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EXECUTIVE SUMMARY

The objective of the report is to synthesize lessons from the GC_1000 project, in which Centering-based Group Care was successfully adopted and implemented in seven countries, including Belgium, Ghana, the Netherlands, Kosovo, Suriname, South Africa, and the United Kingdom. The lessons reflect the complexities of adopting and adapting Centering-based Group Care in diverse settings and provide information regarding the impact of socio-cultural, economic, and infrastructural factors that impact implementation. Insights drawn from the Consolidated Framework for Implementation Research (CFIR) emphasize the critical role of committed personnel, leadership, community engagement, cultural sensitivity and the support of policymakers and all levels of staff in organizations for the successful implementation of Centering-based Group Care.

Throughout the report, there is a focus on the challenges encountered during the implementation process and how they were overcome. These can serve as valuable guidance for preventing similar obstacles that can be encountered in future implementations of the model in new sites and countries. The lessons learnt serve as recommendations on how to address these challenges and ensure adoption and implementation. Lessons include issues related to capacity building of healthcare providers for this model, engaging stakeholders, securing policy support, and addressing financial and any context or site-specific challenges.

GC_1000 Consortium Partners

Abbv	Participant Organization Name	Country
TNO	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO	Netherlands
LUMC	ACADEMISCH ZIEKENHUIS LEIDEN	Netherlands
VUB	VRIJE UNIVERSITEIT BRUSSEL	Belgium
GCG	GROUP CARE GLOBAL	United States
CITY	CITY UNIVERSITY OF LONDON	United Kingdom
UCT	UNIVERSITY OF CAPE TOWN	South Africa
AMC	AKCIONI PER NENA DHE FEMIJE	Kosovo
PERISUR	STICHTING PERISUR	Surinam
PHS	PRESBYTERIAN CHURCH OF GHANA	Ghana
SIMAVI	STICHTING SIMAVI	Netherlands

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1 INTRODUCTION

1.1 Background

Centering-based Group Care is a relatively new model of care for (pregnant) mothers and their partners (Rising & Quimby, 2016). Within Centering-based Group Care, eight to twelve women and their partners meet up during pregnancy or after birth with their baby for all medical and psycho-social care, during the first 1000 days, sharing experiences and learning from each other. Numerous research has proven that this model of care is a proven success, especially for vulnerable women and girls. To enhance the implementation of Centering-based Group Care as the standard model of care, an EU-funded project was performed: the GC_1000 project. During this project, Centering-based Group Care was implemented and/or scaled up in 7 countries, 28 sites and 93 groups between 2021 and 2023.

The GC_1000 project focuses on advancing Centering-based Group Care understanding and establishing sustainable antenatal and postnatal practices for the critical first 1000 days. By using evidence-based approaches, it seeks to transform healthcare for mothers, newborns, and children, reduce service disparities, and enhance quality, ultimately benefiting women, families, and children's health and well-being. Centering-based Group Care strives to overcome the vicious cycle of low service quality and underutilisation by combining medical assessments with health education and promotion and building a community network to deliver prenatal and postnatal care that fulfils the needs of end-users, providers, and health systems. Throughout the project, GC_1000 provides group prenatal and postnatal care to women in four low and middle-income countries and three high-income countries in settings that serve the most vulnerable populations.

GC_1000 is:

- Implementing group antenatal and postnatal care in selected sites in collaborative ways that set the groundwork for sustained service delivery and possibilities for scaling-up;
- Analysing within-country data that emerge from the implementation process to create country-specific blueprints for scale-up;
- Using cross-country synthesis to develop a global implementation strategy toolbox for the adaptation, implementation, and scale-up of facilitated Centering-based Group Care within the first 1000 days, particularly to reach the most vulnerable groups of women and girls globally.

1.2 Purpose and Scope

This report is a synthesis of implementation [and scaling up] lessons learnt across the partner countries in the GC-1000 project, including lessons from the United Kingdom, the Netherlands, Ghana, Kosovo, Suriname, South Africa, and Belgium. This document's purpose is to inform the sustainability and expansion of the implementation of Centering-based Group Care. As such, key factors that influence progress with implementation are outlined throughout the document. The lessons learnt throughout the report are systematically categorized in accordance with the CFIR (Damschroder et al., 2022). Specifically, they are grouped into categories that pertain to intervention characteristics, the outer and inner settings within which Centering-based Group Care is implemented, the characteristics of individuals involved in Centering-based Group Care (ie., both implementers and participants), and various facets of the implementation process. To provide a comprehensive understanding of the lessons learnt and their relevance for future country scale up efforts, this report includes information about both the successes and challenges encountered during the model's implementation. It also outlines how these successes can be leveraged for future scaling up and strategies for overcoming the identified challenges.

Primary aims of the report:

- To synthesize lessons learnt from the evaluation of Centering-based Group Care in the partner countries
- To share lessons from the GC_1000 project to provide insights to other countries and/or sites within partner countries who wish to implement and/or scale up Centering-based Group Care in their context

For further information and to access the full Country Lessons Learned Reports please contact the corresponding contact points:

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2 LESSONS LEARNT REPORT

2.1 How was this report generated?

The report was synthesized by consolidating all country-specific lessons learnt reports into a comprehensive document. These country-specific reports were based on research conducted within specific sites in each respective country. For each participating country, an evaluation report was prepared, with lessons learnt reports subsequently derived from these evaluations, among other sources.

To draw the lessons learnt from the implementation of the GC 1000 project in all partner countries, our methodology encompassed several key sources of information:

- Country Evaluation Reports (WP5): The primary source of data for this report is the information contained within the country evaluation reports derived from Work Package 5 (WP5). These reports offer detailed insights into the actual implementation of Centering-based Group Care within each country, providing essential context and observations. The country evaluation report also includes input from the Rapid Assessment (WP2) and Adaptation and Implementation Reports (WP3/WP4):

- Rapid Assessment (WP2): This report also draws from the findings of the rapid assessment conducted as part of Work Package 2 (WP2) to supplement our understanding of the contextual factors influencing implementation and scale up. This data offers a snapshot of the broader setting within each country, which helps to contextualize the challenges and opportunities encountered during implementation.

- Adaptation and Implementation Reports (WP3/WP4): The information pertaining to the adaptation and implementation of Centering-based Group Care was incorporated, including strategies for adaptation and the development of sustainability plans, as documented in Work Packages 3 and 4 (WP3/WP4).

2.2 How will this report be used?

The synthesized lessons learnt shared in this report will be presented and discussed with in-country stakeholders who are crucial to the successful implementation and scale-up of the model in countries. It is intended to complement the country-specific lessons learnt reports, providing stakeholders within each country a broader perspective of the project's overarching lessons. These stakeholders were identified during the implementation phase and include those who contributed to activities throughout the project. They are invited to participate in discussions regarding the findings of the lessons learnt report, and together, they collaborate to create an informed and strategic blueprint for the in-country scale-up of the model.

2.3 References to other GC_1000 Documents

- GC_1000 Description of Work (Proposal)
- Country-Specific Lessons Learnt Reports
- D2.2 Report of outcomes WP2
- D3.2 Overview of adaptations and structural strategies
- D4.2 Demonstration site-specific plans for sustainability and scale-up
- D5.3 Report WP5 (process, impact, programme evaluation and cost-effectiveness)

- Systematic Reviews on Group Care (ie., Maternal Satisfaction, Clinical Outcomes, Lessons Learnt)

2.4 Definitions, Abbreviations and Acronyms

Table 1 List of Abbreviations and Acronyms

Abbreviation/ Acronym	DEFINITION
ANC	Antenatal Care
CFIR	Consolidated Framework for Implementation Research
G-ANC	Group Antenatal Care
HCP	Health Care Professionals
NHIS	National Health Insurance Scheme
MCoC	Midwifery Continuity of Carer
RGD	Regionale Gezondheidsdient (Regional Health Services in Suriname)

3 LESSONS LEARNT ACROSS PARTNERS

In this section the key lessons for implementing Centering-based Group Care are presented. The Consolidated Framework for Implementation Research (CFIR) (Damschroder et al., 2022) model was applied as the implementation framework and was also used as a tool in the analysis. Presented under each subheading of the CFIR framework are the key lessons learnt. Discussed under intervention characteristics are lessons learned about timing, group structure, group composition, and group size. In the section on the outer setting the key lessons are discussed on how the economic, political, social, and cultural contexts can influence the implementation of Centering-based Group Care; the implementing organization(s) internal contexts and culture (inner setting); and human resource needs and capacities (individual characteristics), as well as the particular factors that influence the adaptation of the intervention to local contexts.

3.1 Intervention Characteristics

This subsection provides insights into the intervention's implementation and effectiveness. It focuses on reflecting on the implementation's lessons learnt and any variations in the model observed during the implementation. This subsection delineates determinants (i.e., barriers or facilitators) that influence the outcome of implementation efforts.

The intervention characteristics within the CFIR are associated with the features of the intervention being introduced to a specific organization. Without adaptation, interventions typically enter a setting as a poor fit, facing resistance from individuals affected by the intervention, and necessitating an active engagement process to facilitate implementation. The intervention is often intricate and multi-faceted, encompassing numerous interacting components. Interventions can be conceptualized as having 'core components' (the essential and indispensable elements of the intervention) and an 'adaptable periphery' (flexible elements, structures, and systems related to both the intervention and the organization in which it is being implemented) (Damschroder et al., 2022).

The conceptual framework of Group Well Child Care (Gresh et al., 2023) provides components to discuss intervention characteristics. According to this model, three core components linked to intervention characteristics are: group structure, which refers to the framework or foundation that supports a particular system or process, with key concepts including 'group size, composition, stability, continuity of patients and facilitators, and frequency and length of visits'; process, which refers to the specific steps or actions taken to achieve a particular goal, encompassing the series of tasks required to reach a desired outcome; and content, which includes the health assessments and the service linkages offered to women.

3.1.1 Intervention’s Implementation

In this section the results of the structure of the Centering-based Group Care model across countries are discussed and then key lessons learnt that need to be considered when implementing Centering-based Group Care are provided based on the Group well childcare framework (Gresh et al., 2023).

Group size and composition. The optimal attendance for Centering-based Group Care sessions is typically recommended to be between eight to twelve women. However, it's important to note that this range is not rigidly enforced, and there is flexibility in session size. Ensuring an optimal number of women in group antenatal care sessions was not always achieved, as group sizes sometimes fell short of the recommended eight to twelve women per session with the same gestational age. However, the reasons varied across implementing countries. In Suriname, for example, the challenge stemmed from a limited pool of pregnant women with similar gestational ages, making it challenging to assemble

groups with the recommended size. Consequently, some groups had to be formed with fewer participants. Additionally, in Suriname, a common occurrence was women failing to attend group sessions without prior notification, resulting in sessions with only a few attendees. A lesson learnt is that scheduling well in advance to inform women of session times contributes to forming and maintaining the intended group size, and creating reminder systems can enhance attendance.
In Belgium, group sizes often fell short because there was a need to conduct sessions in multiple languages, which demanded additional language support resources that were not always readily available. From the implementation experience, disadvantaged groups may pose recruitment challenges, highlighting the need for targeted strategies to engage and include them in G-ANC. Having cultural mediators and stakeholders as advocates for Centering-based Group Care can prove be beneficial for recruitment. In the Netherlands, variations in group size were linked to the recruitment capabilities of facilitators, which, in turn, were influenced by the number of trained midwives and the target audience for Centering-based Group Care. Recruiting vulnerable populations proved more challenging. The limited participation of only a few women in each group also led to higher costs associated with providing Centering-based Group Care in the Netherlands. Managing time, costs, and group size became interconnected issues. To make it financially viable, a group size of 10-12 participants was deemed necessary. However, in larger groups, midwives faced challenges in conducting individual health assessments within the allocated three minutes. This indicates that effective health assessments within the designated time frame necessitate the careful management of group sizes, ensuring they do not become too large. It should be noted that this may be a challenge primarily during the initial stages of implementing Centering-based Group Care. In South Africa for example, this was a completely new model of care, and it took some time to recruit full groups. The midwives and the patients needed time to become oriented to how the model works in practice. Over time the numbers increased as the midwives became more confident recruiting women and patients started hearing about the model in the hospital as the message spread. This suggests that HCPs become more effective recruiters as they gain experience with G-ANC. Another approach for recruitment is that all staff members have a well-versed understanding of the Centering-based Group Care model, contributing to broader recruitment efforts beyond just facilitators.

Lessons learnt on group size

Reaching most vulnerable groups:

Engaging advocates, cultural mediators, or stakeholders can enhance participant recruitment, especially from disadvantaged groups. They play a crucial role in bridging cultural divides and attending to concerns specific to the community they serve. Their understanding of the community's cultural norms, values, and sensitivities enable them to establish effective communication with potential participants, alleviate cultural apprehensions, and give light to the significance and advantages within the community's unique context.

Retaining group size:

Informing women of session times ahead of schedule offers several advantages. Firstly, it allows participants to plan and make necessary arrangements to attend the sessions. This is particularly important for pregnant women who may have other responsibilities and commitments. Advanced scheduling also demonstrates a commitment to the program, increasing participants' motivation to attend. Implementing reminder systems can also enhance attendance rates. These reminders can be in the form of phone calls, text messages, or emails.

Group composition. Group composition was a component with similar underlying themes in the implementing countries, but unique challenges were also spotted. Language barriers in the Netherlands with parents of different countries of origins in Asylum seekers' centers influenced group interactions. Having one woman from a different country or culture than the others could hinder her inclusion in the group. The role of a cultural mediator served as a cultural bridge between mothers and facilitators. It was beneficial that the cultural mediator received brief training on the core principles of the Centering-based group Care model. In contrast, in Kosovo, with participants from the Roma, Ashkali, Egyptian communities, there was no mediator for translation, which can hinder inclusion and effective communication. In Belgium there were often a lot of cultures and languages in one group. There was no cultural mediator. But often, they tried to have more than one woman of that culture/language in the group, and they helped out each other (sometimes compromising on the same gestational age because the benefits of having the women were perceived more important than being in a group of women with the same gestation age. In Ghana as well, some groups had to adopt an all-inclusive approach due to low ANC registrants within the area. Therefore, women were recruited into groups regardless of their gestational age. In Suriname, regarding group composition in terms of age, socio-economic status (SES), and culture, health care professionals and community members were ambivalent. While they advocated for diversity in the group composition, they also suggested that it is challenging to implement groups with a mix from urban and rural areas, and that it is important to keep 'some sort of homogeneity' in the groups. Diversity of women regarding social characteristics, in the Netherlands, has also led to diverse experiences: for some empowering (low SES), for others the content was not sufficiently challenging (high SES).

To build on these diverse perspectives, it is important to note that cultural considerations played a significant role in shaping preferences for Centering-based Group Care dynamics. In Suriname and Kosovo, women were reluctant for fathers-to-be/fathers join sessions, with some women expressing a

preference for their absence to facilitate open discussions. In contrast, in Ghana, participants in focus-group discussions emphasized the importance of including partners in Centering-based Group Care sessions. This was driven by the challenges they faced in explaining the concept and purpose of Centering-based Group Care to their partners at home.

Lessons learnt on group composition

Overcoming language barriers:

To bridge this gap, the role of a cultural mediator proved crucial in facilitating communication between mothers and facilitators. These individuals possess a deep understanding of the cultural nuances, language, and traditions of the participants, making it easier to convey information, provide explanations, and facilitate discussions. Having a cultural mediator present can help participants feel more comfortable and trusting of the group care process. When women see someone from their own cultural background in a facilitation role, it can encourage participation, and create a more welcoming atmosphere. In the absence of cultural mediators, including multiple women from the same culture or speaking the same language within a group might be beneficial to withhold group diversity. Downside: This approach can lead to compromises on gestational age uniformity.

Inclusion of fathers:

There are different preferences and cultural considerations to be taken into account for the inclusion of fathers in group care sessions. It was essential to create a safe and open dialogue within group care sessions where women could freely express their views regarding the involvement of fathers. Facilitators should encourage discussions on this topic and respect participants' choices. While some women may prefer the absence of fathers for open discussions, highlighting the potential benefits of involving them, such as better understanding, support, and shared responsibility, could help address concerns and promote their inclusion. In regions where cultural norms strongly influence family dynamics, it is crucial to approach the inclusion of fathers with cultural sensitivity. Healthcare providers and facilitators should be aware of and respectful towards local customs and traditions.

Human resources and continuity of facilitators. Staffing challenges and concerns about facilitators' high workload may arise in cases when facilitators are involved in multiple health services. In Suriname at least one HCP at every implementation site and several HCPs from hospital settings mentioned that high workload and/or shortage of staff adversely affected the implementation of Centering-based Group Care. Similarly, in the UK in a few groups, staffing issues, particularly the lack of continuity among facilitators, had a noticeable impact on the effectiveness of group dynamics and relationships. A similar challenge was encountered in Ghana, where human resource constraints made it challenging to secure two consistent facilitators for each session. However, efforts were made to ensure at least one facilitator remained consistent.

South Africa faced staffing challenges that led to session postponements. Nevertheless, collaborative efforts, including active management involvement, played a vital role in overcoming these challenges. This experience underscores a crucial lesson: the implementation of Centering-based Group Care is inherently intertwined with broader human resource challenges within the healthcare system. Planning and consideration must precede implementation.

Meanwhile, in Belgium, the absence of structural federally supported reimbursement for Centering-based group care, a key factor in enhancing implementation appeal, may confine Centering-based group care projects to temporary initiatives. As numerous countries confront shortages in healthcare human resources, it is imperative to maximize the potential of existing staff, explore task-shifting possibilities

for midwives and community nurses, devise effective recruitment strategies, establish sustainable payment models, and carefully allocate resources to the appropriate staff or facilitators. These considerations are fundamental to ensuring the success and sustainability of group antenatal care programs, particularly in the face of human resource constraints.

Lessons Learnt on human resources and continuity of facilitators

Recognizing high workload impact:

Recognizing and actively managing workload concerns are pivotal for ensuring the efficacy of the program. When facilitators are overworked, they may face challenges in maintaining the necessary dedication and enthusiasm required for effective group care sessions. Overburdened facilitators might also seek to delegate their responsibilities to others, potentially causing disruptions and discontinuity within the program.
To maintain the integrity of the group care model and preserve the valuable dynamics and relationships within the group, it is important to address workload-related concerns. This involves measures such as workload assessment and management, ensuring that facilitators have the necessary time and resources to fulfill their roles effectively.

Funding and sustainability:

Adequate funding mechanisms and structural support were noted as important factors for ensuring the continuity of group care. The payment models should be sustainable and the resources should be carefully allocated to the appropriate staff or facilitators. These mechanisms should be carefully designed to consider the unique needs and requirements of the group care model in a particular country/sight, such as professional training, materials, and facilities.

Timing of the sessions. Typically, Centering-based Group Care sessions adhered to a set schedule, commencing at specific times and lasting for 90 to 120 minutes. For participants of the Centering-based Group Care sessions, it was crucial that the dates of the sessions were communicated well in advance, and that the timing of Centering-based Group Care sessions did not collide with their work/school schedules.
Nevertheless, there were occasional exceptions, particularly in South Africa, where Centering-based Group Care sessions sometimes started later than planned. This delay was attributed to midwives needing to attend to their routine individual care clients in the morning. Fortunately, Centering-based Group Care participants in South Africa displayed understanding of the need for flexibility in start times. This experience revealed an important lesson: while planning upfront is essential, a degree of flexibility is equally necessary to accommodate the existing work routines within busy healthcare facilities.
Conversely, punctuality among participants posed challenges in Ghana, the Asylum seekers' centers in the Netherlands, and sessions involving vulnerable target populations in Belgium. In Ghana, especially during the rainy season, women had to work in the fields before attending Centering-based Group Care sessions. In the Netherlands, facilitators visited the women's rooms in Asylum seekers' centers to remind them when sessions started at 9 am. Therefore, it is important to have a deep understanding of the social and economic context where Centering-based Group Care is implemented, as these factors can impact the success of Centering-based Group Care efforts. In the Netherlands, as well as in Belgium, due to time constraints brief health assessments were conducted and the facilitators were cautious about delving too deeply into inquiries about women's well-being to avoid prolonging the sessions.

Facilitators should strike a balance to avoid prolonging the sessions while still addressing participants' health needs and retaining the quality-of-care standards.

Lessons Learnt on timing of the sessions

Prioritizing participant schedules:

Consider the schedules of participants when planning group care sessions. Communicating session dates well in advance and ensuring that session timings do not conflict with participants' work or school commitments is essential for their engagement and attendance.

Punctuality:

Punctuality challenges highlight the importance of understanding the social context where group care is implemented. Unique living situations can impact participants' ability to adhere to set schedules. Participants in group care programs come from diverse backgrounds and living situations. For example, participants may live in urban or rural areas, densely populated neighborhoods, or remote locations. Each of these settings comes with its own set of challenges that can affect punctuality.

Content of the sessions. The structure of Centering-based Group Care sessions varied depending on the context, with topics of discussion reflecting the preferences and cultural backgrounds of the women. Participants often found valuable social support and knowledge-sharing among their fellow group members.

Nevertheless, there were instances of longer-than-expected sessions due to extensive discussions based on the need for information raised by participants. In Suriname's parenting sessions, topics predominantly centered around concerns related to feeding, sleeping, and crying, sometimes limiting time for other essential discussions. In the Netherlands, in Asylum seekers' centers, mothers frequently had numerous questions, occasionally extending sessions beyond the anticipated two-hour duration.

This indicates that women felt heard and engaged. What has shown to maintain session structure while ensuring participant engagement was introducing the session's topics and duration at the beginning. This helps participants be aware of what will be covered and facilitates questions and discussions within the designated timeframe.

Additionally, encouraging participants to voice their preferences for future meeting topics can be valuable. Reminding them that they can suggest or prioritize topics for upcoming sessions ensures the content remains aligned with their interests and needs.

The diversity of women in the Netherlands, spanning various socio-economic levels, has resulted in distinct experiences. While the group was empowering for some, particularly those with low socio-economic status, others found the content not sufficiently novel or challenging, especially those with higher socio-economic status. Consequently, midwives adopted a personalized approach, tailoring the content to effectively address the diverse educational levels and backgrounds of the participants. This strategy ensured that the sessions remained both engaging and challenging for women with varying backgrounds.

Lessons learnt on content of sessions

Addressing Specific Concerns:

Understanding the predominant concerns of participants can help structure sessions effectively. Some topics can take precedence over others. Recognizing these priorities, facilitators can allocate sufficient time for essential discussions while managing session duration.

Educational background and socio-economic status:

Beyond addressing specific topics of interest, participants' educational backgrounds and socio-economic statuses should be considered to enhance engagement and relevance. This approach fosters a more supportive and stimulating environment for all.

3.1.2 Adaptations

As the Centering-based Group Care model was being implemented in various countries, it became necessary to make occasional adaptations to suit each unique context. The adaptability of the Centering-based Group Care model to local contexts was a critical component of its success. Kosovo highlighted the need for developing country-specific materials, not just translations, but extensive contextualization of the topics. In terms of the session structure, in Ghana, policy implications led to modifications in the self-assessment component, with healthcare providers supervising these activities due to low literacy levels among participants.

Due to challenges with limited space, the South African public health system necessitated adjustments in the location of individual medical check-ups. Despite the need for shared spaces, this adaptation did not affect the acceptability of the model to participants. Similarly, in Belgium and Suriname relocating the midwife's check to a nearby room was necessary due to space constraints. Whereas in Ghana, the unavailability of large rooms in healthcare facilities necessitated use of pavilions, outdoor spaces, and nearby rooms for different components of the model.

In Kosovo, the integration of Doppler in antenatal sessions has shown to be a motivator for women to partake in Centering-based Group Care sessions. The possibility for expectant mothers to audibly experience their unborn child's heartbeat fosters a deeper commitment to the overall care program, humanizing the pregnancy experience. In Ghana, Check2Gether was introduced with Centering-based Group Care by the collaboration of PHS, TNO and Simavi. Check2Gether is a non-invasive diagnostic tool that consists of medical investigations for baseline antenatal check-up such as hemoglobin, blood pressure and urine. This effectively replaced a non- existent laboratory service in five out of the six implementation sites. Additionally, Centering-based Group Care with Check2Gether integrative intervention potentially saved the basic ante-natal health care investigation cost for pregnant women, because the national health insurance scheme does not cover the healthcare cost at the private health centers/clinics. Therefore, providing the basic medical assessments on-site with Check2Gether was an incentive for the women participating in Centering-based Group Care.

One other adaptation to the sessions in Ghana, was not providing any snacks during Centering-based Group Care sessions, because providing snacks was deemed not to be sustainable beyond project lifespan and had a potential to disrupt the already constrained health system. In South Africa, however, women in G-ANC were very grateful for the provision of fruit and water in the session, given the length

of the session of 60-90 minutes. If there were any snacks left over, women could take these to eat or drink on their journey home, most often using public transport.

Lessons learnt on adaptation of the model and fidelity

Maximizing benefits:

The Centering-based Group Care model demonstrated its success by adapting to diverse local contexts. Adapting the model to address specific cultural, healthcare system, and space-related challenges enhances the model's relevance and accommodates the needs posed by the specific context where Centering-based Group Care is being implemented.

Optimizing space:

Challenges related to limited space system can be overcome by adjustments in the location of individual medical check-ups. Relocate the midwife's check to nearby rooms or utilization of pavilions, outdoor spaces to accommodate different components of the model. Please note: extra time might be required for health assessments, which can impact women's participation in group discussions. Additionally, women discuss their questions with the midwife individually, which may result in these important questions not being addressed within the group, thereby no information can be shared with other women.

4 OUTER SETTING

The Centering-based Group Care model across all implementing countries was shaped by the interplay of socio-economic, political, cultural, and healthcare system dynamics. This synthesis offers insights into how these diverse external factors collectively influenced the design, adaptation, and effectiveness of the model's implementation.

Socio-economic and cultural dynamics. In KOsite2, in Kosovo, a significant number of mothers are without a paid job, reflecting broader economic challenges. For those residing in remote areas, the financial burden is compounded by the need to pay for transportation to attend healthcare sessions. The infrequent bus service from villages to KOsite2 makes it challenging for women to attend regular sessions. Most women rely on their husbands or family members for transport, and these individuals may not be able or willing to accommodate the time required for group sessions. The team had to consider these logistical constraints when scheduling Centering-based Group Care sessions, ensuring they are accessible and convenient for the majority. In addition, in Kosovo traditional gender roles often dictate that men are the primary decision-makers, affecting women's ability to attend sessions independently. The influence of mothers-in-law is also significant, with reports of them accompanying women to sessions and sometimes inhibiting open discussion.

Socio-economic and cultural influences played a central role across all models, dictating the need for flexible scheduling and culturally sensitive approaches. For example, agricultural work in Ghana directly impacted session attendance, necessitating flexible adjustments by facilitators. In the countries with pronounced demographic diversity required a culturally and linguistically inclusive model, especially for vulnerable groups, underscoring the importance of cultural competence in healthcare delivery.

The success of the interventions partially relied on assessing the local community's contexts and needs. As was done in South Africa during the pre-implementation stage—issues related to HIV testing, given the high burden in the country context and the presence of a well-functioning treatment plan—adaptations were made to the facilitator topic guide to ensure that health promotion topics matched well with the country and local needs.

Alignment with healthcare structures. The need for the strategic alignment of the Centering-based Group Care model with existing healthcare structures was experienced in every country. In Ghana, the Centering-based Group Care model's integration into the regular care framework echoed the national focused antenatal care policy. This alignment was pivotal for the model's acceptance and efficacy. Similarly, in the Netherlands, the autonomy of primary care midwives and the healthcare reimbursement structures significantly influenced the Centering-based Group Care model's implementation, showcasing the impact of healthcare system structures on intervention strategies.

Infrastructure and system design. Infrastructure challenges and ways in which health systems are designed were common themes, influencing the adaptations made to the Centering-based Group Care models. In all implementing countries the health system is designed for individual care, not group based models of care—these impacts on space availability and the existing design influences mental models of ways in which healthcare should be delivered.

In the Netherlands, an online approach was introduced to facilitate Centering-based Group Care for Eritrean participants. This online format aimed to reduce the financial burden and travel constraints for women who might have otherwise faced challenges in attending in-person sessions. It turned out that online formats can effectively increase participation, particularly among diverse or geographically dispersed populations. However, when transitioning to an online format, the model needed to be adapted accordingly. In this case, health and self-assessments were moved outside the group space and integrated into individual care. Addressing any questions or concerns that arose during health

assessments within the online sessions can help maintain the comprehensive nature of Centering-based Group Care.

Community Building. Community building occurs as a result of fostering supportive networks among pregnant women, their partners, and healthcare providers within the framework of Centering-based Group Care. This approach encourages open dialogue, shared learning, and mutual empowerment, thereby promoting a sense of belonging and trust among participants. In contexts where cultural diversity initially posed challenges, community building through shared experiences and cultural mediation proved crucial in bridging gaps and promoting inclusivity. By engaging participants in interactive learning sessions and enabling them to share their personal experiences and challenges, the model strengthens social bonds and creates a cohesive support system. This sense of community not only enhances individual and collective well-being but also empowers participants to take an active role in their own healthcare.

Lessons learnt on the outer setting

Socio-economic considerations:

Socio-economic factors significantly influence participation in group care. Economic challenges, transportation barriers, and financial burdens can impact attendance, requiring session scheduling adjustments to ensure accessibility.

Cultural sensitivity:

Cultural factors play a central role in healthcare delivery. Cultural competence is vital, especially when implementing group care models across diverse populations. Traditional gender roles and family dynamics can affect women's participation and open discussion.

5 INNER SETTING

The inner setting of these interventions encompasses the specific characteristics of the organizations and teams responsible for implementing the Centering-based Group Care models. These characteristics include the organizational culture, internal policies and processes, resources, and the commitment of the staff involved.

Organizational culture. The organizational culture significantly influenced how the Centering-based Group Care models were received and implemented in various sites. In countries where the health systems were more hierarchical and rigid, like in some sites in Kosovo, adapting to a new model required shifts in mindset and practice. Not all facilitators were confident and comfortable with group sessions because in most sites this meant switching from a didactic to an interactive approach. In the UK, for instance, some needed additional time and support to develop their facilitation skills further. Conversely, in settings where primary midwifery care practitioners have more flexibility and autonomy to adopt innovations within established guidelines, the integration of the intervention proceeded more seamlessly. In the public health system in South Africa there is generally a hierarchical bureaucratic culture, however the South Africa team were fortunate to work in a research site where the manager and the midwives were highly motivated to implement G-ANC because they believed it complemented well with their existing ethos of respectful maternal care. In all countries a common lesson learnt stood

out that not only the facilitators need to be motivated, but the whole team need to be on board for the sustainable implementation of Centering-based Group Care in a site.

Peer support. The Centering-based Group Care model exemplified the profound impact of peer support on attendees of the group sessions. Participants consistently highlighted the emotional reassurance and practical advice gained from sharing experiences with peers facing similar challenges. This peer interaction not only alleviated feelings of isolation but also fostered a supportive community where knowledge was exchanged, particularly on critical topics like breastfeeding and newborn care. In all settings, the model's emphasis on peer relationships led to increased self-confidence among participants, empowering them to navigate pregnancy and early parenthood with greater assurance.

Interactive learning. Interactive learning is a key lesson learned in the implementation of Centering-based Group Care because it significantly enhances both participant engagement and knowledge retention. This approach encourages active participation, allowing pregnant women to share their experiences, ask questions, and engage in discussions that are directly relevant to their needs and concerns.

Across all the countries where Centering-based Group Care was implemented, participants learned from each other by sharing their experiences. This peer-to-peer learning was a crucial component in making the content immediately applicable to participants' lives and culturally relevant.

The positive outcomes of interactive learning include increased self-confidence and better understanding of healthcare information. Facilitators also benefit, finding the interactive model more fulfilling as it aligns with their professional values of providing supportive and holistic care.

Capacity. To effectively implement scaling up of Centering-based Group Care, capacity building was essential in all implementing sites. During the pilot phase training was provided to midwives and nurses. The in-country trainers played a key role in building capacity in Centering-based Group Care by training other healthcare professionals.

Motivation emerged as a critical factor in the successful implementation of Centering-based Group Care models. In most sites, highly motivated facilitators effectively navigated the challenges encountered during implementation. However, in specific locations like KOsite2, where motivation was lacking primarily due to poor cooperation between management and implementing staff, sustaining the groups became a significant struggle. As noted in the Netherlands, first experiences of facilitators with group sessions are important for motivation. Therefore, pairing a starting facilitator with an experienced facilitator is recommendable.

Resources. In the process of implementing the Centering-based Group Care model, it's worth highlighting that the Netherlands, Belgium, Suriname, and the UK had previous exposure to the model before the initiation of this project. This prior familiarity conferred certain advantages in terms of knowledge, established practices, and institutional support. In contrast, Kosovo, South Africa, and Ghana lacked such pre-existing experience. This required introducing the model into their systems and actively identifying stakeholders to garner their support. The lesson learnt from these experiences is inherently tied to the varying levels of knowledge and expertise, showcasing how outcomes may differ based on the existing resources and familiarity with the model.

Internal processes. Effective internal communication and clear processes were essential for the smooth operation of the Centering-based Group Care models. Collaborations were established in all sites not only between health care institutions but also with perinatal organizations actively supporting the implementation of Centering-based Group Care in their local regions. Additionally, an important progression point for scaling up and sustaining the model in future was the ‘training-of-trainers’ conducted. These workshops were offered to professionals (mostly midwives) with greater experience

of facilitating Centering-based Group Care. Local trainers were then expected to be able to cascade the Centering-based Group Care training in future.

Lessons learnt on the inner setting

Impact of organizational culture:

Motivation and commitment from the entire healthcare team are crucial for the sustainable implementation of group care in any site. It's essential to recognize that the initial experiences of facilitators with group sessions significantly impact their motivation. Therefore, it might beneficial to pair a novice facilitator with an experienced one to provide guidance and support during the early stages of implementation.

Capacity building:

Capacity building is foundational to ensuring that healthcare providers were well-prepared to deliver group care effectively.

6 INDIVIDUAL CHARACTERISTICS

In this section the characteristics of individuals who play crucial roles in Centering-based Group Care implementation are explored, specifically focusing on policy makers identified and the steering committees established in the implementing countries.

Characteristics of the target population. The importance of understanding and addressing the characteristics of the target population was evident across all regions. For example, in Kosovo, the significant role of family and societal norms in healthcare decisions was a pivotal aspect. Acknowledging and addressing the financial constraints, cultural backgrounds, and language needs of participants was crucial for effective engagement and participation. The intervention's alignment with the predominant language and cultural context facilitated better communication and inclusivity. Furthermore, family dynamics, particularly the influence of partners or in-laws, significantly impacted women's ability to participate in Centering-based Group Care sessions, highlighting the importance of broader family involvement and education about the benefits of Centering-based Group Care.

Health professional characteristics and impact. Trained and motivated health professionals involved in implementation have shown to be imperative in the successful and sustainable implementation of Centering-based Group Care in all countries. In the Netherlands, the autonomy and decision-making power of midwives in providing Centering-based Group Care were emphasized, reflecting the critical role of healthcare professionals in the models' success. Thus, empowering HPCs with decision-making autonomy can foster a sense of ownership in the implementation process which after all can increase motivation among HPCs. The UK's approach, addressing staff shortages and demoralization, highlights the need to comprehend the characteristics of health professionals and their impact on the implementation process. Acknowledging and proactively addressing workforce challenges, such as improving working conditions and providing resources, contributes to maintaining a motivated and engaged healthcare workforce in the successful execution of Centering-based Group Care.

Maternal and provider Satisfaction. The motivation to continue despite structural challenges was illuminated by clear findings of professional satisfaction among most facilitators and the engagement of pregnant women and their partners with this form of care. Midwives described the model as enabling them to provide a better quality of care through increased time and interactivity of visits. They valued the enhanced continuity, the collaboration with other midwives and health visitors, and the enjoyment of this relational and supportive style of working, which they cited as being closer to true midwifery values of supportive and holistic care.

Midwives found that the Centering-based Group Care model allowed for more in-depth interactions with patients, fostering a sense of community and trust. They appreciated the opportunity to address a broader range of topics in a more relaxed and extended setting compared to traditional one-on-one appointments. This comprehensive approach enabled them to better understand and address the unique needs and concerns of each participant, enhancing the overall quality of care provided.

Participants similarly valued the time available and the interactive learning approach. They appreciated the relationships fostered with other pregnant women/parents and with providers, and they spoke of enhanced self-confidence and knowledge through self-checking and better quality of information. Many participants highlighted the benefit of peer support, which provided them with a network of individuals experiencing similar life changes. This support network was particularly important for first-time mothers, who often felt reassured by the shared experiences and advice from others in the group.

Moreover, participants reported feeling more empowered and informed about their pregnancy and childbirth. The self-checking aspect of the model encouraged them to take an active role in their health care, leading to increased confidence in managing their pregnancy. The structured yet flexible

nature of the sessions allowed for tailored discussions that addressed the diverse needs of the group, making the information more relevant and practical for all attendees.

HCP's cultural sensitivity. In Suriname and South Africa, the characteristics of healthcare providers, particularly in terms of their cultural sensitivity and attitudes towards vulnerable communities, were pivotal in ensuring that women felt included and felt free to speak their mind without judgment in group spaces. These factors highlight the need for healthcare providers to understand and adapt to local socio-cultural dynamics and patient populations' diverse needs. As part of the Centering-based Group Care training, cultural sensitivity should be included, to gain a deeper understanding and appreciation of the diverse cultural backgrounds and norms among the patient population they serve. Additionally, HCPs must adopt a non-judgmental and empathetic attitude. Women should feel safe to express their thoughts and concerns without fearing criticism or judgment. This creates an open and inclusive space for discussions.

Role definition for facilitators. In Kosovo, it was stated that there was uncertainty about who would prepare the rooms, how referrals would work, and the roles of various personnel involved, and how the Centering-based Group Care would be integrated into daily work. When there is ambiguity about roles, and the integration of Centering-based Group Care into daily work, it can lead to inefficiencies, inconsistencies, and a lack of clarity among team members Therefore, a lesson learnt in both Kosovo and the Netherlands is having well-defined roles to ensure that the Centering-based Group Care sessions are consistent.

Stakeholder engagement and Steering Committees. Ghana's implementation involved national stakeholders, emphasizing the importance of engaging policy makers and steering committees in influencing policy decisions and providing technical support. This approach underlines the significance of stakeholder engagement at the policy level for successful program implementation.

Collaboration with relevant stakeholders and forming steering committees in most countries provided necessary oversight and created an enabling environment for Centering-based Group Care implementation. In the UK, the steering groups in this way evaluated experience, reflected on any problems encountered and planned adjustments. In Kosovo, the steering committee for Centering-based Group Care is multifaceted, reflecting the committee's diverse composition and the complexities of healthcare management. A key lesson is the importance of collaborative decision-making, where diverse expertise—from clinicians to community representatives—can lead to holistic and more effective strategies. The committee's experience shows the value of patient and community involvement in shaping healthcare initiatives, ensuring that decisions are not only clinically sound but also resonate with those they are meant to serve.

Lessons learnt on individual characteristics

Engaging policy makers and stakeholders:

Engage policy makers and steering committees in influencing policy decisions and providing technical support. Forming diverse steering committees can be beneficial to provide necessary oversight. The importance of collaborative decision-making involving clinicians, community representatives, and others to develop holistic and effective strategies.

Trained and motivated health professionals:

The critical role of trained and motivated HCPs is fundamental to the successful and sustainable implementation of the group care model. Empowering HCPs with decision-making autonomy can instill a sense of ownership in the implementation process, ultimately increasing motivation among them. Moreover, it is crucial to acknowledge and proactively address workforce challenges, including improving working conditions and providing necessary resources.

7 IMPLEMENTATION PROCESS

This section will focus on the implementation process of the intervention, covering various critical aspects such as the selection of sites, role of healthcare professionals, recruitment of participants, partnering organizations, monitoring and quality assurance, and resource allocations.

Role of healthcare professionals. A common thread across partner countries was the critical role of healthcare professionals, particularly midwives. These HCPs played a central role in initiating and sustaining the Centering-based Group Care model, with a focus on training, motivation, and capacity building. All midwives that facilitated groups were trained in providing Centering-based Group Care. Nevertheless, facilitation skills varied and first experiences of facilitating groups are deemed important for motivation. Therefore, in the Netherlands, a new facilitator with an experienced facilitator were paired. In Kosovo and South Africa where the implementation of Centering-based Group Care just started, the focus was on integrating Centering-based Group Care into existing health systems, emphasizing the importance of pre-planning and collaboration with healthcare facility management. In South Africa, groups remained stable, with the same women attending all six sessions in each cohort, and facilitators consistently leading the groups. The facilitator responsible for booking patients ensured that all women were scheduled on the same day and at the same time, showcasing effective planning by the midwife. In KOsite1, one of Kosovo's pilot sites, witnessed women drop-outs, reportedly due to lack of management and facilitator collaboration, leading to the dissolution of the group.

Recruitment of participants. Different channels and approaches were used for the recruitment of participants in the implementing countries. In some countries recruiting participants for group antenatal care posed challenges due to the limited number of women with similar gestational ages, making it difficult to form recommended group sizes. Champions or partners who advocated for the Centering-based Group Care model played a crucial role in increasing women's participation in the sessions. For instance, in South Africa, the midwife leading service delivery in the antenatal care clinic served as a champion for Centering-based Group Care, actively supporting recruitment and acting as the primary facilitator in the groups. In Ghana, various strategies were employed to recruit women into group sessions. This included engaging steering committee members at the site, who played significant roles as advocates for Centering-based Group Care by raising awareness and mobilizing participants for Centering-based Group Care.

Another channel for recruitment was social media platforms. Through these platforms information about Centering-based Group Care was disseminated and women were invited to participate in the sessions. In Kosovo interested women then contacted the Main Medicine Family Centers for further information. Therefore, utilizing social media as a recruitment tool can be effective in reaching potential participants and disseminating information about Centering-based Group Care sessions. Not only was social media used for recruiting, but also proved to be a valuable platform for promoting Centering-based Group Care. This dual functionality allowed for broader outreach and raised awareness about the program's benefits and objectives.

Partnering organizations. The driving organizations in each country, such as Action for Mothers and Children (AMC), Stichting CenteringZorg/TNO, Presb church, Perisur, City University and UCT, played an important role in making these initiatives successful in their respective countries. This underscores the significance of having a driving force behind such projects, coupled with financial support and strong connections. The implementation at the national level requires more than individual sites; it necessitates a driving force with adequate resources and extensive connections. In Kosovo, collaborating with local health directorates, UNICEF, and other stakeholders was instrumental in navigating the complexities of implementing and scaling-up the Centering-based Group Care model. These partnerships provided broader support and resources, contributing to the program's sustainability and effectiveness. Engaging with these organizations early and consistently was a key lesson, highlighting the value of a collaborative approach in healthcare interventions.

Selection of implementing sites. In Ghana, the choice of GHsite1 was influenced by the inadequate antenatal care coverage and other maternal health indices, highlighting the importance of addressing specific needs in the selected area. The selection of GHsite2 was based on the population of anticipated pregnancies and ANC coverage, emphasizing the importance of aligning intervention strategies with local demographic and healthcare factors. In Belgium, the selection of pilot sites was driven by community willingness to embrace the Centering-based Group Care model. BEsite1 dedication to supporting vulnerable pregnant women and BEsite2 financial commitment to the initiative played an important role in the selection. Additionally, BEsite3 selection based on prior experience with Centering-based group care highlighted the importance of familiarity and understanding of the chosen model for a smooth and effective implementation process. In South Africa, the selection criteria for pilot sites focused on the facility's willingness and capacity to support both the model implementation and the associated research study. Meanwhile, in Suriname, the initial choice of pilot sites in the two largest urban districts considered the concentration of the Surinamese population, emphasizing the importance of targeting areas with higher demographic density. The dynamic adjustments made in Suriname and Kosovo, including the replacement of some pilot sites and the addition of new sites during the project, further illustrated the necessity for flexibility and adaptability in response to challenges such as a shortage of motivated midwives and insufficient space.

Monitoring and quality assurance. A crucial aspect of implementing Centering-based Group Care is building in-country evidence. In the Netherlands, the availability of research on the effects and costs of the program facilitated reimbursement and made lobbying efforts easier. This evidence allowed the model of care to be recognized in the national database of effective interventions. In the UK, evidence from research is essential for including Centering-based Group Care Group Care in official guidelines. Therefore, ongoing monitoring and evaluation are critical to build the necessary evidence for long-term funding, reimbursement, and political support.

The implementation of Centering-based Group Care was conducted in correspondence to the research project, allowing for a comprehensive approach to monitoring and adjusting implementation strategies as necessary. Various mechanisms were employed to ensure the effectiveness and quality of the intervention. Implementing mechanisms for ongoing monitoring and feedback, such as observations and self-evaluation forms, allows for real-time adjustments and iterative improvements in the delivery of the model. In addition, engaging with stakeholders, including midwives and healthcare providers, in quality control processes fosters collaboration and ensures a shared commitment to program excellence. Another lesson learnt from the implementation of Centering-based Group Care is leveraging existing oversight structures within healthcare facilities, such as perinatal care managers/coordinators, enhances accountability and reinforces adherence to established standards and protocols.

Resource allocation and support mechanisms. While the government in the Netherlands planned reimbursement schemes to support the implementation of the Centering-based Group Care model of care in 2024, in other countries like Suriname there are significant economic challenges, impacting the resources available for such healthcare innovations. Recognizing and addressing economic challenges requires collaborative efforts between governments, international organizations, and local stakeholders to mobilize resources and implement targeted interventions that address the unique needs of underserved communities. The availability of sustainable funding models, such as government reimbursement schemes, plays a crucial role in supporting the implementation and long-term viability of healthcare innovations like Centering-based Group Care. Therefore, investing in sustainable funding mechanisms contributes to the continuity and stability in healthcare interventions, mitigating the risks associated with fluctuating economic conditions and resource constraints.

Lessons learnt on the implementation process

Engaging champions for advocacy and recruitment

Champions serve as passionate advocates who champion the cause of the intervention, actively promoting its benefits and rallying support from stakeholders. Their involvement significantly influences recruitment efforts and the overall success of the program.

Support from the organization operating within the same field

Organizations that are deeply rooted in a healthcare landscape, can provide invaluable resources expertise, and infrastructure necessary for the implementation and sustainability of interventions like Group Care. Partnering with well-established entities and their programs can enhance broaden the models reach and effectiveness.

8 SWOT ANALYSIS

The goal of this section is to identify the strengths, weaknesses, opportunities, and threats to enhance future implementation efforts. Below are the SWOT (strengths, weaknesses, opportunities, threats) tables for every partner country.

1. Belgium SWOT table

Strengths	• General positive perception of the Centering-based Group Care model by stakeholders, facilitators, coordinators, and participants • Establishing Group Care Belgium as a non-profit organization aiming to develop Centering-based Group Care into a comprehensive care model within the Belgian healthcare landscape. • Highly motivated facilitators and coordinators per setting • Support from local authorities in BEsite1 and BEsite2 • Collaboration between organizations willing to improve care for vulnerable pregnant women • Opportunities for collaboration between hospitals and with primary care • A fixed Centering-based Group Care space in BEsite3 • A shift from curative care to preventive care in Belgium • An upcoming greater recognition for primary care
Weaknesses	• Focusing on vulnerable pregnant women without a clear definition of vulnerability • Including mainly vulnerable women in the three settings creating a bottleneck effect in session enrollment and posing challenges in providing language and extended (psychosocial) support. • Healthcare providers' hesitance to refer due to healthcare providers' unfamiliarity with the model and their busy schedules • Staff turnover during implementation • A lack of effective leadership in some of the settings • A rigid reimbursement system that is not compatible with Centering-based Group Care or other innovative models • The organization of perinatal healthcare, where second-line care is preferred over primary care. • Underpaid midwives in self-employment • Unknown and unfamiliarity with the model among pregnant women
Opportunities	• Belgian implementation of a digital platform for monitoring and screening vulnerable pregnant women (www.borninbelgiumprofessionals.be) • Launching Centering-based Group Care parenting groups in Brussels • Increasing collaboration between secondary and primary care • Patient empowerment and shared decision-making gaining prominence in the political agenda. • Growing demand for patient involvement in their care, leading to the rise of patient organizations. • The introduction of Group Care Belgium • Heightened focus on midwife-centered care • The willingness of BEsite3, BEsite2, and BEsite1 to continue with Centering-based Group Care

	• Strong facilitators and implementers who believe in the model • Expansion of Centering-based Group Care beyond pregnancy (diabetes care, psychological group sessions) • Increased government funding for mental healthcare, opportunities for collaboration in offering Centering-based Group Care (midwife and psychologist as facilitator)
Threats	• Uncertain continuation of Group Care Belgium. • Absence of financial backing for group sessions or a billing mechanism for primary care. • Diminished distribution of midwifery-led care in Belgium.

2. Ghana SWOT table

Strengths	• Strong community and health system support • Improved access to healthcare services with the combination of the Check2gether kit and fetal dopplers • Strong bond between pregnant women and midwives • Government support for facilitators
Weaknesses	• Need for larger rooms • Human resource constraints • Low tariffs and delays in NHIS reimbursement • Difficulty adhering to time schedules • A significant amount of time spent checking lab investigations and double entries, as the Check2gether system is electronic. In contrast, the health system documentation is manual which increases the workload of the HCP.
Opportunities	• Inclusion of spouses in group discussions • High-volume health centers for efficiency • Continuous partnership with public and private health sectors
Threats	• Funding could pose a potential challenge to sustainability as there is a need to identify a sustainable source of funding to move forward the expansion and scale –up of Centering-based Group Care in the country. • While midwives and stakeholders are eager to continue with Centering based Group Care, it is important to note that the lack of national policies and guidelines make them reluctant to proceed with implementation, as they lack the necessary policy backing.

3. Kosovo SWOT table

Strengths	• The presence of committed individuals such as the coordinator of Centering-based Group Care and the head of midwives in the Main Family Medicine Centre in KoSite2, represents a significant strength. Their dedication and leadership provide the necessary drive and coordination for the program, fostering a supportive environment for implementation and continuity. • The bond between facilitators and women participating in the sessions is a strong asset. This relationship fosters trust, encourages attendance, and enhances the overall effectiveness of the Centering-based Group Care sessions. The desire from women to be part of Centering-based Group Care indicates an underlying community support for the program. • The backing from local policymakers and health directorates provides a solid foundation for the program's operation and potential expansion. This support is crucial for navigating the local healthcare system and ensuring the intervention aligns with broader health objectives. • The partnership with UNICEF and its Home Visits Program offers an additional layer of support and resources. It reflects an integrated approach to maternal care, enhancing the program's reach and effectiveness.
Weaknesses	• Challenges in collaboration and communication between management and midwives/nurses during the implementation phase have been observed, hindering the program's progress in KOsite1. • A noticeable lack of initiative and motivation among midwives and nurses affected the program's overall effectiveness and implementation in KOsite1. • The lack of appropriate spaces, materials, and medical equipment poses a significant challenge. These resource constraints can impact the quality and continuity of the Centering-based Group Care sessions. Addressing this weakness requires active resource mobilization and strategic planning. • The lack of computers and digital systems for patient databases and communication (like email) poses a challenge. It affects the efficiency of information sharing and coordination among the staff and with the patients. • The traditional gender roles and family dynamics can inhibit women's participation and openness in sessions. Overcoming these cultural barriers is essential for the successful adoption of the Centering-based Group Care model.
Opportunities	• Strengthening and expanding partnerships with local health directorates, international and local organizations, and other stakeholders can provide broader support and resources. These collaborations can enhance the program's sustainability and effectiveness. • Investing in training for facilitators so that they have ongoing support can significantly improve the program's delivery. This also includes ensuring they have a clear point of contact for guidance and assistance. • Exploring digital solutions for patient databases, communication, and potentially virtual sessions can address some of the logistical challenges and expand the program's reach. • Regular meetings for reflection and evaluation provide an opportunity to understand what works, what doesn't, and how the intervention can be adjusted

	for better outcomes. This process can lead to continuous improvement and adaptation of the program.
Threats	• The COVID-19 pandemic has greatly disrupted healthcare services and could continue to threaten the regular operation of Centering-based Group Care sessions. Women's fears of attending appointments and the redirection of resources to COVID-19 or other patients are substantial concerns. • The economic constraints of many participants can hinder their ability to regularly attend sessions, especially when considering transportation costs and potential loss of income for time spent at sessions. • Variability in support from doctors, nurses, and other healthcare professionals can impact the referral process and overall integration of the Centering-based Group Care model into the standard care pathway. • Cultural stigma around discussing certain topics in a group setting and concerns about privacy can deter women from fully participating and benefiting from the Centering-based Group Care model.

4. Netherlands SWOT table

Strengths	*Prenatal Centering-based Group Care:* • Support from municipality facilitated implementation (costs, feedback sessions) • Offering Centering-based Group Care is more rewarding for many midwives. • Benefits for women: peer support, horizontal learning, knowledge, preparedness, empowerment • The experiences with empowerment of women motivate midwife in providing group care. Acceptability and self-efficacy regarding self-assessment are high *Online Centering-based Group Care for Eritrean women in the Netherlands:* • Very-well trained midwife and cultural mediator that started it and continued with a larger team • A dedicated team of midwives and cultural mediators • Follow up from live Centering groups: quickly adapted in reaction to Covid to keep up with women's needs to receive information • Supported by The Dutch CenteringZorg organization and a Dutch NGO facilitating implementation (costs, feedback sessions) • Content and executing of sessions tailored to Eritrean women increased • Benefits for parents: peer support, horizontal and vertical learning, knowledge, preparedness, empowerment *Asylum seekers' center:*

	• Support from organization facilitated implementation (costs, feedback sessions) • Setting up a steering group with important stakeholders also facilitated the organizations of Centering-based Group Care in these Asylum seekers' centers. • The implementation in three locations made it possible to share experiences between youth health nurses and reflect on strategies to tackle challenges during the implementations • Benefits for parents: peer support, horizontal and vertical learning, knowledge, preparedness, empowerment • Benefits for parents: more support also outside the sessions. • The experiences with empowerment of women motivate professionals in providing Centering-based Group Care. • Acceptability and self-efficacy regarding self-assessment are high
Weaknesses	*Prenatal Centering-based Group Care:* • Conducting health assessment in less than 5 minutes was difficult • Women's variability in attendance to care (both group and individual care) in some midwifery practices • Women cancel appointments more easily in Centering-based Group Care. Women who miss group sessions schedule individual appointments between group sessions, which again makes this model of care expensive. • Intensity of giving group care for midwives *Online Centering-based Group Care for Eritrean women in the Netherlands:* • No health assessment included making it more expensive and harder to fund • Potential less community building • Serious funding threats • Small team and partly voluntarily contributions *Asylum seekers' center:* • Conducting the health assessments in less than 5 minutes was difficult • Stability of the group during and over all the sessions • Diversity in group composition: ages of the child and cultures
Opportunities	*Prenatal Centering-based Group Care:* • Train all midwives and supporting staff within an organization to enable easy recruitment • All settings plan to offer both Centering-based Group Care and individual care in the future • Working in small groups facilitates bonding between women • Train midwives to personalize content to make it sufficiently challenging for women with different educational levels • Include women of same gestational age • Adaptations: (1) online pre-session, (2) join Centering-based Group Care at session 1 and 2

	• Adaptation explored in the Netherlands now: first appointment is Centering-based Group Care followed by an individual intake • Include women with Centering-based Group Care experience in recruitment strategy and as co-facilitator • Reimbursement installed in 2024. • Attend regular feedback sessions of the practices to discuss challenges, experiences and solutions • Regular feedback sessions mandatory to receive reimbursement • Providing sessions and recruiting is getting easier when having facilitated more groups *Online Centering-based Group Care for Eritrean women in the Netherlands:* • Positive experience from the mothers • High attendance rates of women • Price winning approach and well known in the Netherlands • Maybe the only approach that reach Eritrean women on such a scale • Applicable for other dispersed living groups (refugees) that are very hard to reach, are unknown with the health system, and have serious language problems to attend in-person groups *Asylum seekers' center:* • Positive experience from the mothers and youth health nurses • The existence of a web-based Centering-based Group Care might provide an opportunity to continue providing Centering-based Group Care when families are transferred to another location
Threats	*Prenatal Centering-based Group Care:* • Group size has an impact on the interaction within the group (too small, less interaction, less cohesion). • Group size has an impact on costs • No Centering-based Group Care specific reimbursement policy and relatively high costs (esp. When groups are small) for care and for training (Reimbursement will be arranged from 2024) • Recruitment and facilitation of groups costs more energy and time, certainly in the beginning • When in the same week as the group care session another consult is planned then women are less likely to attend the group session • Groups with women who speak Dutch and not Dutch. It asks for flexibility in language skills of facilitators in their activities and good preparation of the activities in English. *Online Centering-based Group Care for Eritrean women in the Netherlands:* • No structural financing • On top approach and more expensive • Political changes that can hamper implementation (the now largest political party is negative toward migration). This can hamper political support for additional attention for this vulnerable group.

	• Small team that may not be able to carry it forward • Depending on referring professionals *Asylum seekers' center:* • No continued financing of the implementation of the Centering-based Group Care model: for training and setting-up Centering-based Group Care • Political changes that can hamper implementation (the now largest political party is negative toward migration). This can hamper political support for additional attention for this vulnerable group

5. Suriname SWOT table

Strengths	• The Centering-based Group Care model is well received by participants and HCPs. • Recipients of Centering-based Group Care are highly satisfied with the information they receive during the Centering-based Group Care sessions. • HCPs who facilitate Centering-based Group Care sessions feel rewarded by the enthusiasm of the participants. • The RGD (Regional Health Services) management supports implementing Centering-based Group Care in RGD clinics. • Centering-based Group Care leads to increased information, education, and coaching of pregnant women and young mothers and fathers. • Centering-based Group Care stimulates strong bonding of participants.
Weaknesses	• There is low motivation of midwives to implement Centering-based Group Care • There are no financial incentives to motivate midwives and other staff. • Many health clinics lack appropriate space to facilitate Centering-based Group Care sessions. • It is difficult to find time slots for Centering-based Group Care sessions that suit all participants. • Participants sometimes cancel their attendance in group sessions without prior notification. • There is a lack of health care workers at clinics, resulting in high workloads. • Women perceive care by a gynecologist as better than care by a midwife, therefore they prefer to continue their on-on-one sessions with HCPs.
Opportunities	• National health policies promote more attention for antenatal care and postnatal care. • Pregnant women and mothers are increasingly seeking for more information on pregnancy development, births, and child development. • There is a need for pregnancy and well-baby care in the neighborhood. • The Centering-based Group Care model gives more empowerment to midwives and nurses.

Threats	• The national financial crisis leads to insufficient funding of health care, and dissatisfaction among health professionals with their salaries • Because of their difficult financial situation, pregnant women and young parents may have other priorities than group care • The health system is based on traditional one-on-one care • The health system requires referral of pregnant women to gynecologists in hospitals, especially when there are medication indications or when it concerns a first pregnancy.

6. UK SWOT table

Strengths	*Service level strengths:* • Enhanced continuity of carer – encourages more disclosure of problems and encourages midwives to extend the continuity they offer, including intrapartum and postnatal care • More peer support, and sustained through WhatsApp or other continuing groups • More informed decision-making with potential for reduced unnecessary interventions • Value of women doing self-checking, learning about own health and purpose of screening • Opportunity for health visitors to meet women antenatally and fulfil antenatal care contact • More time for information and support (e.g. for infant feeding) • Avoid care duplication or gaps between midwives and health visitors • Better opportunity for postnatal debriefing and mental health support • Women and professionals involved more satisfied with care *Policy level strengths:* • Maps well to key policy priorities e.g. Better Births – demonstrate this • MBRRACE reports (maternal and neonatal deaths analysis which highlight inequalities, communication, mental health etc.) keep maternity improvement on the agenda • Centering-based Group Care could be a route to building more continuity of midwifery carer (MCoC) policy priority but not being implemented well • Goes beyond MCoC by adding peer support and building wider networks of support • More focus on postnatal care and long-term health
Weaknesses	*Service level weaknesses:* • Overall challenge of implementing something new • Perceived heavy time demands • Problems recruiting women to groups

	• Boundary issues – catchments, midwives and health visitors, secondary/primary care • Organizational processes not designed for this – e.g. IT system, rooms, funding allocations • Lack of national awareness of the model *Policy level weaknesses:* • Four countries in the UK with different and divergent health systems make UK-wide implementation more difficult • Staff shortages in midwifery and health visiting • System by which services are commissioned doesn't support integrated working • Sub-optimal team working • Lack of sustained/reliable funding in voluntary sector to support collaboration in Centering-based Group Care or capacity to refer women to voluntary community services
Opportunities	*Service level opportunities:* • Disseminate knowledge of Centering-based Group Care – media, social media & tell local stories • Potential for high quality care • Facilitating professional and inter-professional contact and collaboration • Base Centering-based Group Care in family hubs/children's centres • Engage women and partners with maternity and child support services • Skill mix with co-working, and can 'bring in' other experts • Education and preceptorship for midwives and health visitors • Start with the staff who are interested and engaged • Fit with policy objectives • Supports professional development • Link with midwifery continuity of carer implementation, plus longer-term continuity *Policy level opportunities:* • Try including non-professional co-facilitators (e.g. from voluntary/community sector) • Explaining how group care can be a way to implement current policy priorities • Target professional bodies and guideline committees • Engage service user and advocacy organisations • Meets safety and quality agenda, and equality agenda • Possible change in government soon – more focus on preventive and public health • Longer-term continuity, through to postnatal and early parenting

	• Opportunity to build connections between midwives and health visitors & bring different professionals together • Involvement of health visitors can help bridge different sectors and secondary/primary care and facilities • Conduct a Cochrane review to pull together outcomes evidence from trials & cohort studies • Systematic review of women's experiences • Make it more a part of routine care • Development of integrated care board and systems – promise more joined-up approach • Improve staff retention • Develop a national community of practice • Continue to offer training and support from CITY university team
Threats	*Service level threats:* • Lack of familiarity with the model • Staffing shortages, especially in community teams • Staff and time heavy initially • Staff lack of engagement with innovations linked to above issues • Some staff feeling forced, although some were 'converted' by experience • Lack of protected time for training, follow-up mentoring or reflection • Lack of venues; lack of access to community venues like family hubs • Lack of equipment or storage space for it *Policy level threats:* • Services caution and defensiveness because of safety inquiries and media criticism • Political instability and changing government/government decisions • Hostility or lack of communication and understanding between professions • Lack of integration of different services • Not on agenda of NICE guideline committees (National Institute for Health and Care Excellence) or professional bodies • Not included in professional education • Lack of awareness in service commissioning bodies

7. South Africa SWOT table

Strengths	• The values and goals of Centering-based Group Care are well aligned with the prevailing values in provincial and national policies for maternal and child health. • Early engagement with staff in the pre-planning stage was critical to promote understanding of the model to ensure implementation acceptability and feasibility. • The staff who facilitate G-ANC must buy into it and must see the value in the model, In South Africa the facilitator training process helped to ensure buy-in and support from management in the site. • Management in the implementation site supported the delivery of G-ANC. Over time, staff in other departments have become more aware of the value of the Centering-based Group Care model, it takes time for this to happen. The midwife in charge of implementing Centering-based Group Care has made special efforts to make other staff aware of its value for women.
Weaknesses	• Staff must complete antenatal care through two different service delivery models, the routine model and the Group Centering based model. This means that they have additional work to do, and it puts pressure on them on the day that G-ANC is delivered as they sometimes run over time with individual care patients in the morning who need more consultation time from them or must be escorted to the high-risk clinic. • There are staff shortages in the hospital and concerns about burnout for the principal midwife running the low-risk antenatal care clinic. Staff shortages will influence scale up. • Not all nursing staff working in other departments understand why there needs to be two facilitators for G-ANC, they feel that staff should be focused on where they are needed most.
Opportunities	• The results from this implementation research study are important for policy makers who can influence the agenda for further scaling up of Group Care. Given the acceptability of the model to patients and health workers in the site,the feedback is likely to be supportive. Given the evidence-based decision-making environment some additional impact studies in more sites may be needed to influence large scale roll out, this is typically how policies are made in the South African environment. • At a feedback workshop, high interest was shown by the hospital staff and local community health center staff to test the model for adolescent's antenatal care. However, we will need to conduct desktop research to inform the topic guide and the model to meet the needs of adolescents given the vulnerability of adolescents and the fact that adolescents age range is diverse, and they are not homogenous. There is potential here to inform the delivery of the model on the primary healthcare platform using lessons from the public sector feasibility model in the hospital. • There is also high interest in the hospital to scale up the model for high-risk patients – they do, however, follow a different care pathway and do not follow a routine schedule as low risk patients do. Therefore, there is an opportunity to conduct further research with high-risk patients.

Threats	• Understaffing in the facility to support further G-ANC implementation. Ways to leverage additional support and space to support G-ANC will need to be found. • Currently operating in an austerity public budgeting environment in South Africa, there will be no additional resources to support G-ANC (it will have to be done withing existing public budgets) and therefore the model will have to have no additional cost to the public service, and ideally it should be cost saving. However, South Africa has already adopted an integrated approach in this study, working with staff who are already working in the health service. Thus, an integrated approach will be continued further.

9 OVERARCHING RECOMMENDATIONS

- All countries emphasize the importance of adapting Centering-based Group Care to local healthcare needs, cultural contexts, and specific populations like high-risk women and adolescents, as well as considering linguistic and socio-economic diversity.
- Training healthcare providers, especially midwives, in Centering-based Group Care models and integrating this training into their education is recommended. Continuous support and development of facilitators are essential for maintaining the quality of care, such as having in-country trainers that can train new staff if needed.
- Involving national and local stakeholders, including healthcare and health insurance organizations, policymakers, and community groups, is key to successful implementation and scaling-up. This engagement aids in policy development, resource mobilization, and community acceptance.
- Seek policy support and advocacy for Centering-based Group Care. This entails actively engaging in efforts to influence healthcare policies and regulations. Advocacy efforts should focus on educating policymakers, healthcare professionals, and the public about the benefits of Centering-based Group Care to garner broader support.
- Addressing financial challenges such as funding for training and additional space for group sessions is vital. Seeking support from local authorities and leveraging perinatal outcomes and children's health as indicators to mobilize resources are recommended strategies.
- Implementing robust monitoring and evaluation frameworks is vital for the effective implementation of healthcare models such as Centering-based Group Care. These frameworks, encompassing health outcomes, costs, healthcare utilization, and satisfaction among women, families, and professionals, contribute to evidence-based decision-making. By utilizing existing healthcare data and frameworks like the Quadruple Aim, the evaluation process becomes comprehensive, addressing population health, patient experience, cost-effectiveness, and healthcare provider well-being. Regular assessments not only identify areas for quality improvement but also ensure the program's adaptability to changing healthcare needs. Additionally, monitoring health outcomes across diverse population aids in promoting health equity, while transparency and accountability are enhanced, fostering trust among stakeholders. In essence, a well-established monitoring and evaluation system serves as a continuous feedback loop, driving continuous improvement and optimizing the model's overall success.
- The level and type of stakeholder engagement vary. Depending on the system and extent of Centering-based Group Care implementation in countries/sites, there can be a focus on community involvement, or on the role of policymakers and healthcare organizations.
- Utilize media as a tool for recruitment and promotion, and actively seek media attention to garner support from diverse stakeholders and raise public awareness about the Centering-based Group Care model. Media engagement can help sustain interest and support for the program.

10 CONCLUSION

Research documenting the implementation of Centering-based Group Care in Belgium, Ghana, the Netherlands, Kosovo, Suriname, South Africa, and the United Kingdom has provided valuable insights into the complexities, successes, and challenges associated with the Centering-based Group Care model. The lessons learnt emphasize the importance of adapting the model to local contexts while maintaining the core components of the model, fostering the support of stakeholders, dedication of the management and facilitators, and endorsement of the model by relevant stakeholders, while also creating local and global communities of practice. As a call to action, the collective lessons learnt suggest that the Centering-based Group Care model enhances women's engagement and proactive attitudes with the topics discussed, community building, and social support. The model's success, but also the challenges encountered during the implementation, prompted valuable recommendations for the model's future expansion in other countries' contexts and sustainability. Recommendations include training in how to facilitate groups as well as offer prenatal and postnatal care while aligning the model implementation with local values and policy, enhancing collaboration with local stakeholders, and garnering support from local and/or international organizations, and policymakers.

11 LITERATURE REFERENCES

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