disrupting institutions* encompasses attempts to challenge existing institutions such as severing incentive structures or overturning core beliefs that support certain institutional practices (Lawrence, Suddaby & Leca, 2009; Lawrence & Suddaby, 2006).

Meanwhile, studies of *institutional work* do not assume to determine the outcome of actions or achievement of institutional change, rather they unfold the pursuit of influence through certain actions. However, this does not imply that studies can not derive “*the forms of institutional work and the supporting factors that are likely to lead to successfully creating new institutions*” (Lawrence, Suddaby & Leca, 2009, p. 10). Relatedly, this study does not claim to determine whether or not programmes were successful in achieving sustainability and thus a continuation of NCD services.

The concept will be operationalised in this study to distinguish between the strategies that development actors deploy at various healthcare system levels to ensure a supportive institutional environment for delivering NCD services at PHC level. Hence, *institutional work* is conceptualised as a means to achieving sustainability, as influencing macro-, meso- and micro-layer institutions can allow development actors to integrate programme activities within healthcare system structures. Different attempts of institutional work will be identified within each case and compared between cases to elicit commonalities in how development actors pursue sustainability. Moreover, Lawrence, Suddaby and Leca (2009) argue for the suitability of case study research in achieving an in-depth understanding of the practice of *institutional work* and the value derived from analysing various empirical contexts, which aligns well with this study’s multiple case study design.

## 4. Research paradigm

This section delineates the constructivist and interpretivist grounds on which the study is based, reflecting how this philosophical standpoint has shaped the knowledge produced through the study (Shannon-Baker, 2023).

## 4.1 Ontology

This study rests on a constructivist ontology and understanding of reality as a social construct rather than a fixed singular entity. It posits that people actively seek to create meaning of the world and that these notions of reality are derived subjectively from their lived experiences (Cresswell & Cresswell, 2017; Shannon-Baker, 2023). According to social constructivists, these meanings are shaped by historical and cultural contexts and created when individuals interact - and thereby negotiate their meanings - with others. Hence, constructivism acknowledges the existence of multiple realities and guides research towards the complexity of human perspective and situated knowledge (Cresswell & Cresswell, 2017; Shannon-Baker, 2023). Consequently, the personal, cultural and historical background of the researcher cannot be separated from the research process but enables the interpretation and construction of meaning from data (Cresswell & Cresswell, 2017; Shannon-Baker, 2023).

## 4.2 Epistemology

Building on constructivism and its pluralistic, subjective understanding of reality, this study comprehends what knowledge is and how it can be pursued based on an interpretivist epistemology (Bhattacharjee, 2012a; Shannon-Baker, 2023). The literature review showcased the complex and multi-faceted nature of the development practices shaping the sustainability of GHPs, making interpretivist qualitative research well suited to examine the underlying dynamics and meanings of these processes (Bhattacharjee, 2012a). According to interpretivists, knowledge is derived from synthesising subjective meanings about the reality of a phenomenon within its sociohistorical context. Hence, researchers must seek to understand participants' meanings through a process of sense-making, where knowledge emerges through the interpretation of participants' situated perspectives (Bhattacharjee, 2012a). Interpretivist research supports a dynamic and iterative research process. Relatedly, this study's research questions were continuously refined in response to emerging insights and unforeseen inferences drawn from participants' perspectives (Bhattacharjee, 2012a). This ultimately led to incorporating the theoretical concept *institutional work* into the research questions. Since researchers cannot be independent of the research context, interpretivism warrants active reflexivity to prevent personal biases from compromising interpretation. Efforts to preserve the authenticity of participants' perspectives were therefore taken, when reconciling these during analysis (Bhattacharjee, 2012a).

### **4.3 Positionality statement**

This statement outlines key aspects of my identity and experience that informed ongoing reflection throughout the research process.

I previously worked as an intern at the WDF, the donor behind all programmes examined in this study. This required reflexive scrutiny of how my positionality shaped both the research process and representation (Sultana, 2007). My previous employment positioned me as a partial insider to WDF's way of working and may have shaped how participants perceived me as a researcher. Familiarity with WDF's approaches to programme management and partner engagement could have influenced how I unconsciously framed questions or interpreted responses. Meanwhile, donor-recipient power relations between WDF and participants may have affected participant responses (Hammett, Twyman & Graham, 2014a). This follows, as WDF expressed support for this thesis and facilitated access to participants, who may therefore have affiliated me with the donor or thought about my connection to WDF during interviews. This may have shaped participants' engagement with the study in two ways; some may have refrained from voicing criticisms to avoid jeopardising organisational relationships and future funding opportunities, while others may have presented their projects positively to promote their work through my research. Such dynamics highlight how power relations may have shaped the knowledge produced (Hammett, Twyman & Graham, 2014a). To accommodate this, reflexive practice was conducted throughout the research process (Sultana, 2007). For instance, follow-up questions and ongoing meaning clarification were used during interviews to ensure that participants' meanings were accurately captured and to minimise potential bias during analysis (Brinkmann & Kvale, 2015).

## **5. Research methodology**

This section presents the study's research design, including case selection, data collection, data analysis, ethical considerations, and methodological limitations.

### **5.1 Research design**

This study employed a multiple case study design to examine how development practice can foster sustainability through a qualitative comparison of three WDF-funded programmes. The

programmes were treated as contemporary bounded systems using parameters outlined below (Creswell & Poth, 2018a; Bhattacharjee, 2012b).

The research design holds several advantages for this study's aim. Firstly, it is well-suited for examining complex organisational processes over time, making it appropriate for understanding how institutional arrangements and actor interests intersect, shaping sustainability of NCD services in PHC. Case research can further capture participant rationales in relation to programme contexts, explaining why actors engage in particular forms of institutional work and how these efforts underpin sustainability (Bhattacharjee, 2012b). Relatedly, the study included perspectives from the donor (WDF) and partner organisations operating in the programme contexts.

The analysis followed a common approach to multiple case study research (Creswell & Poth, 2018a). A within-case analysis was performed to identify key themes within each case. Themes were then compared across cases through a cross-case analysis to elicit similarities and differences in how sustainability was approached (Creswell & Poth, 2018a). Consistent with Stake's (2006) term *quintain*, which is described as the "*object or phenomenon to be studied*", as referenced by Creswell & Poth (2018a, p. 102), the cross-case analysis was guided closely by sustainability as the phenomenon of interest. This deepened the understanding of the *quintain*, when comparing the various strategies that actors use across cases to shape institutional arrangements and thereby achieve sustainability (Creswell & Poth, 2018a). The research design further warrants a discussion of transferability.

PHC settings was selected as the unit of analysis to ensure 'fittingness' between cases for findings to be compared and transferred within and beyond the study. Transferability refers to whether research findings can be applied to other contexts, which in qualitative case study research is enabled through rich, thick description (Creswell & Poth, 2018b). By offering detailed insights into institutional processes underpinning sustainability, the study enables readers to assess the relevance of findings to their own contexts. Central to the research design was therefore selecting a unit of analysis that could act as a 'common denominator' across cases, allowing readers to determine whether findings were transferable (Creswell & Poth, 2018b).

## **5.2 Case selection**

The case selection process was initiated by defining parameters for bounding the case study (Creswell & Poth, 2018a). Making PHC settings the unit of analysis provided criteria for determining which programmes fell within the study's scope. Additional parameters concerned programme stage and technical focus. To ensure that programmes had a similar technical focus on healthcare access, only programmes within the 'Access to Care' pillar of WDF's strategy were considered (WDF, n.d). Programmes also had to be completed or in their final stages to ensure activities had been implemented and sufficient data from programme documents was available.

Three programmes - in Georgia, Jordan and Timor-Leste, respectively - were selected as cases within the parameters (table 1). Purposeful sampling was used to sample cases with distinct partnership constellations as this was thought to reflect different approaches to sustainability (Bhattacharjee, 2012b; Creswell & Poth, 2018a). Programmes were led by different types of implementing organisations, which all collaborated closely with the national MoH, yet had varying organisational mandates to influence institutions. Hence, cases were complimentary, as programmes reflected different opportunities for sustainability.

Sampling also considered the availability of sufficient data for in-depth exploration, including high-quality project materials and accessible participants (Bhattacharjee, 2012b; Creswell & Poth, 2018a). Participants were accessed from the implementing organisations coordinating programme activities locally. An initial screening was additionally performed to assess the quality and availability of project materials.

|                            | <b>Jordan</b>                                                                                                                            | <b>Georgia</b>                                                                              | <b>Timor-Leste</b>                                                                                                     |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>Year</b>                | 2020-2026                                                                                                                                | 2023-2025                                                                                   | 2024-2025                                                                                                              |
| <b>Location</b>            | MoH PHC clinics and UNHCR-mandated clinics                                                                                               | Specialist and PHC clinics, Diabetes camps                                                  | PHC clinics in Dili & Aileu municipalities                                                                             |
| <b>Partners and donors</b> | Jordan MoH, Royal Health Awareness Society (RHAS), UNHCR, Caritas Jordan, Save the Children, WHO, WDF & Novo Nordisk Foundation (donors) | Georgia MoH, Non-Communicable Diseases Alliance in Georgia (NCDA Georgia), WHO, WDF (donor) | Timor-Leste MoH, WHO Country Office of Timor-Leste (WCO), WHO South-East Asia Regional Office (WHO SEARO), WDF (donor) |
| <b>Target population</b>   | Syrian refugees & Jordanians                                                                                                             | Children with Diabetes (CwD) and caregivers                                                 | People with diabetes and hypertension                                                                                  |
| <b>Aim</b>                 | Reduce the burden of hypertension and diabetes and integrate NCDs in humanitarian response.                                              | Improve health services, self-management behaviour and well-being.                          | Pilot a service delivery model to strengthen hypertension and diabetes care.                                           |

*Table 1: Overview of sampled cases*

## 5.3 Data collection

Several qualitative data sources, including semi-structured interviews and programme documents, were collected to examine sustainability in a detailed manner. Interviews captured participants' perspectives and rationales behind specific approaches, while documents provided contextual and operational evidence to support and triangulate findings (Creswell & Poth, 2018a; Bhattacharjee, 2012b).

### 5.3.1 Document data

Project reports and secondary research articles were retrieved from WDF's internal case management system (table 2). Project reports produced by implementing partners covered progress monitoring, implementation challenges, and achievements. These documents provided insights into decision-making and key programme processes. In Jordan and Georgia, secondary research articles from independent research institutes were also included.

| Case               | Document data                                                                                                                   |                                                                                                                                                                                     |                                                                                                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | <i>Design &amp; application</i>                                                                                                 | <i>Implementation &amp; progress monitoring</i>                                                                                                                                     | <i>Completion &amp; evaluation</i>                                                                                                                                                                              |
| <b>Georgia</b>     | <i>Technical assessment</i> (GE-TA);<br><i>Application</i> (GE-application);<br><i>Baseline evaluation report</i> (GE-Baseline) | <i>Mid-term evaluation report</i> (GE-mid-term);<br><i>Progress reports</i> (x5) (GE-PR1), (GE-PR2), (GE-PR3), (GE-PR4), (GE-PR5)                                                   | <i>Endline evaluation report</i> (GE-Endline);<br><i>Executive summary of endline survey</i> (GE-Exec-summary);<br><i>Final evaluation report</i> (GE-evaluation);<br><i>Project completion report</i> (GE-PCR) |
| <b>Jordan</b>      | <i>Technical assessment</i> (JO-TA);<br><i>Application</i> (JO-application)                                                     | <i>Progress reports</i> (x7) (JO-PR1), (JO-PR2), (JO-PR3), (JO-PR4), (JO-PR5), (JO-PR6), (JO-PR7)<br><br><i>Field visit reports</i> (x4) (JO-FVR1), (JO-FVR2), (JO-FVR3), (JO-FVR4) | <i>Executive implementation research article</i> (JO-Exec-IR)                                                                                                                                                   |
| <b>Timor-Leste</b> | <i>Technical assessment</i> (TL-TA);<br><i>Application</i> (TL-application)                                                     | <i>Progress report</i> (TL-PR1);<br><i>Donor reports</i> (x2) (TL-DR1) (TL-DR2);<br><i>Field visit report</i> (TL-FVR)                                                              | <i>Regional WHO SEARO report</i> (TL-WHO-report)                                                                                                                                                                |

Table 2: Overview of document data and reference IDs based on programme phase

### 5.3.2 Interview data

Participants were identified using snowball sampling and selected based on their professional involvement in the programmes (Bhattacharjee, 2012b). Initially, WDF representatives of each programme agreed to participate in the study and then facilitated contact to implementing partner representatives. Since the donor (WDF) acted as a gatekeeper, the participant recruitment process was likely influenced by donor-recipient power relations. Related ethical considerations are discussed later in this section. To expand the sample, participants were asked to suggest additional participants either by email or at the end of

interviews. Figure 2 visualises the snowballing process, while table 3 displays an overview of participants.

Participants were contacted by email through which initial voluntary consent was obtained. This was followed by a written consent form (Appendix B), outlining how personal data would be collected and processed, which was signed prior to the interviews. Four interviews were conducted for the case in Georgia, while three interviews were performed for the programmes in Jordan and Timor-Leste, respectively. Findings related to participants TL-1 and TL-2 are attributed to their personal opinions and do not reflect an official position of the organisation, by which they are employed.

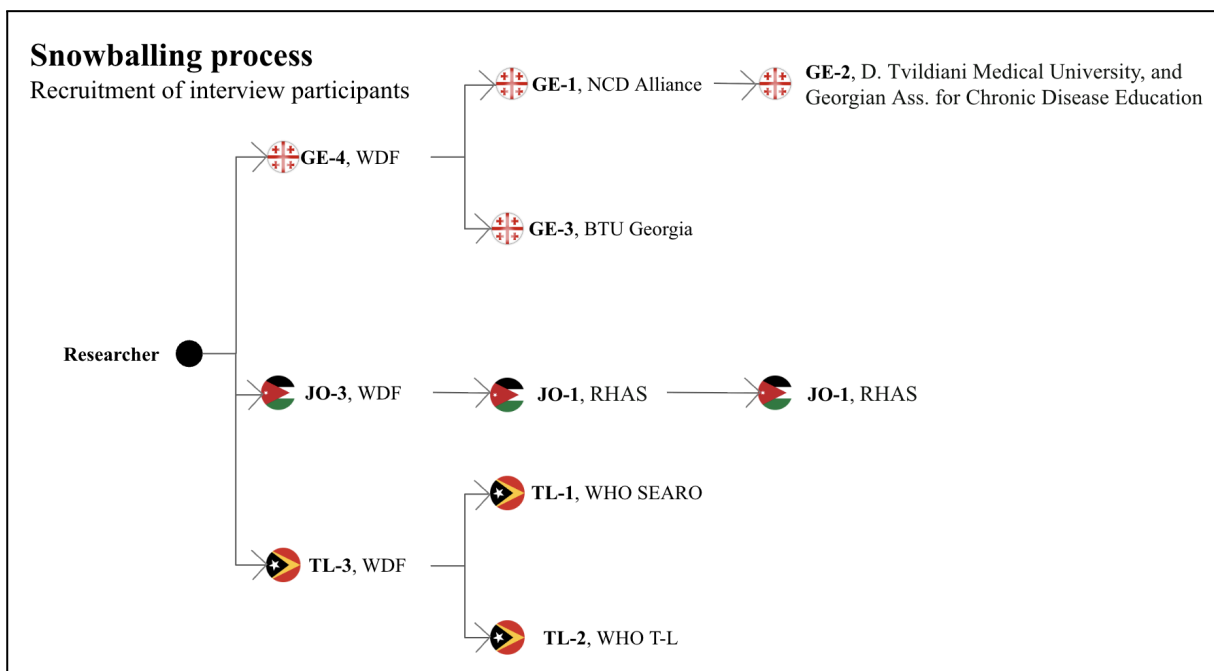


Figure 2: Snowballing process for recruitment of participants per case.

| Case               | ID   | Organisational affiliation                                                            | Organisational role & responsibilities                                                                                                                       |
|--------------------|------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Georgia</b>     | GE-1 | NCD Alliance Georgia                                                                  | <i>Chair of Board, NCD Alliance Georgia.</i><br>- Main initiator and overall responsible.<br>- Led partner coordination.<br>- Engaged in programme design.   |
|                    | GE-2 | D. Tvildiani Medical University<br>Georgian Association for Chronic Disease Education | <i>Medical Director.</i><br>- Led training for HCPs.                                                                                                         |
|                    | GE-3 | Business and Technology University (BTU), Georgia                                     | <i>Associate Professor.</i><br>- Conducted baseline and endline.                                                                                             |
|                    | GE-4 | World Diabetes Foundation (WDF)                                                       | <i>Associate Programme Manager.</i><br>- Provided technical support.                                                                                         |
| <b>Jordan</b>      | JO-1 | Royal Health Awareness Society (RHAS)                                                 | <i>Director General of RHAS.</i><br>- Led implementation and partner coordination.<br>- Became Director General during the programme, but remained involved. |
|                    | JO-2 | Royal Health Awareness Society (RHAS)                                                 | <i>Project Manager.</i><br>- Programme manager of the HCC.<br>- Led implementation from 2023.                                                                |
|                    | JO-3 | World Diabetes Foundation (WDF)                                                       | <i>Senior Manager.</i><br>- Provided technical support.<br>- Engaged in programme design.                                                                    |
| <b>Timor-Leste</b> | TL-1 | WHO South-East Asia Regional Office (SEARO)                                           | <i>Technical officer for NCDs.</i><br>- Donor contact and progress reporting<br>- Technical assistance to the MoH.<br>- Supported programme design           |
|                    | TL-2 | WHO Timor-Leste country office (WCO)                                                  | <i>National Professional Officer for NCDs and nutrition.</i><br>- Main contact for the MoH<br>- Co-led implementation<br>- Engaged in programme design.      |
|                    | TL-3 | World Diabetes Foundation (WDF)                                                       | <i>Programme Manager.</i><br>- Provided technical support.                                                                                                   |

Table 3: Overview of participants, including reference IDs, organisational affiliation and role.

Interviews followed a semi-structured approach, using open-ended questions to explore participant approaches to sustainability and associated rationales, while allowing participants

to steer the conversation towards issues they considered important (Cresswell & Cresswell, 2017; Hammett, Twyman & Graham, 2014b).

The study was supported by interview guides (Appendix C) that maintained a certain degree of structure following the study's definition of sustainability to allow for later cross-case analysis (Hammett, Twyman & Graham, 2014b). Following Brinkmann and Kvale's (2015) *thematizing* stage, a conceptual understanding of sustainability was established through the literature review, while preliminary document screening ensured familiarity with each case. This process built on iterative movements between the definition and case materials to develop meaningful questions.

Except for two (GE-4 & TL-3), all interviews were conducted online, lasting approximately 60 minutes. Most interviews were conducted in English, while one was conducted in Danish (JO-3). Given the online format, efforts were made to balance the content ("what") and dynamic ("how") dimensions of interviews (Brinkmann & Kvale, 2015), by promoting an engaging atmosphere and using clear, concise questions. Participants were encouraged to interrupt or request rephrasing of questions to accommodate language barriers, particularly as most were non-native English speakers.

All interviews were audio recorded and transcribed using the GDPR-compliant transcription software, *Good tape*. Transcripts were carefully read through, while concurrently listening to the audio recordings to make corrections and ensure accuracy.

## **5.4 Data analysis**

Data analysis was performed through a within-case and cross-case analysis. The within-case analysis used both interview and document data for each case separately. Themes were identified through thematic analysis and interpreted in dialogue with the study's theoretical framework (Bhattacharjee, 2012b; Ahmed et al., 2025). A cross-case analysis was then conducted, by cross-examining the interpreted themes from each case to elicit commonalities and divergencies. This highlighted recurring strategies for shaping institutional arrangements to achieve sustainability (Bhattacharjee, 2012b).

The analytical process involved iterative cycles to refine interpretations and ensure consistency with participants' accounts. This included moving between individual

observations in the data and triangulating participant responses and document data within cases, contributing to minimising bias in the interpretation of data (Bhattacharjee, 2012a; Bhattacharjee, 2012b). Iterations also involved moving between cases to make cross-cutting inferences between themes and refine cross-case interpretations. These iterative cycles were continued until no additional insights were generated (Bhattacharjee, 2012b).

Thematic analysis was conducted following Braun and Clarke's six-phase framework (2006), referenced by Ahmed et al. (2025), to systematically and reflexively engage with the data, while identifying themes and interpreting patterns. Interview transcripts and documents were read repeatedly to achieve deep familiarisation with the data. A manual coding approach was used to systemically generate initial codes. Codes were subsequently grouped to search for themes, which were then reviewed by merging, dividing, and removing themes (Ahmed et al., 2025). Next, theme definitions and names were developed in relation to the research questions (Appendix D). Finally, themes were narratively synthesised within each case and interpreted using the study's theoretical framework (Ahmed et al., 2025).

## **5.5 Ethical considerations and limitations**

The recruitment process was associated with ethical concerns since WDF as the donor acted as a gatekeeper. Consequently, power asymmetries in the donor–recipient relationship required scrutiny, as power may also operate through implicit expectations and agenda-setting (Hammett, Twyman & Graham, 2014a). Partners may have felt obliged to participate to maintain relations or future funding opportunities, potentially compromising voluntary participation. To address these concerns, participants were explicitly informed that participation was voluntary and that consent could be withdrawn at any time (Brinkmann & Kvale, 2018). Additionally, care was taken to limit follow-up contact, recognising non-response as a potential refusal to participate.

Participant confidentiality was ensured, by anonymising names and using participant IDs. The consent form (Appendix B) specified data use and participants' preferences regarding attribution were openly discussed (Brinkmann & Kvale, 2018). While some wished for their organisation to be credited, others requested that their views were presented as personal rather than an organisational position. These preferences were accommodated while maintaining overall anonymity (Brinkmann & Kvale, 2018).

Furthermore, a limitation of this study relates to technical challenges encountered during the interview with participant TL-2. Unstable internet connectivity caused repeated interruptions, disrupting conversational flow and limiting in-depth exploration. To address gaps in the data, follow-up questions were shared after the interview, but were not responded to, likely due to limited availability. Consequently, the data lacked the intended depth. This raises an ethical concern, as TL-2 was the only participant based in Timor-Leste, whereby these challenges constrained the representation of local perspectives and the quality of findings within the case.

The multiple case study design entails trade-offs, as including several cases can reduce the depth of the findings, especially within a constrained timeframe (Creswell & Poth, 2018a). Relatedly, recruitment of MoH representatives was unsuccessful within the available timeframe. Meanwhile, a broader sample of participants could have strengthened the depth and balance between perspectives in the empirical material.

## 6. Analysis

This section is structured in two parts. First, case-specific themes are presented for Jordan (four), Georgia (three), and Timor-Leste (four), based on interview and document data and interpreted through the study's theoretical framework. Second, findings are compared across cases to identify cross-cutting patterns in how actors sought to support sustainability, by shaping institutional arrangements.

### 6.1 Within-case analysis: Jordan

#### *6.1.1 Sustainable service delivery through health system strengthening and integration*

Programme partners leveraged the Healthy Community Clinic (HCC), an existing model developed in collaboration between the MoH and RHAS, which complements the ministry's curative-oriented care model through prevention-focused activities that improve patient self-management (JO-1; JO-3; JO-application). Activities are delivered in assigned spaces within MoH PHC clinics to integrate with existing patient services and ensure sustainability: *"We had sustainability in our minds early on. We wanted to partner with the Ministry of Health and implement this project within their premises."* (JO-1). To integrate NCDs within the humanitarian response, programme partners scaled the model to additional MoH clinics,

serving both refugees and Jordanians: *“It was something that was built upon, because it already was integrated within the system. And this of course has increased the probability of sustainability.”* (JO-3). Hence, leveraging the HCC and its existing integration within the national system was a deliberate decision to avoid parallel structures and strengthen sustainability (JO-3; JO-1; JO-Exec-IR; JO-FVR4), reflecting a maintenance-oriented form of institutional work (Lawrence, Suddaby & Leca, 2009). It further ensured that macro-layer institutional structures were in place when scaling the HCC to additional clinics, providing a stronger foundation for sustainability (Ménard & Shirley, 2022a).

The NCD-humanitarian response integration was reinforced at national level, with programme partners supporting the inclusion of NCDs in Jordan’s official humanitarian response plan (JO-3). This macro-layer framework provided a cross-cutting institutional environment for NGO-operated and MoH clinics and helped translate an integrated NCD-humanitarian response into micro-layer institutions governing organisational practice, thereby reinforcing the HCC (Ménard & Shirley, 2022a). Selected UNHCR-mandated clinics driven by NGOs also adopted the HCC, serving only refugees. However, participants highlighted that alignment across clinics was challenging as the MoH and NGOs operated with different drug lists, protocols and data systems, complicating patient referrals and monitoring (JO-3; JO-2; JO-FVR2). Consequently, these different meso-layer translation mechanisms resulted in varied sustainability of integrated NCD-humanitarian service delivery (Ménard & Shirley, 2022a). Frequent rotation among NGOs responsible for UNHCR-mandated clinics additionally challenged implementation, while staff turnover and resource constraints disrupted services in certain clinics (JO-3; JO-2; JO-FVR1; JO-Exec-IR). Consequently, these disruptions caused uneven integration of the HCC into micro-layer institutions in NGO-clinics, as only some maintained the model through organisational protocols and standard service packages (Ménard & Shirley, 2022a).

According to participants, the issue was exacerbated by USAID’s shutdown, which forced several UNHCR-mandated clinics to close and disrupted macro-layer institutions, altering the conditions for integrating the HCC (Ménard & Shirley, 2022a). After the shutdown, UN agencies and NGOs pushed for refugee inclusion in the national healthcare system (JO-1; JO-2; JO-3). Relatedly, participants highlighted the importance of serving different

populations through one unified platform, while questioning the sustainability of parallel systems: *“having a parallel system has been a mistake by a lot of international NGOs and UN agencies from the beginning”* (JO-2). Participants further perceived strengthening the capacity of the national health system to be more sustainable (JO-1; JO-2; JO-3): *“early on we already saw that it is always better to build the capacity of the national system, rather than creating a parallel system.”* (JO-1). Overall, the volatile conditions in the humanitarian system reflect how national structures provide more stable and sustainable institutional environments for governing service delivery. Findings suggest that supporting one unified platform, while maintaining and reinforcing existing service models is a viable strategy for sustainability (Lawrence, Suddaby & Leca, 2009).

### ***6.1.2 Evidence-based feedback-loops supporting continuous adaptation***

The programme included quarterly research activities based on implementation research (IR), which addresses *“challenges of translating evidence-based interventions and policies into real-world practice within health systems”* (Mash et al., 2025). Participants highlighted how IR supported decision-making and informed adjustments, which enhanced the HCC and supported sustainability (JO-1; JO-2; JO-3; JO-FVR4; JO-Exec-IR): *“So these researchers were always giving us feedback on the different implementation platforms, so that we change, enhance and develop the programme accordingly.”* (JO-1). IR recommendations helped differentiate the HCC, whereby patients could either receive combined group and individual counselling or individual counselling alone, which accommodated the physical space available in PHC clinics (JO-1; JO-2; JO-PR3). According to participants, on-going adaptation enabled appropriate integration of the HCC in organisational contexts across MoH and UNHCR-mandated clinics, while ensuring consistent evidence-informed standards of care (JO-1; JO-2; JO-Exec-IR):

*“Caritas and Save the Children also had their own specific challenges. [...] [refugees] are always on the move, [...] so sometimes they had to change the model instead of patients coming on a weekly or monthly basis, maybe they had to see them on a 1-2 session basis”* (JO-1)

While frequent patient migration made adjustments necessary in UNHCR-mandated clinics,

HCPs in MoH clinics were challenged by multiple responsibilities beyond HCC services. Consequently, adaptation was necessary to accommodate competing priorities:

*“Every center chooses based on their priorities the way that they work. For example, some centres have open access for everyone, so once the HCP is free she can accept patients in the HCC. Other centres have for example Sunday, Tuesday and Thursday [...].” (JO-2)*

Participants emphasised the importance of embedding the model within existing service structures and workflows to allow effective integration within humanitarian and national PHC platforms (JO-1; JO-2; JO-3; JO-Exec-IR). IR was used to foster sustainability, by contextualising the HCC to align with organisational realities and: *“constantly taking stock on what has developed and in which direction; Are certain things particularly appropriate? And if some things are not, then how do we adjust?” (JO-3)*. Without such feedback-loops service models may fail to integrate with institutional environments and become decoupled from organisational realities (Ménard & Shirley, 2022a). Hence, IR supported institutional work of adjusting and reinforcing the HCC, ensuring alignment between the model and micro-layer institutions governing practice within PHC clinics (Lawrence, Suddaby & Leca, 2009).

A governance mechanism was built to anchor feedback-loops in the programme steering committee and existing MoH working groups, supporting alignment around IR recommendations and facilitating decision-making (JO-1; JO-2; JO-3; JO-application; JO-PR1). IR recommendations were also channelled to policy-making forums, enabling policy re-orientation towards the integration of NCDs in humanitarian response and an update of the MoH’s NCD strategy (JO-1, JO-3; JO-PR2; JO-FVR3; JO-Exec-IR), thus strengthening key macro-layer institutions (Ménard & Shirley, 2022a). Overall, IR helped generate and circulate evidence across institutional layers, supporting ongoing adaptation of the HCC to diverse organisational contexts, while reinforcing a supportive policy environment (Ménard & Shirley, 2022a).

### ***6.1.3 Multi-level system strengthening and national ownership***

Participants emphasised that strengthening capacity at multiple levels supported the

sustainability of HCC services. To strengthen capacity at national level, informal institutions were targeted (Ménard & Shirley, 2022a), by offering MoH representatives opportunities to participate in international conferences and knowledge exchange platforms. The Director General of RHAS (JO-1) explained: *“It's a win-win situation. The ministry staff would learn what other countries are doing as well as other countries know what Jordan is doing”*. According to participants, building institutional knowledge within the MoH supported ministry staff in updating the national NCD guidelines and retained knowledge after programme completion (JO-1; JO-3; JO-Exec-IR). As such, targeting informal institutions nurtured policy-making and created formal macro-layer institutions that fostered a supportive environment for continued HCC services (Ménard & Shirley, 2022a).

The increased capacity at national level was leveraged to provide continuous training for HCPs through two strategies, which ensured refresher training for engaged HCPs and full training for replacements assuming HCC responsibilities (JO-1; JO-2; JO-PR1; JO-PR2; JO-PR3; JO-Exec-IR). This entailed developing online courses through a national training platform and a ToT model where a core team at the MoH were trained and assumed responsibility for sustaining HCP training (JO-1; JO-2; JO-PR1; PR3; JO-Exec-IR). This exemplifies institutional work where continuous training reproduces norms related to patient care and self-management support, which contributes to maintaining core service delivery practices underpinning the HCC (Lawrence, Suddaby & Leca, 2009). Overall, participants emphasised the necessity of continued HCP training for sustaining the HCC in PHC clinics (JO-1; JO-2; JO-PR3; JO-Exec-IR).

Participants further emphasised that trust-based relationships with MoH representatives were foundational for national-level ownership. These were facilitated through alignment on responsibilities and reassurance of shared objectives: *“Now they feel that; oh, okay, you are not coming to take the credit. It's not about credit, it's about the national system [...]. We both work together under the same strategic objectives.”* (JO-2). Participants prioritised open communication and shared decision-making in their working relationship to empower MoH representatives as main decision-makers and facilitate ownership (JO-2; JO-1; JO-PR5; JO-FVR3; JO-Exec-IR). Participants highlighted how co-creating the programme design was essential for anchoring ownership with the MoH:

*“the major learning is always to have all stakeholders with you on the planning table, rather than decide on something and then call them, because you will always lose their ownership and their dedication to the implementation.” (JO-1).*

Co-creation further ensured that programme activities were aligned with national priorities and needs, strengthening the basis for institutionalisation (JO-1; JO-3; JO-application).

Participants explained how the MoH officially assumed ownership of the HCC upon programme completion, integrating it into key national institutional processes such as their annual work plans and appointing HCC focal points (JO-1; JO-2; JO-3; JO-PR3; JO-PR4; JO-Exec-IR). While risks of shifting priorities and resource allocation remain, participants perceived institutionalisation as a mitigating factor, safeguarding service continuity. Ownership was also thought to increase the ministry’s inclusion of the HCC in PHC planning (JO-1; JO-3): *“I think the ministry will start advocating more for the model, now that it became completely theirs”. (JO-1).* For instance, the MoH has initiated a re-architecting of PHC, building on the HCC model to strengthen their NCD response (JO-1; JO-2). Participants highlighted this as an indicator of ownership: *“This gives you the relief that they are seeing the importance of this model and they see the benefit of adding any components to this model.” (JO-1).* Overall, relationship-building, co-creation, and shared decision-making showcases multiple forms of institutional work aimed at anchoring ownership and thereby maintaining the HCC through integration into formal macro-layer institutions. This ensured that the HCC was reproduced within national structures (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a).

To support sustainability, RHAS transitioned the responsibility of supervising and monitoring clinics to national authorities in collaboration with the MoH and directorates of NCDs. Meso-layer institutional arrangements were established (Ménard & Shirley, 2022a), by incorporating HCC monitoring and support activities in the official job descriptions of NCD focal points, assigned to oversee HCC activities (JO-1; JO-2; JO-Exec-IR): *“You cannot leave [clinics], also without any follow-up or monitoring. So we thought about the job description of these NCD focal points.” (JO-2).* Hence, integration of HCC activities in organisational

routines was underpinned by continuous monitoring and supervision. Furthermore, migrating HCC data into the national HMIS system and establishment of direct data entry in the system supported the institutionalisation of routine monitoring (JO-1; JO-2; JO-3; JO-PR5; JO-PR4): *It [HCC] automatically gets integrated into the health system, because data from the activities we have supported are absorbed directly in the system*” (JO-3). System integration was perceived as essential for sustainability, by supporting NCD focal points in monitoring service delivery, while making it easier for the MoH: *“to track the benefits of this project on a more scalable level.”* (JO-1). Hence, the job descriptions and system integration acted as meso-layer institutions, by linking the HCC to national PHC planning processes, which strengthened sustainability (Ménard & Shirley, 2022a).

#### ***6.1.4 Promoting sustainability through advocacy, retention strategies and incentive structures***

Participants described issues related to low motivation and staff turnover during implementation, which programme partners sought to mitigate through several incentive-based strategies (JO-1; JO-2; JO-PR5; JO-Exec-IR): *“we decided also to think about the training, how to make it certified or to be CPD [continuous professional development] accredited.”* (JO-2). Hence, completing HCC training grants HCPs credits towards renewing their practicing certificate. HCPs additionally received certificates in front of their superiors. The MoH further endorsed contributions to HCC service delivery as official promotion criteria, which are used during the ministry’s annual performance evaluation: *“We advocated so that if they participate in the HCC it is an added value, so they get extra marks in their evaluation.”* (JO-1). Embedding HCC-activities into existing incentive and evaluation systems exemplifies institutional work that attaches incentive structures to certain practices to maintain the HCC (Lawrence, Suddaby & Leca, 2009).

Meanwhile, heavy workload challenged the integration of additional responsibilities in organisational routines. Through advocacy at ministry level, programme partners ensured that HCPs were able to dedicate themselves to the HCC at least two hours a week (JO-1; JO-Exec-IR). The Director General of RHAS (JO-1) notes that this reduced frustration from increased workload and improved job satisfaction among HCPs. Despite this, staff were reassigned to non-HCC clinics due to resource constraints and conflicting priorities in the

national system, challenging HCC service continuity (JO-2; JO-3; JO-PR4; JO-PR3). Overall, the strategies deployed underpinned sustainability, by leveraging formal institutions to govern behaviour, foster motivation and influence the prioritisation of tasks in PHC practice (Ménard & Shirley, 2022a).

## **6.2 Within-case analysis: Georgia**

### ***6.2.1 Fostering sustainability through co-creation, evidence-based advocacy and continuous feedback-loops***

NCDA Georgia led an extensive co-creation process to address gaps in care for CwD through several consultations with the MoH, HCPs and caregivers of CwD (GE-1; GE-2; GE-TA; GE-application): *“Actually, it has not happened often that I have had so tight consultation with all the partners.” (GE-1)*. Moreover, independent researchers conducted a baseline assessment of needs among CwD involving both caregivers and HCPs (GE-2; GE-3; GE-4). Participants described early-stage participation as key to designing a programme, which would *“complement and support environments of diabetes care” (GE-2)*, facilitate implementation and foster ownership (GE-1; GE-2). Participants perceived the programme to be *“very well aligned with the government agenda.” (GE-4)*, while addressing needs voiced by beneficiaries and HCPs (GE-1; GE-4; GE-evaluation). Overall, connecting beneficiary needs with national level efforts was perceived as instrumental for sustainability: *“Having an open approach, both top-down and bottom-up simultaneously, is good [...] and it would help build a foundation for sustaining it afterward” (GE-4)*.

Participants described how the programme built on former initiatives with the MoH, ensuring a logical continuation of former achievements (GE-1; GE-4): *“We always work with these kind of activities that further contributes sustainability of previous project activities and we always try also to build our new activities and our new project on the previous project.” (GE-1)*. Participants highlighted the electronic diabetes registry as an example, noting how the system was piloted in an earlier initiative, and then integrated into PHC during this programme. This approach was perceived to enhance the sustainability of established activities, while anchoring new activities within established practices (GE-1; GE-4). Hence, programme partners conducted institutional work that simultaneously maintains and creates

institutions to enhance sustainability (Lawrence, Suddaby & Leca, 2009).

Continuous stakeholder engagement and research findings further supported advocacy efforts, by linking HCPs and beneficiaries with representatives of the MoH (GE-1; GE-3; GE-4). According to participants, HCPs and caregivers had advocated separately prior to the programme, resulting in conflicting messages on priorities: *“What we saw was that there was some kind of translation needed between these two parties, because what we see is a fragmentation of efforts between caregivers and healthcare professionals.”* (GE-3). Hence, the programme unified and enhanced the advocacy agenda around care for CwD, by translating needs among the interested parties and elevating these onto the agenda of key decision-makers at the MoH. This influenced and informed decision-making related to the government’s diabetes programmes. For instance, the MoH introduced a Continuous Glucose Monitoring System for children permanently funded by the state diabetes programme (GE-3; GE-1). Research findings additionally informed the development of the national guideline in paediatric endocrinology (GE-1; GE-3; GE-4; GE-PR2; GE-Endline; GE-PCR). This illustrates the dynamics between institutions and organisations, where HCPs in coordinating advocacy with development actors and caregivers influence the institutional arrangements that govern their practice (Lawrence, Suddaby & Leca, 2009).

Quarterly reporting meetings were held with high-ranking MoH officials to discuss activities and agree on next-steps: *“We had very, very tight communication and collaboration. I could report to them what is the problem and what are the complaints of the parents.”* (GE-1). These meetings conveyed feedback on ground-level needs to MoH representatives, strengthening their commitment to ongoing improvements (GE-1; GE-4; GE-PR1). Regular consultations with HCPs and regional health authorities were additionally conducted throughout implementation, serving as input to the MoH. This feedback-loop aligned beneficiary needs, regional-level implementation and national-level expectations, while the programme was adapted accordingly (GE-1; GE-4). Collectively, advocacy efforts and feedback-loops reflect institutional work that created formal macro-layer institutions through the MoH, shaping service delivery practice in PHC clinics (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a).

### 6.2.2 Multi-level institutionalisation of national guideline and diabetes registry

Participants highlighted how the national guideline in paediatric endocrinology was institutionalised across healthcare system levels, supporting standardised care nationwide (GE-1; GE-2; GE-4; GE-PCR): *“We first started working at the national level, having it [the guideline] in place, making it into the system, and then rolling it out at the sub-national level”* (GE-4). The programme engaged national experts, who developed the guideline, which was formally adopted by the MoH and placed on a national clinical guideline portal (GE-1; GE-2; GE-4; GE-PCR; GE-mid-term). Further dissemination was ensured through trainings for specialists and HCPs at PHC level: *“It was the first official guidelines that was adopted by the Ministry of Health on how to manage children with type 1 diabetes, so it was quite new for them”* (GE-1). Trainings were conducted by specialists in paediatric endocrinology, who had developed the guideline. According to participants, the trainings revitalised care practices and created coherence across healthcare levels (GE-1; GE-2; GE-3; GE-mid-term). Hence, the guideline constitutes a macro-layer institution that established national care standards, while training acted as a meso-layer institutional mechanism, by translating standards into practice (Ménard & Shirley, 2022a). Furthermore, the guideline was included in the national certification programme for pediatric endocrinologists, ensuring that all future certifications are based on the updated care practices (GE-1). This demonstrates a sequential approach to institutional work that supports sustainability, by first creating care standards and subsequently maintaining them through an authorised training institution (Lawrence, Suddaby & Leca, 2009).

Initially, adherence to the guideline among HCPs was weak, as it was neither mandatory nor linked to incentives. However, the MoH implemented a new PHC reform to strengthen PHC capacity and introduce results-based payment (GE-1). Advocacy during the programme ensured that the guideline became mandatory through the reform, which enforces guideline adherence through payment incentives linked to performance indicators: *“It was not a demand when we implemented this project. But because of this reform, because it's related to their payments, their motivation increases to use this guideline”* (GE-1). Thus, participants emphasised the reform as vital for the sustainability of newly established care practices (GE-1; GE-PCR). Programme partners additionally supported the integration of the electronic diabetes registry into PHC in collaboration with MoH agencies. Formal macro-layer

institutions ensure its maintenance (Ménard & Shirley, 2022a), as the registry was formally endorsed through a Ministerial Decree and later became mandatory for clinics covered by the PHC reform (GE-1; GE-4; GE-application; GE-mid-term; GE-PCR; GE-PR5). A performance indicator from the registry serves as a basis for results-based payments to PHC providers, whereby the PHC reform and registry collectively reinforce guideline adherence, by linking guideline-based performance indicators to payment incentives (Lawrence, Suddaby & Leca, 2009). This highlights the importance of embedding newly established institutions within formal macro-layer institutions and incentive structures to sustain micro-layer PHC care practices. Hence, sustainability was strengthened through institutional work that linked enforcement mechanisms to the new care standards, supporting their reproduction (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a).

### ***6.2.3 Fragile sustainability of patient education activities amid political change and limited integration***

Caregiver training, patient education and peer support was organised through multidisciplinary teams at diabetes camps to increase self-management skills among CwD and their caregivers (GE-1; GE-2; GE-3; GE-4). Hence, the camps both improved knowledge and formed connections: *“They learned to care for each other, to share experiences and opinions, and most importantly, they realised they are not alone with their disease”* (GE-2). Participants highlighted that relationships between attendees have endured after the camps through online media groups, informal peer-support groups and social activities that caregivers organise (GE-1; GE-4). Overall, the camps laid the foundation for a sustained support system among beneficiaries, by introducing a culture of mutual care, experience-sharing, and peer support. These informal micro-layer institutions persisted beyond the programme, illustrating how beneficiary empowerment and informal institutions can support continuity of care (Ménard & Shirley, 2022a).

Nonetheless, participants underline the need for continued learning for CwD and caregivers. Correspondingly, the programme developed digital education materials, which are sustained through an online platform, maintained by NCDA Georgia, who also assumed ownership of the camps (GE-1; GE-4; GE-PCR; GE-Exec-summary; GE-Endline). However, while the camps constitute institution-creating work, by establishing new self-management practices

and support structures, this was only partially underpinned by institutional work oriented towards maintenance, resulting in fragile sustainability (Lawrence, Suddaby & Leca, 2009). Participants describe ongoing efforts to identify a sustainable mechanism for continuing the camps following programme completion. Different approaches have been pursued, including a contributory scheme where beneficiaries would pay to participate and seeking municipal support, resulting in a few municipalities granting vouchers for children to improve the affordability of attending camps. Lastly, donor funding was suggested as an option for sustaining the camps (GE-1; GE-2).

However, during the programme Georgia's political climate shifted considerably with the government passing the Foreign Agents Registration Act, requiring organisations receiving more than 20% of their funding from abroad to register as 'organizations serving the interests of a foreign power' and obtain government approval to receive funding. Increased monitoring and control over civil society limits foreign development organisations from engaging in Georgia, putting a restriction on external donor support for future diabetes camps (GE-4; GE-1; GE-PCR; GE-PR3). These disruptions to macro-layer institutions restricted opportunities of establishing durable maintenance mechanisms for continuing the diabetes camps outside national structures (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a). Relatedly, participants emphasise the increased need for the MoH and municipalities to support the continuation of patient education activities, which has yet to materialise at a broader scale (GE-4; GE-2). Hence, implementation outside formal healthcare structures challenged long-term sustainability. Despite ownership and continued efforts by the NCDA Georgia, participants emphasise that broader institutional support through the national system is essential for sustainability (GE-1; GE-2). Overall, this demonstrates that the sustainability of institutions created by development actors remains limited without maintenance mechanisms and integration into formal macro-layer institutions (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a).

## 6.3 Within-case analysis: Timor-Leste

### 6.3.1 *Fostering sustainability through integration with existing structures and priority alignment*

Participants highlighted that the programme supported government efforts to expand UHC, by improving the care cascade for diabetes and hypertension and accelerating the government's pledge to place 50,000 people on protocol-based management by 2030 (TL-1; TL-2; TL-3; TL-PR1; TL-FVR). Participants emphasised that basing programme activities on nationally defined needs, while reinforcing government commitments enhanced sustainability (TL-3; TL-1):

*"[...] but simpler is what the government needs and how they need. If you have understood this and if you have designed in such a way, the acceptability becomes much easier, the results become really encouraging. And it motivates the government also to sustain it or scale it" (TL-1).*

The programme was developed in close dialogue with the MoH to address service delivery gaps and complement the national essential health service packages. Rather than imposing new services, participants underlined that sustainability was supported by leveraging existing institutional structures to build on established service delivery arrangements (TL-1; TL-3).

To align with national priorities, programme activities were tailored to the government's Integrated Health Programme (PIS), a flagship initiative that strengthens PHC and decentralises care. Activities were integrated within its service package. According to participants, harnessing the government's UHC commitment to position diabetes and hypertension within the PIS was key to securing sustainability (TL-1; TL-2; TL-3; TL-DR1; TL-DR2; TL-FVR). Through the PIS, the programme provided specialist outreach services and screening at community level in Aileu and Dili municipalities. Mobile health teams helped confirm suspected cases and review the management of patients (TL-1; TL-2; TL-3; TL-DR1; TL-DR2; TL-FVR). Hence, efforts to improve diabetes and hypertension care cascades were anchored within an institutional structure: *"The Vice Minister for Institutional Strengthening in Health [...], commended his technical teams and WHO for not creating a*

*parallel system but integrating into the PIS” (FVR).*

Leveraging the PIS reflects institutional work that designs new institutions to fit within established service delivery arrangements. This reinforces existing institutions and facilitates alignment with political priorities, thereby placing new service practices within supportive macro-layer institutional structures and strengthening sustainability. It further represents institutional work that builds on existing institutional logics rather than introducing alternatives (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a).

The government is additionally developing a performance-based incentive structure around the PIS, which participants highlighted as an opportunity for further institutionalisation of services introduced by the programme: *“We try to include the treatment coverage as well as follow-up as one of the indicators for the incentive programme” (TL-1)*. Although this incentive structure is not yet in place, alignment with existing institutional structures constitutes institution-maintaining work, as embedding activities within the PIS created opportunities of reproducing new care practices over time, by linking these to emerging incentive structures (Lawrence, Suddaby & Leca, 2009).

### ***6.3.2 Mechanisms supporting alignment and ownership across government levels***

Participants described close working relationships between the WCO and several levels of government: *“It was very obvious that there are strong working relationships, not only at technical level, but also at the higher political level” (TL-3)*. Meetings with senior MoH officials ensured high political traction and strong government ownership (TL-1; TL-2; TL-3; TL-DR1; TL-FVR): *“We advocate for them [MoH] to support the implementation at the primary care level. [...] That is to bring them to the same idea for implementation of the service delivery model.” (TL-2)*. Moreover, close collaboration with municipal health directors and heads of PHC clinics facilitated alignment and ownership at municipal and PHC levels (TL-1; TL-2; TL-3; TL-PR1).

Cross-cutting alignment and ownership was additionally ensured through an inception meeting, which convened management-level stakeholders across the health system to *“identify the targets for each municipality, and for them to exercise their right and advocate for their own healthcare level.” (TL-2)*. Participants noted that the meeting enabled

stakeholders to share priorities and align on mutual objectives, enabling the development of a revised service delivery model, which the MoH officially endorsed (TL-1; TL-2; TL-3; TL-DR1). Hence, alignment and ownership across government levels created an enabling institutional environment for sustainability of the model. Moreover, the meeting resulted in jointly defined PHC-level coverage targets and performance indicators, ensuring that the model was reflected in formal institutional arrangements and enforced nationally (Ménard & Shirley, 2022a). According to participants, co-creation processes at multiple levels ensured ownership among relevant stakeholders. Initially, the programme proposal was co-developed by WHO SEARO, WCO, and the MoH, after which the service delivery model was co-created and piloted with HCPs and district-level managers to align on responsibilities and ensure feasibility with PHC realities (TL-1; TL-2; TL-3; TL-PR1; TL-DR1). Participants emphasised that this fostered ownership and significantly increased treatment coverage, demonstrating: *“that if you have a rooted service delivery model from the healthcare providers, it has a higher success”* (TL-1). Overall, the inception meeting and co-creation processes represent efforts of aligning institutional logics to enable coordinated action across system levels (Ménard & Shirley, 2022a).

Throughout the programme, the WHO convened meetings with MoH representatives across divisions responsible for NCDs, PHC, procurement and supply, data management, monitoring and evaluation. As a result, participants highlighted how NCDs were included in all relevant technical working groups, transcending the health sector. Moreover, ownership was embedded across divisions by anchoring decision-making around key challenges, thereby strengthening national support structures for sustaining PHC service delivery (TL-1; TL-2; TL-3): *“WHO is not a partner that builds parallel systems ever. But it was also obvious that when decisions were being made, they were being made in a partnership.”* (TL-3). This reflects institutional work aimed at maintaining the service delivery model, as efforts reinforced coherent decision-making and strengthened national ownership, contributing to a supportive macro-layer institutional environment (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a).

Decision-making and ownership were further reinforced through an NCD dashboard, which was established in the national HMIS, enabling municipal health directors to regularly monitor implementation. Participants described how NCD indicators were actively reviewed

during routine meetings, guiding corrective actions and creating coherence across PHC, municipal, and national levels, as actors were aligned on shared measures of progress (TL-1; TL-DR2; TL-DR1; TL-TA; TL-FVR). This constitutes maintenance-oriented institutional work through meso-layer institutions and implementation monitoring, which enables enforcement of macro-layer rules and informs decision-making among municipal health directors (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a). This strengthened governance arrangements and helped local actors translate national priorities into PHC practice.

### ***6.3.3 Facilitating continuity of care through national-level system strengthening***

According to participants, health facility assessments indicated that sustained improvements in PHC required a strengthened national-level NCD response. Timor-Leste faces supply challenges and high procurement costs of medicine, creating major gaps in disease detection and treatment coverage (TL-1; TL-2; TL-3; TL-WHO-report; TL-application; TL-FVR). Moreover, non-streamlined procurement processes resulted in the procurement of multiple drugs for hypertension and diabetes, inconsistent drug availability and frequent stock-outs: “[...] They were basically buying everything. But being a small island nation and a resource poor country there's really a need for prioritization.” (TL-3). Moreover, the absence of a PHC-level HMIS system prevented reliable drug forecasting (TL-1; TL-2; TL-3).

Consequently, the programme facilitated national-level coordination around the procurement of medicines and consumables across MoH divisions, fostering cross-cutting collaboration through regular meetings aimed at defining an Essential Medicines List (EML): *“The work that they've done on prioritization of the procurement has actually helped directorates within the ministry working better together”* (TL-3). This represents institutional work that introduced new inter-organisational collaboration practices within the MoH (Lawrence, Suddaby & Leca, 2009). In parallel, a forecasting tool was developed corresponding to the EML, providing more accurate estimations of medicine and diagnostic needs across municipalities (TL-1; TL-2; TL-3; TL-FVR; TL-DR1; TL-PR1). Hence, actors strengthened macro-layer institutional structures to support sustainability of services at PHC level, by creating informal institutions through collaboration practices and formal institutions through the EML, which together reinforced national-level procurement practices (Lawrence, Suddaby

& Leca, 2009; Ménard & Shirley, 2022a). The EML was additionally reflected in an updated drug and dose specific protocol, which through integration with the national PHC treatment guidelines ensured institutionalisation and that streamlined procurement was anchored in clinical practice (TL-1; TL-2; TL-application; TL-PR1; TL-DR1). Hence, the protocol functioned as a meso-layer institution, by linking national procurement structures with treatment standards and services at PHC level, ensuring coherence between healthcare levels (Ménard & Shirley, 2022a). Participants emphasised how the EML improved drug availability in PHC clinics within the same government budget. Overall, supply chain improvements were perceived as essential for sustaining the improved diabetes and hypertension services (TL-1; TL-2; TL-3; TL-FVR; TL-DR1; TL-DR2; TL-application).

Finally, the programme introduced NCDs to the national HMIS at PHC level. Offline forms were used in clinics, linked to patient-specific NCD passports with unique identifiers, from which information was transferred to the digital HMIS. This demonstrates institutional work that established new practices for data collection and use (Lawrence, Suddaby & Leca, 2009), which participants emphasise underpinned patient follow-up, referrals and continuity of care (TL-1; TL-2; TL-3; TL-FVR). A digital e-tracker was further integrated into the HMIS and implemented in selected PHC clinics (TL-1; TL-3; TL-FVR), whereby new data management practices were embedded within existing institutional structures, establishing a mechanism for maintenance. Overall, findings illustrate how institutional work targeting core system functions, including supply chain management and data management, reinforced institutional arrangements necessary for continuity of care at PHC level (Lawrence, Suddaby & Leca, 2009).

#### ***6.3.4 Embedding service delivery into PHC-level organisational routines through training and supervision***

The programme delivered orientation training to HCPs through a cascade model, using a ToT approach to prepare PHC clinics for implementation of the service delivery model: *“We focused on service delivery; how to diagnose, how to provide treatment, how to do counselling, how to refer and also how to prescribe drugs, including the data management using the offline form”* (TL-2). As such, these *“hands-on trainings”* (TL-2) covered the entire continuum of care, equipping HCPs to manage diabetes and hypertension from early detection to ongoing patient follow-up (TL-1; TL-2; TL-PR1). Master trainers were selected with MoH

support, ensuring that training capacity would remain within the MoH: *“Capacity development of HCPs has been done through a cascade approach to institutionalise capacity at central level for further expansion beyond this project” (FVR)*. The ToT anchored institutional knowledge and training capacity within the national system, enabling scale-up and continued reinforcement of service delivery beyond the programme (Lawrence, Suddaby & Leca, 2009).

To integrate learning into clinical practice, participants described that the programme used supportive supervision rather than repeated trainings:

*“The supportive supervision was the mechanism through which you can assess that whatever has been taught in the training is being implemented, and if not implemented [you can determine] what was the challenge and you can further on-site train through the supportive supervision.” (TL-1)*

Participants noted that supportive supervision helped assess to which degree HCPs were applying the taught management approaches. Hence, clinic-based supervision provided *“on-the-job learning” (TL-1)* and enabled continuous identification and correction of implementation gaps. Participants further highlighted that supervision empowered HCPs and built confidence, contributing to high acceptability, motivation and sustainability (TL-1; TL-2; TL-3; TL-FVR; TL-DR2; TL-application). Supportive supervision was primarily conducted by MoH representatives and the WCO, indicating strong national ownership of implementation (TL-1; TL-2; TL-DR2). Participants described how this supported a communication flow from PHC clinics to the national level: *“they [HCPs] were voicing concerns, also with the Ministry of Health, who were joining the supervisions” (TL-3)*. This established feedback loops that allowed issues identified at PHC level to be escalated and addressed at national level: *“we conveyed the message back to the Vice Minister level, what we have identified and what changes needed to be done” (TL-1)*. Orientation training constituted institution-creating work by establishing new clinical practices, while supportive supervision functioned as institution-maintaining work by reinforcing adherence, enabling adaptation to clinical realities, and securing continuous feedback loops between PHC and national levels. Together, these mechanisms ensured that service delivery practices were integrated into micro-layer institutions governing routine care, thereby remaining relevant and

effective over time (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a).

## **6.4 Cross-case analysis**

This section presents cross-cutting inferences from the within-case analysis, demonstrating how development actors engage in institutional work to ensure sustainability of NCD services in PHC.

Findings show that development actors undertake various forms of institutional creating and maintaining work throughout programme stages. During the design phase, actors avoid producing parallel structures to improve prospects of sustainability. In Jordan and Timor-Leste the programme designs leveraged existing service delivery arrangements. This displays how institutional work was oriented towards securing sustainability, by reinforcing existing institutions and leveraging these to introduce new service delivery components (Lawrence, Suddaby & Leca, 2009). Harnessing service models that are already integrated in the healthcare system ensures that supportive macro-layer institutions are already in place, providing a stronger basis for sustainability (Ménard & Shirley, 2022a). Building on existing institutional arrangements further enables programmes to tie service delivery to incentive structures and thereby reinforce service delivery practices. Incentive structures were further used as a maintenance mechanism in Georgia, where the PHC reform enabled utilisation of results-based payment incentives. Hence, institutional work that leverages macro-layer incentive structures to maintain service delivery and adherence to care standards constitutes a key strategy for sustainability (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a).

During implementation, the programmes in Georgia and Timor-Leste demonstrated a sequential approach where institutional work shifted from creating institutions to maintaining institutions (Lawrence, Suddaby & Leca, 2009). In Timor-Leste sequencing was evident as new clinical practices were established through orientation training and reinforced through supportive supervision, while in Georgia the new national guideline was established and maintained through an authorised training institution. Findings indicate that sustainability is best ensured when institutional work centres on mechanisms for maintaining institutions in addition to introducing new institutions (Lawrence, Suddaby & Leca, 2009). The diabetes

camps in Georgia exemplify this, as they introduced new self-management and peer-support practices, but lacked maintenance mechanisms to ensure continuous patient education.

Findings further illustrate how maintenance-oriented institutional work is used to align service delivery models to PHC realities during implementation and thereby integrate services into routine practice. In Jordan actors leveraged IR, whereas in Timor-Leste supportive supervision was used to foster sustainability. Both approaches contextualised service models and integrated them within existing micro-layer institutional environments governing PHC practice. Moreover, both strategies underpinned feedback-loops that transcended health system levels, ensuring coherence between macro-layer institutional arrangements and service delivery at PHC level (Ménard & Shirley, 2022a). Actors in both Jordan and Timor-Leste additionally engaged in institutional work to reproduce service delivery practices and patient care norms, by building institutional knowledge within the national system through ToT models (Lawrence, Suddaby & Leca, 2009).

Findings demonstrate that development actors prioritise shaping macro-layer institutional environments to underpin sustainability of NCD services at PHC level (Ménard & Shirley, 2022a). Both programmes in Jordan and Timor-Leste strengthened the institutional capacity at national level to support policymaking and coordination mechanisms, which in turn shaped macro-layer institutional arrangements such as NCD guidelines and the EML. Moreover, the programmes facilitated co-creation processes to cultivate ownership, coherent decision-making and alignment of priorities, catalysing the integration of service models into formal macro-layer institutions and governance structures. Relatedly, the programme in Georgia aligned priorities between beneficiaries, HCPs, and authorities to unify advocacy efforts, shaping decision-making processes within the MoH and influencing key macro-layer institutions. Findings from Jordan and Georgia additionally demonstrate the importance of anchoring NCD services within formal macro-layer institutions to ensure sustainability. Both cases present disruptions to macro-layer institutions caused by the USAID shutdown and the Foreign Agents Registration Act, respectively. These shifts demonstrate the necessity of institutional work, which establishes maintenance mechanisms within national institutional structures that provide stable conditions for governing service delivery, contributing to sustainability (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a).

Findings show how development actors create meso-layer institutions through various strategies to translate national-level institutions into PHC practice (Lawrence, Suddaby & Leca, 2009; Ménard & Shirley, 2022a). In Georgia care standards were enforced through training activities, while in Timor-Leste a drug protocol ensured adherence to the EML. Moreover, both programmes in Jordan and Timor-Leste established meso-layer institutions to ensure continuous monitoring and governance around service delivery models, enabling enforcement of national priorities and directives in clinical practice. Supportive institutional arrangements at the national level were thereby linked to the micro-layer institutions governing PHC practice, strengthening sustainability (Ménard & Shirley, 2022a).

## 7. Discussion

This section relates findings to the literature on GHP sustainability and discusses how they relate to the study's definition of sustainability, theoretical framework and methodological design. It further presents recommendations for future research as well as the relevance of the findings for international development and management.

Upon comparing this study's findings with the literature review, similarities and differences emerged across the dimensions *partnership*, *technical sustainability*, and *programmatic sustainability*, which collectively underpin *operational sustainability*, as illustrated in this study's Conceptual Sustainability Framework.

The literature emphasised relationship building as a cornerstone of sustainability, highlighting trust, open communication, role negotiation, and priority alignment as key elements (Leffers & Mitchell, 2011; Upvall & Leffers, 2018; Kiendrébéogo et al., 2021; Ramaswamy et al., 2016; Mbalinda et al., 2017). This study extends these findings by showcasing how shared decision-making and co-creation processes foster trust-based partnerships and enable alignment of roles, responsibilities, and mutually defined objectives. Overall, these processes strengthen national ownership and support the integration of service models into formal macro-layer institutions. The literature similarly identifies ownership as a precursor to sustainability, whereby both the literature and findings of this study underscore the importance of relationship building in fostering ownership and in turn sustainability. The

partnership dimension also encompasses donor–recipient power asymmetries, which the literature highlights as a barrier to sustainability (Carter & Notter, 2022; Knittel et al., 2023; Upvall & Leffers, 2018). Meanwhile, this study did not present findings related to such asymmetries. This absence may partly reflect my positionality and prior affiliation with WDF, which could have influenced participants’ willingness to raise these issues during interviews.

Regarding programmatic sustainability, both the literature and this study underscore the importance of mechanisms that enable continuous adaptation throughout a programme’s lifecycle, supporting sustainability through feedback loops and data-informed decision-making (Nwaozuru et al., 2025; Kiendrébéogo et al., 2021; Torpey et al., 2010; Nafees, AboAlfa & Alkhaldi, 2025). Torpey et al. (2010) showed how a quality system enabled ongoing identification of implementation gaps, while findings from Jordan and Timor-Leste expand this evidence base by demonstrating how IR and supportive supervision provide similar mechanisms for adaptive practice.

Furthermore, the literature and this study link sustainability to programme designs that embed activities within existing health system structures rather than creating parallel systems. Palaia et al. (2019) emphasised that such integration fosters sustainability through ownership and institutional memory, a finding supported by this study. This study further extends existing literature showcasing how integration enables programmes to leverage supportive macro-layer institutional arrangements, including incentive structures, and further strengthen sustainability. This supports existing literature that highlights the role of retention strategies and incentives in fostering workforce motivation, which in turn contributes to sustainability (Milenova et al., 2025; Zakumumpa, Bennett & Ssengooba, 2016; Zakumumpa et al., 2018).

The literature highlights how sustainability stems from transition planning and exit strategies, which through a gradual approach allow for activities to be absorbed into national structures (Kaliel et al., 2018; Milenova et al., 2025; Palaia et al., 2019; Sgaier et al., 2013; Torpey et al., 2010). This is reflected in the sequential approach to institutional work identified in this study, which demonstrates how transition planning can be undertaken through a staged shift from creating institutions to maintaining them, thus extending the existing literature.

In relation to technical sustainability, both this study and the literature emphasise that strengthening national institutional capacity, alongside health workforce training, is essential for sustainability (Mimche et al., 2018; Palaia et al., 2019). Moreover, both the study and literature position ToT models as a sustainable and efficient approach to building institutional capacity and reproducing service delivery practices, while retaining institutional knowledge (Carter & Notter, 2022; Dharmayat et al., 2019; Mormina & Pinder, 2018).

This study synthesised definitions of sustainability to delineate *what* sustainability encompasses and provide a basis for the empirical data collection process. The study has subsequently shown *how* sustainability can be pursued through different forms of institutional work across health system levels. A key contribution is the evidence the study provides showing how actors approach sustainability in development practice through diverse strategies aimed at shaping institutions. Pertaining to the definition of sustainability, findings show how development actors enhance sustainability by addressing institutional structures of the health system to integrate programme activities into policies, national guidelines, management systems, service delivery models, and organisational routines at PHC level.

Meanwhile, social and financial dimensions of sustainability (Torpey et al., 2010) fell beyond the scope of this study. However, findings indicate the importance of financial dimensions for overall sustainability as evidence from Jordan and Georgia suggests that these significantly affect sustainability by disrupting service continuity. This is illustrated by the closure of several UNHCR-mandated clinics in Jordan and the struggle to secure a maintenance mechanism for the diabetes camps in Georgia following restrictions on external donor support. These developments further signify the importance of accounting for contextual factors when aiming to understand the sustainability of development programmes, as such factors can cause shifts in institutional arrangements. These findings underline the need for further research focusing on the financial dimensions of sustainability as well as how contextual factors influence the institutional arrangements expected to underpin sustained service delivery.

Despite identifying relevant strategies for sustainability, this study is not based on a longitudinal research design capable of capturing their long-term effects (Bhattacharjee,

2012b). Accordingly, it is limited to a cross-sectional and therefore only partial view of sustainability as it does not capture how organisational processes evolve over time in response to institutional changes driven by institutional work. Moreover, institutional work as a theoretical lens does not focus on whether institutional change, and thus sustainability, is achieved, but rather it elicits how actors attempt to influence institutions through various practices (Lawrence, Suddaby & Leca, 2009). Hence, the study does not determine whether service continuation is achieved after programme completion, although it recognises continuation as part of the overall definition of sustainability. The theoretical framework thereby proved useful for analysing sustainability in terms of integrating activities within the healthcare system, while offering more limited insight into sustainability related to continued service provision. Future research could therefore follow institutional work processes over time to assess whether they translate into sustainable outcomes and maintain health benefits among recipients.

Overall, findings have not shown any attempts from actors of disrupting institutions as a form of institutional work. This could be very relevant as existing formal and informal institutions at various layers may conflict with the service delivery practices that actors attempt to introduce or reinforce at PHC level (Ménard & Shirley, 2022a; Lawrence, Suddaby & Leca, 2009). Hence, such institutional arrangements could pose a barrier to sustainability, by overturning the integration of service delivery practices and patient care norms into clinical routines at PHC level. As such, these dynamics between institutional arrangements would be relevant for future research to examine how actors can engage in institutional work to ensure sustainability of PHC services. Relatedly, Lawrence, Suddaby and Leca (2009) find that intentional practices of disrupting institutional arrangements are generally not documented in the literature, other than the indirect effects from creating new institutions that may undermine existing institutions. As such, findings from this study and the lack of a broader evidence-base for attempts of disrupting institutions could indicate that the theoretical boundaries between the concepts of disrupting institutions and creating institutions are not sufficiently clear for empirical application.

Amid sharp declines in foreign assistance for health, the WHO issued guidance for countries on how to mitigate the immediate effects of shrinking aid and adapt to a new era of reduced

external health aid. A key policy recommendation was for countries to “*integrate externally-funded or disease-specific services into comprehensive PHC-based delivery models*” (WHO, 2025c). Correspondingly, this study demonstrates how development actors can foster sustainability through institutional work that integrates PHC activities into institutional structures of national healthcare systems. These insights hold broader significance for international development and management, as recent disruptions within the field and the diminishing availability of international aid heightens the need for strengthening long-term sustainability of GHPs (OECD, 2026; WHO, 2025c).

## 8. Conclusion

By examining NCD programmes focused on PHC, this study demonstrates how development actors can pursue sustainability through institutional work that integrates programme activities into institutional structures across healthcare system levels. The findings suggest that sustainability is best ensured when actors focus on maintaining institutions or shifting from creating to maintaining them. Maintenance-oriented work can also contextualise service models and support their integration within the micro-layer institutions that govern PHC practice. Findings additionally display that sustainability can be supported, by harnessing existing service delivery arrangements. This approach eases integration into health system structures, while leveraging macro-layer institutions and incentives to reinforce service delivery and adherence to care standards. Findings further demonstrate that actors prioritise macro-layer institutions to support sustainability and ensure stable conditions for governing PHC service delivery. This includes strengthening national policymaking and coordination capacity as well as cultivating ownership and decision-making through co-creation and unified advocacy. This catalyses the integration of service models into formal macro-layer institutions and governance structures. Moreover, development actors enhance sustainability through meso-layer institutions that enforce care practices and national priorities, by linking macro-layer institutions with micro-layer institutions at PHC level.

Meanwhile, the inclusion of several cases came with an inherent trade-off, by reducing the depth of findings. This was further exacerbated by technical challenges in one interview regarding the programme in Timor-Leste, which constrained the depth of data and the representation of local perspectives. A broader participant sample could therefore have

improved depth and balance of perspectives. Moreover, the study's research design and theoretical framework did not allow for the study to assess whether institutional work resulted in sustained service continuation. Based on these limitations, future research could examine institutional work longitudinally to assess whether different approaches translate into sustainable outcomes. Additional recommendations for future research include examining whether disrupting institutions as a form of institutional work can contribute to the sustainability of NCD services at PHC level. Lastly, research could focus on funding models and contextual factors to further shed light on how institutional arrangements can support sustainability. Nevertheless, this study provides important insights into how development actors can pursue sustainability through different forms of institutional work across health system levels, which can inform more resilient development practice amid declining international aid.

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## Appendices

### Appendix A: Literature review, search strategy and selection process

**Table A.1: Literature review key words**

| <b>Categories</b>                  | <b>Keywords</b>                                                                                                    |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b><i>Field of research</i></b>    | International development; global development; global health                                                       |
| <b><i>Sustainability</i></b>       | Sustainability; sustainable impact; sustainable outcomes; exit strategy                                            |
| <b><i>Development practice</i></b> | Practice; project management; programme management; project cycle; design; implementation; evaluation; partnership |
| <b><i>Research focus</i></b>       | Health; programme; project; initiative; development assistance; development aid                                    |

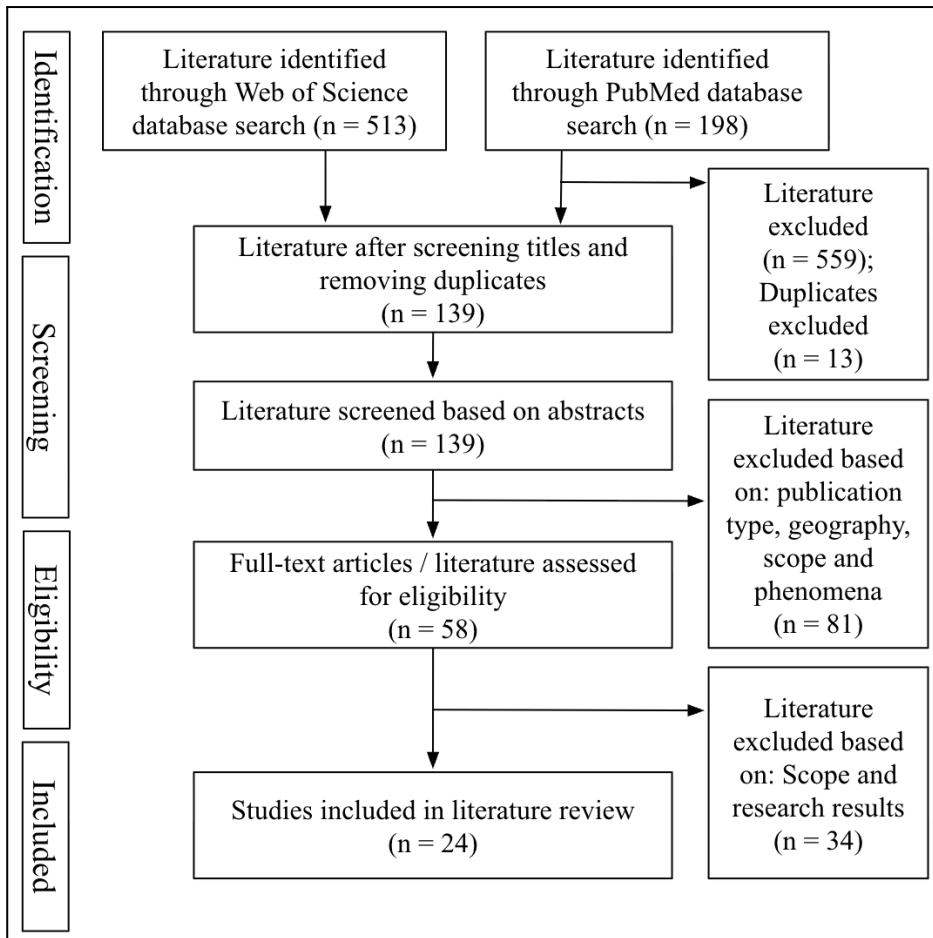
**Table A.2: Literature review search string**

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Search string</b> | (“international development” OR “global development” OR “global health”) AND (“sustainability” OR “sustainable impact” OR “sustainable outcomes” OR “exit strategy”) AND (“practice” OR “project management” OR “programme management” OR “project cycle” OR “design” OR “implementation” OR “evaluation” OR “partnership”) AND (“health” AND “program*” OR “project*” OR “initiative*” OR “development assistance” OR “development aid”) NOT (“climate” OR “environment*” OR “climate change”) |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Table A.3: Literature review inclusion / exclusion criteria**

|                              | <b>Inclusion criteria</b>                                                                                                                                           | <b>Exclusion criteria</b>                                                                                                                                            |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Year of publication</b>   | Articles published between 2000 and 2025                                                                                                                            | Articles published before 2000                                                                                                                                       |
| <b>Language</b>              | Articles in English                                                                                                                                                 | Articles in languages other than English                                                                                                                             |
| <b>Publication type</b>      | Scientific articles and reviews published in peer-reviewed journals.<br>Books and book chapters.                                                                    | Grey literature.<br>Essays, commentary pieces, concept notes.                                                                                                        |
| <b>Geography</b>             | LMICs                                                                                                                                                               | HICs                                                                                                                                                                 |
| <b>Research scope</b>        | Global health programmes (projects, partnerships and interventions)<br><br>Health system strengthening (WHO building blocks)                                        | Policy<br><br>Community-based interventions not connected to the healthcare system                                                                                   |
| <b>Phenomena of interest</b> | Sustainability (programmatic, including exit strategies and programme transitions)                                                                                  | Articles that address environmental sustainability in relation to climate change.                                                                                    |
| <b>Research results</b>      | Principles, strategies, examples of lessons learned, frameworks, conceptualisations or recommendations on sustainability.<br><br>Sustainability-related challenges. | Articles suggesting that future research is needed to better understand sustainability without research findings addressing or providing insights on sustainability. |

**Figure A.1: Literature review selection process**



## Appendix B: Written consent form



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### **Consent to participate in a Thesis at the Faculty of Social Sciences**

I agree to participate in the thesis '*Advancing Sustainability of Primary Healthcare Services. A Multiple Case Study of Donor-Funded Non-Communicable Disease Programmes*', a student project by Louise Stanton, which is conducted as part of the Master's in International Development & Management at Lund University.

The following personal data will be collected as part of the research:

1. Participants full name
  - a. Please note that the participants name will be anonymised and thereby not be reflected in the thesis.
2. The title / professional role that the participant holds in relation to the examined development programme.
  - a. The role of the participant in relation to the development programme will be included in the thesis for transparency on which perspectives are represented in the results.
  - b. Perspectives / results will be attributed to the professional role of the participants and not the organisation by which the participant is employed.
3. The organisation by which the participant is employed.
  - a. This data is collected and will be included in the thesis to reflect how the roles and responsibilities are divided between partnering organisations and relatedly how this shapes development practice and sustainability.
  - b. Please note that if the participant is employed in several organisations, only data related to the organisation that is engaged in the development programme being examined will be collected.

### Information on the processing of personal data

The following personal data will be processed:

- Participants full name (will be anonymised)
- The title / professional role of the participant
- The organisation by which the participant is employed

Personal data will be reflected in audio recordings from the interviews and in interview transcripts, which will be processed using the GDPR-compliant transcription software Good Tape. Participants names will be redacted and anonymised in the thesis.

Data will be stored safely according to Lund University requirements until the 4th of June 2026 and subsequently deleted.

Lund University does not share your personal data with third parties.

Lund University, Box 117, 221 00 Lund, Sweden, with organisation number 202100-3211 is the controller. You can find Lund University's privacy policy at [www.lu.se/integritet](http://www.lu.se/integritet)

You have the right to receive information about the personal data we process about you. You also have the right to have inaccurate personal data about you corrected. If you have a complaint about our processing of your personal data, you can contact our Data Protection Officer at [dataskyddsbud@lu.se](mailto:dataskyddsbud@lu.se). You also have the right to lodge a complaint with the supervisory authority (the Data Protection Authority, IMY) if you believe that we are processing your personal data incorrectly.

I agree to participate in the thesis '*Advancing Sustainability of Primary Healthcare Services. A Multiple Case Study of Donor-Funded Non-Communicable Disease Programmes*'.

|           |                    |
|-----------|--------------------|
|           |                    |
| Signature |                    |
|           |                    |
| Date      | Name clarification |

## Appendix C: Interview guides

### *Jordan case, interview guide example for JO-1*

#### **Interviewguide: JO-1**

##### Background

1. Please describe your role and responsibilities in relation to the project and how long you have been involved in its execution?
2. Briefly outline the main partners and stakeholders you have collaborated with as part of the project?

##### Partnership

3. What was your experience of the relationship between the partners on the ground (e.g. RHAS, MoH, UNHCR, Health Directorate NCD Focal Points, Save the Children, Caritas, etc.)?
  - a. Was trust established between partners?
  - b. How was communication and alignment facilitated? (e.g. working meetings btw. RHAS and MoH, Project Steering Committee, Technical working group / NCD working group)
  - c. Was it your impression that there was a continuous focus on strengthening the collaboration throughout the programme?
  - d. Did the stakeholder relationships and coordination with MoH, in your opinion, influence the delivery, ownership or institutionalisation of activities? In which way?
4. How were roles and responsibilities defined and negotiated between partners?
  - a. How were experiences and knowledge related to the project exchanged between partners?
5. How were goals and expectations determined and communicated between partners?
  - a. Who acted as the main driver of decision-making?
  - b. In instances of disagreements, how was consensus or agreement reached?
  - c. Were there certain needs among the involved partners that took priority or were especially important to pay consideration to?
6. Are coordination mechanisms and collaboration between national partners likely to continue beyond the project?

##### Technical Sustainability

7. How comprehensive do you believe the project was in addressing needs across health system building blocks?
  - a. Were there any activities that were especially successful or important for facilitating continuity of other activities? (e.g. updated NCD guidelines / protocols, renovating clinics, providing screening equipment, HCC training kits, patient education and referral tools, training MoH and refugee clinic

HCPs, CHWs and CHC, diabetes patient registry, HCC models, integration of HCC model into Jordan's national health information system - Hakeem)?

8. How did the project map and account for relevant health system linkages?
  - a. Were certain linkages especially important for ensuring continuity of care for people living with diabetes and hypertension?
  - b. Did any linkages in your opinion go unaddressed? Is this expected to hinder continuation of delivered activities?
9. Can you elaborate on the benefits from building capacity among both clinical staff, community-health workers and community health committees?
10. In which way do you foresee that training modules and refresher courses will be used for future training of HCPs to further standardise care?
  - a. How will new staff at facilities be trained in tools and the HCC models going forward?
  - b. Was it discussed to make training in HCC models mandatory for HCPs working in MoH and/or refugee clinics going forward?
  - c. Do you deem further investments in capacity building necessary for ensuring care for Jordanians and refugees with diabetes and hypertension going forward?

#### Design & Implementation factors

11. Can you elaborate on any needs assessments conducted as part of the project and how these were used to inform project activities?
  - a. Which stakeholders were consulted in this process?
12. Overall, how well were project activities aligned with national structures and systems?
  - a. Were any adjustments made during the project to accommodate the healthcare structures in both the national system and under the UNHCR mandate?
  - b. Can you elaborate on the function of the Project Steering Committee and Technical Working Group and how this contributed to contextualisation and alignment with national structures and needs?
13. Do you believe that the programme was designed with consideration to service continuation once the project was completed? In which way?
14. Was an adequate amount of time, in your opinion, allocated to the transition phase?
  - a. Were transition plans and aims developed? And if so, how were these coordinated between partners and other relevant stakeholders?
  - b. Was transition readiness assessed and if so, how?

#### Processes

15. How effectively were guidelines, HCC models and Hakeem Electronic Health Solution integrated into routine workflows in both MoH and refugee-serving

- clinics? What challenges or gaps remain?
16. Did the project, in your opinion, allow for enough flexibility to enable sufficient adaptations to be made during implementation?
    - a. Were there instances where this was especially important or where it was needed, but hindered?
    - b. How was flexibility ensured e.g. through systems or tools?
  17. In which ways did the project seek to promote local ownership of core project activities at national, municipal and facility level?
    - a. Was ownership of core project activities successfully achieved? Why / why not?

#### Broader contextual factors (cultural, social, political and financial)

18. Did contextual factors at any point pose a risk to project implementation or outcomes? (e.g. related to infrastructure, transport, government changes etc.)?
  - a. If so, how was this risk mitigated?

#### Operational Sustainability

19. What is your experience of commitment from the MoH and partnering NGOs to continuing the advancement of NCD care services for Jordanians and refugees alike, building on project outcomes?
  - a. Has the Ministry of Health and partnering NGOs allocated (or committed to allocate) dedicated human resources or structural positions to sustain HCC and integrated NCD services?
20. In which ways have project outputs been institutionalised and/or integrated into the healthcare system at national, directorate and health facility level?
  - a. What factors were in your opinion important in facilitating integration?
  - b. Have protocols, guidelines, digital systems, training etc. become mandatory or adopted as national standards throughout the healthcare system?
21. Are there any project activities that you believe are especially important for securing continuity of care for people with diabetes and hypertension?
22. How sustainable do you believe HCC activities are within NGO-driven clinics serving refugees (e.g., NGOs operating under UNHCR mandate) compared to MoH facilities? What factors influence differences in sustainability across these healthcare structures?
23. Have monitoring data, implementation research findings, or Hakeem system-generated indicators been used to inform national NCD strategy revisions or policy decisions? Can you provide examples?
24. Which systemic risks (e.g., health center closures, workforce turnover, digital infrastructure gaps) do you believe pose the greatest threat to long-term institutionalisation of the HCC model?
  - a. Could the project have accommodated these challenges in any way?

### Round-off

25. Based on your experience with this project, what recommendations would you give to others on how to sustain health service delivery improvements for people living with diabetes and hypertension in primary healthcare settings?
26. Is there anything additional you would like to add or do you have any questions?

### *Georgia case, interview guide example for GE-1*

#### **Interviewguide: GE-1**

##### Background

1. Please describe your role and responsibilities in relation to the project and how long you have been involved in its execution?
2. Briefly outline the main partners and stakeholders you have collaborated with as part of the project?

##### Partnership

3. What was your experience of the relationship between the partners on the ground (e.g. NCDA Georgia, MoH etc.)?
  - a. Was trust established between partners?
  - b. How was communication and alignment facilitated? (working meetings btw. NCDA and Head of Health Policy Department of the MoH)
  - c. Was it your impression that there was a continuous focus on strengthening the collaboration throughout the programme?
  - d. How, if at all, did the advocacy / working meetings with policy-makers at the beginning and end of the project influence collaboration, alignment and continuation of services delivered during the project period?
  - e. To which extent were relationships established between project partners and relevant health authorities at various levels (e.g. national, regional, municipal)?
    - i. In your opinion, were there any particular levels from which endorsement and collaboration was especially important for continuing health services upon project completion? (The mid-term evaluation mentions a need for strengthening the partnership with local health authorities)
  - f. Did the stakeholder relationships and coordination with MoH, in your opinion, influence the delivery, ownership or institutionalisation of activities? In which way?
4. How were roles and responsibilities defined and negotiated between partners?
  - a. How were experiences and knowledge related to the project exchanged between partners?

5. How were goals and expectations determined and communicated between partners?
  - a. Who acted as the main driver of decision-making?
  - b. In instances of disagreements, how was consensus or agreement reached?
  - c. Were there certain needs among the involved partners that took priority or were especially important to pay consideration to?
6. Can you elaborate on the collaboration process with the MoH, Technology Agency (ITA), National Centre of Diseases Control and Public Health (NCDC), National Centre of Diabetes Research (NCDR) and health providers on the national diabetes registry and its integration into the PHC system?
7. Did the resignation of the former MoH focal point in any way impact the continuation of project activities (capacity building of paediatric endocrinologists, integration of HIS, strengthening diabetes PHC and capacity in regions, etc.)?
8. Are coordination mechanisms and collaboration between national partners likely to continue beyond the project funding?

#### Technical Sustainability

9. In focusing on children with diabetes (CwD) at the primary healthcare level, how comprehensive do you believe the project was in addressing needs across health system building blocks?
  - a. Were there any activities that were especially successful or important for facilitating continuity of other activities? (e.g. guidelines, capacity building, HIS, parent training, peer-support, advocacy for better devices)
10. Did the project map and account for relevant health system linkages?
  - a. Were certain linkages especially important for ensuring continuity of care for CwD?
  - b. Did any linkages in your opinion go unaddressed? Is this expected to hinder continuation of delivered activities?
11. Did the project assess the degree to which the new guidelines on paediatric endocrinology was adopted / implemented in primary healthcare clinics? If so, what did these results show?
  - a. If so, what was the uptake / adherence?
  - b. Were any mechanisms set in place to ensure implementation?
  - c. Were there any challenges during implementation that could jeopardise continued use of these tools and guidelines?
  - d. Do you expect continued use of the guidelines in primary healthcare clinics?
12. Can you elaborate on the benefits related to care for CwD, by building capacity among both parents / caregivers and paediatric endocrinologists?
13. In which way do you foresee that training material for endocrinologists will be used for future training?
  - a. Did the trainers commit to providing future training or is this a part of their employment tasks?

- b. How will newly trained endocrinologists be able to benefit from the training?
- 14. Were clinics established by the MoH in the regions outside Tbilisi during the project period once paediatric endocrinologists had been educated?
  - a. How were HCPs selected for training and were they generally employed within the public healthcare system?
  - b. Were efforts made to facilitate employment of trained HCPs in these clinics?
- 15. Were efforts to set up a continuous training programme for paediatric endocrinologists considered by the programme (e.g. ToT, embedded in universities or MoH) in addition to the training and refresher courses provided?
  - a. Was it considered whether the training should be mandatory for HCPs working with CwD going forward?

#### Design & Implementation factors

- 16. Can you elaborate on how the scoping assessment was conducted and subsequently used to design project activities?
  - a. In addition to working with the MoH and WHO, were any additional stakeholders consulted?
- 17. How was the initial research (baseline study) on the needs of CwD used to inform project activities?
  - a. Were alterations made to initial plans following the baseline study?
- 18. Overall, how well were project activities aligned with national structures and systems?
- 19. Was sufficient time, in your opinion, allocated to ensure contextualisation of programme activities?
- 20. In which way was the diabetes registry aligned with the broader Health information system (HIS) developed by the Information Technology Agency (ITA)?
  - a. At this point in time, to which degree has the diabetes registry been implemented within the healthcare clinics? Have HCPs been trained in its use? Have clinics across regions adopted the system?
  - b. Is ownership or mechanisms in place for ensuring ongoing technical support for integrating the electronic registry into the national PHC electronic system?
  - c. Has the use of the registry been monitored at facility level to ensure proper data input by PHC providers?
- 21. Was an adequate amount of time, in your opinion, allocated to the transition phase?
  - a. Were transition plans and aims developed? And if so, were these coordinated with the MoH or other relevant stakeholders?
  - b. Was transition readiness assessed and if so, how?
- 22. Based on project reports, it seems that the amount of paediatric endocrinologists in the regions is still too few? What reasons do you believe lie behind (e.g. not willing

to move there, not enough endocrinologists trained to cover need, etc.)?

- a. Was the project associated with increased workload, uncertainty or other factors that could hamper workforce motivation?
- b. Were relevant retention strategies or incentive structures implemented for the paediatric endocrinologists trained through the project? If not, do you believe this could have been beneficial in any way? (e.g. to prevent staff turnover or encourage paediatric endocrinologists to work in the regions less well covered)
- c. Do you deem further investments in capacity building necessary for delivering care to CWD?

#### Processes

23. Were monitoring mechanisms put in place for ongoing assessment of the project and implementation progress throughout the project cycle?
  - a. How were quality gaps, implementation challenges and/or learnings captured (through data)?
  - b. Can you share examples of how corrective measures were performed during supervision? (e.g. parent trainings)
24. Did the project, in your opinion, allow for enough flexibility to enable sufficient adaptations to be made during implementation? (e.g. topics for parent trainings)
  - a. Were there instances where this was especially important or where it was needed, but hindered?
  - b. How was flexibility ensured e.g. through systems or tools?
25. How were parent groups or other CwD representatives included in the design or implementation of project activities?
  - a. What is the degree of involvement?
  - b. Do you believe that children with diabetes were well-represented by the stakeholders?
26. How did the project engage the MoH and other local actors to promote ownership?
  - a. Can you elaborate on how the MoH as well as regional / local health authorities were involved in the implementation of the projects?
  - b. Was formal ownership of project activities successfully achieved?
    - i. Guidelines on paediatric endocrinology?
    - ii. Training materials for paediatric endocrinologists?
    - iii. Diabetes registry?
    - iv. Parent training and peer-support networks?

#### Broader contextual factors (cultural, social, political and financial)

27. Did contextual factors at any point pose a risk to the project? (e.g. related to infrastructure, political instability, etc)?

- a. If so, how was this risk mitigated?

#### Operational Sustainability

28. What is your experience of government commitment to continuing the advancement of diabetes care services for children in Georgia, building on project outcomes?
29. Have project outputs been institutionalised and/or integrated into the healthcare system and PHC practice?
  - a. What factors were in your opinion important in facilitating institutionalisation?
  - b. Have protocols, guidelines, training etc. become mandatory or adopted as national standards throughout the healthcare system?
30. Are there any project activities that you believe are especially important for securing continuity of care for children with diabetes?
31. Which systemic risks (e.g., health center closures, workforce turnover, digital infrastructure gaps) do you believe pose the greatest threat to long-term institutionalisation and continuation of project outputs?

#### Round-off

32. Based on your experience with this project, what recommendations would you give to others on how to sustain health service delivery improvements for people living with diabetes and hypertension in primary healthcare settings?
33. Is there anything additional you would like to add or do you have any questions?

### ***Timor-Leste case, interview guide example for TL-1***

#### **Interviewguide: TL-1**

##### Background

1. Please describe your role and responsibilities in relation to the project and how long you have been involved in its execution?
2. Briefly outline the main partners and stakeholders you have collaborated with as part of the project?

##### Partnership

3. What was your experience of the relationship between the partners on the ground (e.g. WHO SEARO, WCO TL, MoH, Municipality Health Departments etc.)?
  - a. Was trust established between partners?
  - b. How was communication and alignment facilitated and what it meant for project implementation and outcomes? (e.g. working meetings btw. WHO and MoH, oversight committee (with members from MoH, Municipalities, WHO Country Office))
  - c. Was it your impression that there was a continuous focus on strengthening

- the collaboration throughout the programme?
- d. How, if at all, did the inception meeting with policy-makers at the beginning of the project influence collaboration, alignment and continuation of services delivered during the project period?
  - e. To which extent were relationships established between project partners and relevant health authorities at various levels (e.g. national, regional, municipal)?
    - i. In your opinion, were there any particular levels from which endorsement and collaboration was especially important for continuing health services upon project completion?
  - f. Did the stakeholder relationships and coordination with MoH, in your opinion, influence the delivery, ownership or institutionalisation of activities? In which way?
4. How were roles and responsibilities defined and negotiated between partners?
    - a. How were experiences and knowledge related to the project exchanged between partners?
  5. How were goals and expectations determined and communicated between partners?
    - a. Who acted as the main driver of decision-making?
    - b. In instances of disagreements, how was consensus or agreement reached?
    - c. Were there certain needs among the involved partners that took priority or were especially important to pay consideration to?
  6. Can you elaborate on the institutional capacity within the MoH and the collaboration and coordination between the various directorates and institutes in relation to the project objectives?
    - a. How did this impact the procurement of consumables and medicines for health facilities?
    - b. Do you foresee that this could impact continuity of project activities?
  7. Are coordination mechanisms and collaboration between national partners likely to continue beyond the project?

#### Technical Sustainability

8. How comprehensive do you believe the piloted model for strengthening diabetes care and integration with co-morbidities was in addressing needs across health system building blocks?
  - a. Were there any activities that were especially successful or important for facilitating continuity of other activities? (e.g. mgmt. workflows, treatment protocols, job aids, capacity building, NCD corners, screening (opportunistic in health centres & via mobile clinics / camps), care pathway for referral and back referral, NCD passport, digital solutions for patient tracking and monitoring, inclusion of NCD indicators in national health management information system, awareness raising for self-mgmt.

9. How did the project map and account for relevant health system linkages?
  - a. Were certain linkages especially important for ensuring continuity of care for PwD as well as people with Gestational Diabetes and TB-Diabetes comorbidities?
  - b. Did any linkages in your opinion go unaddressed? Is this expected to hinder continuation of delivered activities?
10. Did the project assess how the standard management workflow, treatment protocols, job aids (incl. recording and reporting templates) and digital tools were adopted across healthcare clinics?
  - a. If so, what was the uptake / adherence?
  - b. Were efforts made or mechanisms set in place to ensure implementation (e.g. training, management engagement, supervision, etc.)?
  - c. Were there any challenges during implementation that could jeopardise continued use of these tools? (e.g. medical officers making phone calls to ensure follow-up, but at their own cost or internet)
  - d. Do you expect continued use of the protocols and tools in primary healthcare clinics?
11. Can you elaborate on the benefits from building capacity among both faith-based healers and healthcare workers?
12. Can you elaborate on the cascade approach used to develop capacity / provide training and why this approach was chosen? (e.g. institutionalise capacity at central level)
13. In which way do you foresee that training modules for the health workforce will be used for future training to further standardise care?
  - a. How will new staff at facilities be trained in tools and service delivery models going forward?
  - b. Was it considered to set up a continuous training programme in addition to the training and refresher courses provided?
  - c. Was it discussed to make training mandatory for HCPs working with PwD going forward?
  - d. Do you deem further investments in capacity building necessary for expanding diabetes care in Timor Leste?

#### Design & Implementation factors

14. Can you elaborate on any needs assessments conducted as part of the project and how these were used to inform project activities? (e.g. health facility readiness assessment, assessment of training needs for developing training package and assessment of diabetes screening among TB patients for developing framework for bidirectional screening)
  - a. Which stakeholders were consulted in this process?
15. Overall, how well were project activities aligned with national structures and

systems?

- a. Did the project explore the use of digital devices already available with healthcare workers to capture NCD data? (To minimise the need for new infrastructure)
16. Was sufficient time, in your opinion, allocated to ensure contextualisation of programme activities?
17. Do you believe that the programme was designed with consideration to service continuation once the project was completed? In which way?
18. Was an adequate amount of time, in your opinion, allocated to the transition phase?
  - a. Were transition plans and aims developed? And if so, how were these coordinated between partners and other relevant stakeholders?
  - b. Was transition readiness assessed and if so, how?
19. Based on project reports, it seems that there continues to be a significant lack of healthcare professionals in Timor Leste and a high reliance on foreign doctors? Did this constrain or challenge implementation in the facilities targeted by the project in any way?
  - a. Was the project associated with increased workload, uncertainty or other factors that could hamper workforce motivation or increase staff turnover?
  - b. Were relevant retention strategies or incentive structures implemented for the workforce at the health facilities targeted by the project? If not, do you believe this could have been beneficial in any way? (e.g. to prevent staff turnover and vacancies, which was deemed a risk by the project)

#### Processes

20. How was progress monitored and supervision provided at health facility level during implementation?
  - a. How often was supervision provided?
  - b. Can you share examples of how corrective measures were performed during supervision?
  - c. How were quality gaps, implementation challenges and/or learnings captured (through data)? Which tools were used to monitor progress?
21. Was the care model and pathway at any point reviewed during implementation? Were any necessary changes identified and made as a result of this review?
  - a. What mechanisms were in place to gather feedback on implementation from stakeholders?
  - b. Can you share examples of specific changes that were made based on early implementation experience?
22. In which ways did the project seek to promote local ownership of core project activities at national, municipal and facility level?
  - a. Was ownership of core project activities successfully achieved? Why / why not?

- b. Can you elaborate on how the project engaged village heads, religious leaders, CHWs, and traditional healers and in which ways this benefited the project?

Broader contextual factors (cultural, social, political and financial)

- 23. Did contextual factors at any point pose a risk to project implementation or outcomes? (e.g. related to infrastructure / transport / geographical terrain, import challenges and high procurement costs as a small island state, internet, etc.)?
  - a. If so, how was this risk mitigated?

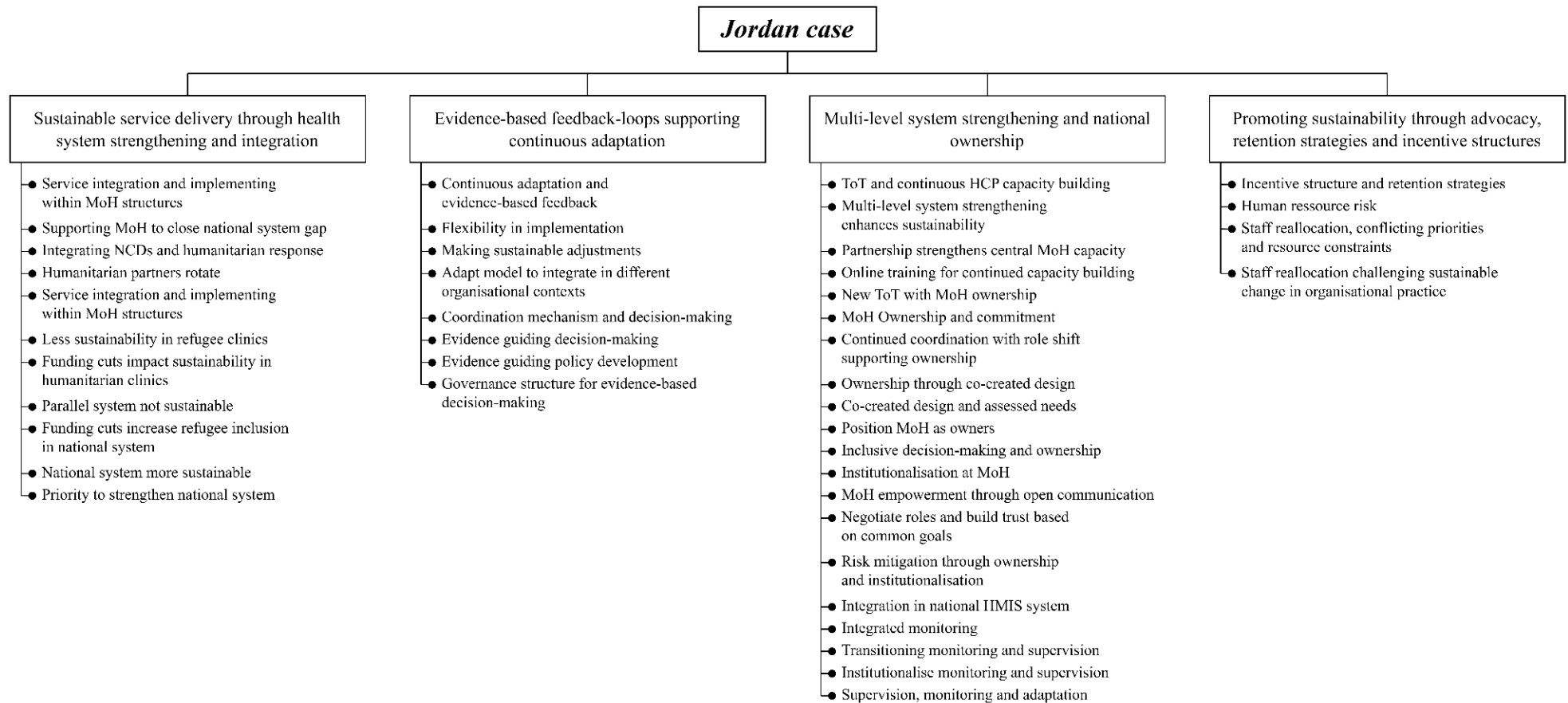
Operational Sustainability

- 24. What is your experience of government commitment to continuing the advancement of NCD care services in Timor Leste, building on project outcomes?
- 25. In which ways have project outputs been institutionalised and/or integrated into the healthcare system at national, municipal and health facility level?
  - a. What factors were in your opinion important in facilitating integration?
  - b. How has the project leveraged the Ministry of Health's Integrated Health Programme (PIS)? What impact do you believe this will have on service continuity?
  - c. Have protocols, guidelines, digital systems, training etc. become mandatory or adopted as national standards throughout the healthcare system?
- 26. Are there any project activities that you believe are especially important for securing continuity of care for people with diabetes?
  - a. (e.g. referral pathways, supply chain management, digital health system)
- 27. Which systemic risks (e.g., health center closures, workforce turnover, digital infrastructure gaps) do you believe pose the greatest threat to long-term institutionalisation and continuation of project outputs?

Round-off

- 28. Based on your experience with this project, what recommendations would you give to others on how to sustain health service delivery improvements for people living with diabetes in primary healthcare settings?
- 29. Is there anything additional you would like to add or do you have any questions?

## Appendix D: Themes and codes from thematic analysis



## *Georgia case*

### Fostering sustainability through co-creation, evidence-based advocacy and continuous feedback-loops

- Co-creation of design with MoH
- Existing working relationship with MoH
- Participatory approach in design phase
- Needs assessment
- Co-creation of programme design
- Close coordination and collaboration with MoH
- Creating links between MoH and beneficiaries
- Advocacy expanding access to care sustainably
- Bottom-up approach to understand needs
- National diabetes registry developments build on former initiative
- Feedback-loops and MoH coordination
- Planning and consultations with local partners creating feedback-loops
- Building on previous achievements for logical continuation
- Fragmented advocacy efforts towards MoH
- Unified advocacy established
- Research supporting guideline development
- Translating needs assessment into activities
- Needs conveyed and MoH commitment

### Multi-level institutionalisation of national guideline and diabetes registry

- Capacity building linked to updated guideline
- National guideline integrated in certification programme
- National guideline institutionalised
- PHC reform
- Advocacy to make guidelines mandatory by MoH
- PHC reform strengthens national guideline institutionalisation
- PHC reform ensures sustainability
- Advocacy for PHC reform
- National diabetes registry embedded in PHC reform
- Consultations and technical support for National diabetes registry
- System incl. national diabetes registry mandatory under new PHC reform
- Linking national and sub-national levels
- National diabetes registry institutionalisation

### Fragile sustainability of patient education activities amid political change and limited integration

- Patient education activities in camps
- Peer-support at camps
- Multi-disciplinary partner collaboration and communication
- Need for continued caregiver education
- Ownership of camps
- Continuation supported by NCDA mandate
- Continuation of diabetes camps being explored
- Relationships among beneficiaries continue after camps
- Digital tools supporting training and patient education continuity
- Digital tools owned and maintained by NCDA
- MoH support needed for continued training and patient education
- Changing political environment restricting donor support
- Changing political environment increases need for MoH support

## *Timor-Leste case*

