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Creating Togetherness In A Historically Divided Maternity Care System

Zusammengehörigkeit In Einem Historisch Gespaltenen Geburtshilflichen Versorgungssystem Herstellen

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Abstract

Improving collaboration in Dutch maternity care is seen as essential to improve continuity of care and thereby safety, client satisfaction, and health outcomes. This study aims to monitor and evaluate whether the regional Maternity Care Network Northwest Netherlands (MCNNN) and its local multidisciplinary obstetric partnerships contributed to collaboration. This mixed-method study followed the methodology of reflexive monitoring in action. Data were collected from 2014 to 2016 through interviews (n=73), questionnaires (n=430), and reflection sessions (n=4) and analyzed inductively and deductively based on a model for interprofessional and interorganizational collaboration. The findings outline (1) MCNNN-activities, (2) experienced collaboration within obstetric partnerships, and (3) MCNNN as supporting structure. The findings showed improvements on both the relational and organizational level of interprofessional and interorganizational collaboration. The MCNNN's meetings, products, and research projects facilitated knowledge development and dissemination and its obstetric partnerships fostered contact and deliberation among maternity care professionals. However, collaborative challenges were also experienced, including mistrust and difficulties in information sharing, influenced by lacking financial and organizational facilitation. The MCNNN could improve its supporting role in the system innovation toward integration in maternity care by means of a further transformation to a knowledge network that is focused on reflexively overcoming collaborative challenges at all levels in the maternity care system.

Abstract

Die Verbesserung der Zusammenarbeit in der niederländischen geburtshilflichen Versorgung wird als zentral angesehen, um eine lückenlose Versorgung zu gewährleisten, die Patientensicherheit und -zufriedenheit sowie die Auswirkungen auf die Gesundheit zu verbessern. Ziel dieser Studie war es, zu untersuchen, inwiefern das regionale Mutterschaftsbetreuungsnetz Nordwestliche Niederlande (MCNNN) und lokale Dependancen zur Förderung der Zusammenarbeit beigetragen haben. Basierend auf einem Mixed-Methods-Design nutzte diese Studie die Reflexive-Monitoring-in-Action-Methode. Von 2014 bis 2016 wurden Daten durch Interviews (n=73), Fragebögen (n=430) und Reflexionssitzungen (n=4) erhoben und induktiv sowie deduktiv auf der Grundlage eines Modells für die interprofessionelle und interorganisationale Zusammenarbeit analysiert. Die Ergebnisse geben Einblick in 1) MCNNN-Aktivitäten, 2) die Wahrnehmung hinsichtlich der Zusammenarbeit in Partnerschaften der geburtshilflichen Versorgung und 3) MCNNN als unterstützende, strukturgebende Entität. Die Ergebnisse zeigten Verbesserungen sowohl auf der relationalen wie auch organisatorischen Ebene der interprofessionellen und interorganisationalen Zusammenarbeit. Die Treffen, Produkte und Forschungsprojekte des MCNNN ermöglichten die Entwicklung und Verbreitung von Wissen, und lokale Dependancen förderten den Kontakt und die Beratung unter Fachleuten der Geburtshilfe. Misstrauen und Schwierigkeiten beim Informationsaustausch, die durch mangelnde finanzielle und organisatorische Unterstützung beeinflusst wurden, führten auch zu Herausforderungen für die Zusammenarbeit. Durch die Transformation zu einem Wissensnetzwerk, das sich auf die reflexive Bewältigung kollaborativer Herausforderungen auf allen Ebenen des Mutterschaftssystems konzentriert, könnte das MCNNN die Integration und Konsolidierung der Zusammenarbeit in der geburtshilflichen Versorgung fördern und verbessern.

Keywords
Interprofessional collaboration – maternity care – interorganizational collaboration – mixed-method study – action research

Keywords
Interprofessionelle Zusammenarbeit – geburtshilfliches Versorgungssystem – interorganisationale Zusammenarbeit – Mixed-Methods-Design – Aktionsforschung

INTRODUCTION

Maternity care in the Netherlands is based on risk selection and organized in primary, secondary, and tertiary care. In principle, low-risk women are cared for by primary care midwives. These women can choose to give birth at home, in a birth center, or in the hospital (Amelink-Verburg & Buitendijk, 2010). In case of increased risks or when complications arise, women are referred to secondary or tertiary care hospitals (Wiegers & Hukkelhoven, 2010). In 2016, around 58% of women were referred to secondary or tertiary care hospitals during pregnancy or labor (Perined, 2018). Obstetricians, hospital-based midwives, obstetric nurses, and pediatricians provide care in the hospital. After birth, maternity care assistants provide care to mother and baby at home. Women generally receive care from multiple of the abovementioned maternity care professionals (Wiegers, 2009).

Historically, maternity care professionals in these three echelons work rather autonomously, with their own organizations, education, financing, protocols, and political lobbies, which reflect specific professional perspectives and visions (Schölmerich et al., 2014; van der Lee, Driessen, Houwaart, Caccia, & Scheele, 2014; van der Lee, Driessen, & Scheele, 2016). The prevailing narrative is that midwives focus on viewing birth as a physiological life event, while obstetricians' views are more focused on potential pathology during pregnancy and childbirth (Schölmerich et al., 2014; Smeenk & ten Have, 2003; Thompson, Nieuwenhuijze, Low, & de Vries, 2016). Several Dutch studies pointed out challenges related to collaboration between maternity care professionals. These include suboptimal communication, insufficient trust and respect, power imbalances, fragmented organizational structures, different perceptions on collaboration, and different opinions on the best maternity care organization model (Perdok et al., 2016; Romijn, Teunissen, de Bruijne, Wagner, & de Groot, 2017; Schölmerich et al., 2014; van der Lee et al., 2016).

The organization of maternity care in the Netherlands became scrutinized following alarming perinatal mortality and morbidity figures in 2004 and 2008, which seemed relatively high compared to other European countries (Mohangoo et al., 2008; Stuurgroep Zwangerschap en Geboorte (SZG), 2009). The autonomy of different professional groups or disciplines was suggested to contribute by impeding coordination in maternity care (SZG, 2009). Improving collaboration in maternity care was seen as essential to improve continuity of care and thereby safety, client satisfaction, and health outcomes, ultimately leading to reducing perinatal mortality (Jans, Perdok, Mol, & de Jonge, 2014; Perdok et al., 2016; Schölmerich et al., 2014; SZG, 2009). To improve collaboration, initiatives on local, regional, and national levels were aimed at increasing integration in maternity care.

In 2008, the Steering Committee Pregnancy and Childbirth was established, which published the advisory report "A good start," including the key message that the quality and safety of maternity care should be improved by increasing collaboration between all maternity care professionals, while pregnant women take center stage (SZG, 2009). Policy changes based on this report focused on the establishment of local obstetric partnerships (if not preexisting) and participation became obligatory for many maternity care professionals, including midwives, obstetricians, maternity care assistants, and obstetric nurses. Also anesthesiologists, general practitioners, or pediatricians can participate. Within these multidisciplinary partnerships, professionals aim to improve collaboration by aligning processes, making agreements on the quality and organization of care, and discussing casuistry (Inspectie voor de gezondheidszorg, 2014; Schölmerich et al., 2014), a process usually conceptualized in terms of *interprofessional collaboration* (D'Amour, Ferrada-Videla, San Martin Rodriguez, & Beaulieu, 2005).

Another policy focused on establishing ten regional networks for pregnancy and childbirth to enhance national coordination and increase knowledge development and sharing at a regional and local level (ZonMw, 2014). The Maternity Care Network Northwest Netherlands (MCNNN) covers roughly two provinces in the north-western part of the country and included eighteen obstetric partnerships in 2013 (ZonMw, 2014). A multidisciplinary Steering Committee heads the MCNNN.

Earlier studies did not describe how the regional networks and its local obstetric partnerships influence collaboration, besides stating that the partnerships are the most cited factor to facilitate coordination by allowing deliberation among professionals (Schölmerich et al., 2014). We aim to determine whether the regional MCNNN and its local obstetric partnerships contributed to collaboration according to maternity care professionals and, if so, in what way. To this end, we used the methodology of reflexive monitoring in action (RMA; Van Mierlo et al., 2010) to monitor and evaluate the activities within the MCNNN from 2014 to 2016. This exploration can help to identify opportunities to strengthen collaboration among different professionals, disciplines, and organizations.

Interprofessional and interorganizational collaboration

This study evaluates how collaboration between maternity care professionals evolved within the structure of the MCNNN and its obstetric partnerships, where collaboration relates to interactions between, interdependent, healthcare professionals. As the practical

model of D'Amour, Goulet, Labadie, Martin-Rodriguez, & Pineault (2008) focuses on internal interactions between healthcare professionals, it fits the analytical purpose of our evaluation. *Interprofessional collaboration* implies that healthcare professionals with different backgrounds work together toward shared goals, ideally in an environment of trust and harmony, where they share and integrate knowledge and expertise (D'Amour et al., 2005). Interprofessional collaboration indicates a greater degree of integration than multidisciplinary collaboration "where different professionals work on the same project, but independently or in parallel" (D'Amour et al., 2005, p.120), but is not as integrated as transdisciplinary collaboration or shared care, in which traditional role divisions become blurred (Posthumus et al., 2013). Collaboration can take place between different disciplines or professions, within the same field (e.g., various clinical specializations) or between different fields (e.g., social sciences, medicine, law; Cohen, 2014). On a meso level, *interorganizational collaboration* implies that healthcare professionals work together across the borders of their own organization, such as a hospital or midwifery practice (D'Amour et al., 2005). Elements such as physical distance, different cultures, separated structures, and work-processes influence how professionals work together in interorganizational collaborative structures (Karam, Brault, Van Durme, & Macq, 2017).

Collaboration is an evolving and interactive process (D'Amour, et al., 2005; D'Amour, et al., 2008; San Martin-Rodriguez, Beaulieu, D'Amour, & Ferrada-Videla, 2005) and its effectiveness is determined by the interaction of several structural and relational elements (D'Amour et al., 2008). In this study, we evaluate collaboration in four interrelated dimensions that cover both elements. Within the four-dimensional model of collaboration of D'Amour et al. (2008), the organizational structures are covered by the dimensions *formalization* (indicators: formalization tools and information exchange) and *governance* (indicators: centrality, leadership, support for innovation, and connectivity). Relational structures are covered by *shared goals and vision* (indicators: goals and client-centered orientation vs. other allegiances) and *internalization* (indicators: mutual acquaintanceship and trust). The model is frequently used to analyze and implement collaboration in heterogeneous healthcare systems, including maternity care (D'Amour et al., 2008; van der Lee et al., 2016). External and structural factors also influence collaboration. San Martin-Rodriguez et al. (2005) call these the "systemic determinants," which lie within the organizations' environment.

Developments toward more collaboration between professionals grounded in different disciplines and organizations and the integration of care practices are not limited to Dutch maternity care but widely visible in other healthcare domains as well. Minkman (2017a, 2017b) argued that several studies into integrated care focus on (the outcomes of) interventions, costs, and factors of success and failure, instead of the processes of collaboration itself. This research addresses this research gap in the field of maternity care and the results might be helpful in other healthcare domains, for example, dementia-, stroke-, diabetes-, elderly-, and youth care (Minkman, Vermeulen, Ahaus, & Huijsman, 2011).

METHODS

Research design

This mixed-method study used the methodology of Reflexive Monitoring in Action (RMA): a form of action research that promotes "learning processes in projects that aim for system innovations" (Van Mierlo et al., 2010, p. 35). Integration in maternity care is considered a system innovation because it requires structural changes at different societal and structural levels (see, e.g., Schuitmaker, 2012; Van Mierlo et al., 2010). RMA follows a cycle of observation, analysis, reflection, and adjustment of activities. Monitoring activities are an integrated component of the learning process; each activity is an intervention stimulating reflection and learning.

From 2014 to 2016, activities to reflexively monitor the MCNNN and its obstetric partnerships included *interviews* and *questionnaires* among maternity care professionals and *reflection sessions* with MCNNN's Steering Committee members. Identified trends in collaboration were discussed at Steering Committee meetings and regional meetings for all maternity care professionals and shared through online reports and the MCNNN's website and newsletter.

Quantitative and qualitative research methods were used simultaneously and complementary, and the results of both informed subsequent steps. We qualitatively identified experiences and perceptions of collaboration and aimed to understand developments (Curry, Nembhard, & Bradley, 2009). We quantitatively gathered structured numerical data from a multitude of professionals, to compare over the years. The mixed-method approach offered increased insight in the data as we could seek confirmatory and opposite results and their argumentation (Johnson & Onwuegbuzie, 2004).

Study setting

The MCNNN was established in December 2012 and provides a platform for knowledge exchange on improvements in maternity care. It is the largest regional maternity care network in the Netherlands. In 2013, there were around 3.1 million inhabitants, 34,000 births,

2 tertiary care academic hospitals, and 16 secondary care hospitals in the region (CBS, 2013; ZonMw, 2014). The MCNNN is headed by a multidisciplinary Steering Committee consisting of 15 professionals with a heterogeneous background: primary care midwives, hospital-based midwives, obstetricians, maternity care organizations, midwifery science, youth care, and pediatricians. Through several stages, they created a core team of 3 members with mandate in 2016.

Data collection

We held *semi-structured interviews* with 73 maternity care professionals from all obstetric partnership within the MCNNN in 2014, 2015, and 2016. Purposive sampling increased heterogeneity. Participants (Table 1) were maternity care assistants (n = 9), primary care midwives (n = 20), hospital-based midwives (n = 16), obstetricians (n = 21), pediatricians (n = 4), and other professionals (n = 3). The research team conducted audio-recorded interviews by phone (n = 54) or face–to-face interviews (n = 19) at the professionals' workplace. The topic guide encompassed two themes: experiences of collaboration among maternity care professionals (including experienced barriers and facilitators) and the MCNNN.

Professionals within the obstetric partnerships completed *a questionnaire* in 2014 (n = 113), 2015 (n = 246), and 2016 (n = 71), consisting of the validated team climate inventory (TCI) of Anderson and West (1998). The TCI quantitatively measures the team climate based on four dimensions: participatory safety, support for innovation, vision, and task orientation. Professionals indicated their (dis)agreement with 44 statements on a 5-point Likert-scale, ranging from "strongly disagree (1)" to "strongly agree (5)." The questionnaire in 2016 was supplemented with 14 questions on obstetric partnership characteristics, informed by earlier findings.

During yearly *reflection sessions* (n = 4), the Steering Committee reflected on MCNNN's practices and brainstormed about how to improve its functioning, starting from the qualitative and quantitative research findings. Steering Committee members discussed their role within the MCNNN, their activities, visions, points for improvement, and (future) structure.

In addition, the research team observed regional meetings and Steering Committee meetings to validate findings and consider their meaning. Attention was paid to how findings were received and which steps were discussed to improve collaboration.

Data analysis

Audio recordings of interviews in 2014 and 2016 were transcribed verbatim. Audio-recordings of interviews in 2015 and reflection sessions were summarized. Transcripts and summaries were coded and categorized using qualitative data analysis software (MaxQDA and Atlas Ti). Content analysis incorporated deductive coding, based on theory, and inductive coding, based on the data itself (Elo & Kyngäs, 2008; Moser & Korstjens, 2018). A coding frame was prepared based on the four-dimensional model of collaboration (D'Amour et al., 2008); in addition, we looked for systemic determinants following the conceptualization of San Martin-Rodriguez et al. (2005). The first and the second author of this article coded the data and made a summary for each code. Quantitative data were analyzed through descriptive statistics (in Excel 2010 and SPSS version 22), to identify mean scores of statements and (sub-) factors of the TCI. Scores on the 5-point Likert scale were included as continuous variables and scores of 3.0 and above were considered to tend toward a positive team climate.

Additional data from other methods were separately analyzed and then compared to identify similarities, differences, and relations. For instance, notes from observations of meetings and other critical reflections of the researchers were used. We further explored contradictory or striking findings by identifying underlying explanations. We tried to find patterns over the years. Data saturation was achieved when no new insights emerged in a (final) round of interviews.

Table 1: Interviews maternity care professionals.

	Total	2014	2015	2016
Number of interviews	**73**	29	22	22
Per profession:				
– Maternity care assistant	**9**	5	3	1
– Primary care midwife	**20**	9	4	7
– Hospital based midwife	**16**	4	7	5
– Obstetrician	**21**	6	7	8
– Pediatrician	**4**	4	0	0
– Others	**3**	1	1	1
Obstetric partnerships included	**All**	5	11	All

Ethical considerations

The study was exempt from ethical approval, following the Dutch Medical Research Involving Human Subjects Act (WMO), as it was no medical–scientific research that subjected patients to treatment or required them to follow a certain behavioral strategy. The Medical Ethics Committee of the VU University Medical Center,

furthermore, decided that ethical approval was not needed (2014.206) for the study part in 2014 (called "North West Netherlands Aligned: a qualitative analysis into factors of success and failure in a regional network"), in which both professionals and patients participated. All participants in the interviews and reflection session gave oral (recorded) informed consent for participation in the study, and all, except one participant, approved audio recording. A summary of each interview was sent to respondents for a member check (Korstjens & Moser, 2018).

RESULTS

The aim of the MCNNN and its obstetric partnerships is to contribute to interprofessional and interorganizational collaboration in maternity care. We report on the results of the monitoring and evaluation by analyzing, first, MCNNN activities; second, experiences of collaboration within obstetric partnerships; and third, the MCNNN as a supporting structure.

1. MCNNN activities

The MCNNN's mission is to "*sustainably reduce avoidable mortality through the provision of effective care, whereby client satisfaction is central*" by supporting maternity care professionals within obstetric partnerships through the development and dissemination of knowledge in maternity care. Therefore, ten multidisciplinary and region-wide project groups were involved in organizing meetings, research projects, and products. The Steering Committee had a central role as initiator and supporter by discussing the content and direction of these activities.
Meetings included the biannual Joint Perinatal Meetings ("Groot Perinataal Overleg") for 100–150 stakeholders in maternity care, yearly conferences with changing themes, and occasional regional meetings for representatives of obstetric partnerships ("VSV-vertegenwoordigersoverleg"). All meetings stimulated knowledge exchange between professionals and obstetric partnerships.
Three regional *research projects* were initiated and executed by the MCNNN. Five studies were affiliated with the MCNNN and received their endorsement. In 2016, professionals within obstetric partnerships set up four small-scale research projects.
Among the *products* were seven regional protocols, of which five were implemented before 2017. These and other national guidelines were accessible through the MCNNN-app, released in 2014. The MCNNN also released a website in 2014 and distributed a newsletter every two months, to share research findings, products, meetings, and other developments.

2. Experiences of collaboration within obstetric partnerships

We monitored and evaluated the activities of the MCNN and analyzed the development of collaboration within obstetric partnerships on the four dimensions (and ten indicators) of interprofessional collaboration and the systemic determinants that influence these. For each dimension, we describe its status in 2014 and its development over 2015 and 2016 and how the activities of the MCNNN relate to this.

2.1 Shared goals and vision

In 2014, professionals frequently indicated having unclear, nonexisting, or nonbinding *goals* within their obstetric partnership. Goals were often described in general terms (e.g., "improved care for pregnant women") and formulating goals was found difficult because of different visions within and among professional groups and uncertainties about the future organization of maternity care.
In 2015 and 2016, the interviews and questionnaires showed that more partnerships formulated or were formulating goals that increasingly provided practical guidance. Also sensitivity toward *client centeredness* increased; professionals reported more willingness and an increased shared responsibility for qualitative, client-centered, maternity care.

> *"Everyone thinks a little bit from his or her own perspective, but I think that in general everybody listens well to each other. Everyone is sensitive for each other's arguments and the collaboration is pleasant. That was different at the moment I came here. It was more rigid by then, more the feeling of 'us' and 'they'. [...] People think more from the perspective of the patient now. And I think that this is a bit of a cultural shift."—Obstetrician, 2015, R11*

Obstetric partnerships contributed to the development of goals and client-centeredness by providing a platform to discuss visions, (competing) interests, the meaning of "client-centeredness," and other formerly unexpressed issues. This increased insight into similarities and differences. To establish shared goals, partnerships organized project groups, mission-vision-days, or asked each professional group to formulate their monodisciplinary, shared vision first. However, not all partnerships experienced shared goals by 2016. Several barriers, including uncertainties about the future and different visions, persisted.

"They have a different approach. For a midwife, you are healthy, unless you have proven that there is something of a disease. For the obstetrician, you are by definition ill."—Hospital-based midwife, 2016, R13

Professionals also remained doubtful whether all interests were openly shared and truly client oriented. They expected that professional, organizational, or financial interests influenced practices and this was often left unspoken during the partnerships' meetings. Professionals thought that competition, lacking trust, and a fear of losing professional, organizational, and financial authority and autonomy, contributed to less client-centered care provision. In addition, several professionals found that (too) little action was taken to realize client-centered care.

"Everyone always says 'client-centered'. But where does the client actually has a voice?"—Primary care midwife, 2016, R5

2.2 Internalization

In 2014, professionals explained that the closely related aspects *trust* and *mutual acquaintanceship* grew significantly already during and before 2014. Many professionals considered trust the most important aspect, a prerequisite, or an indicator for collaboration.

"Yes, because that is what collaboration is. […] Not trusting each other is the largest bottleneck. No mutual understanding. That has to grow."—Hospital-based midwife, 2016, R6

In 2015 and 2016, trust further increased, mainly because of more understanding of other professionals' competences, knowledge, and vision. "Knowing each other" was considered key to develop trust and the obstetric partnerships contributed to this by providing a platform for discussion and facilitating contact. In addition, the MCNNN facilitated "knowing each other" by organizing the regional Joint Perinatal Meetings and through shared research projects. The partnerships also increased professionals being acquainted with one another, both professionally and personally, formally and informally.

"I think that you get to know each other better, and get more insight in each other's background. That makes everyone more approachable. In case you doubt about something, you just grab your phone to discuss the matter."—Maternity care assistant, 2015, R15

Other activities that facilitated acquaintanceship within obstetric partnerships were joint intakes and information provision for clients. Informal contact grew through team building activities within partnerships and working alongside in daily work. Mutual acquaintanceship not only contributed to trust by increasing "knowing each other." Professionals also mentioned how mutual acquaintanceship enhanced respect, equality, openness, and ease in contact:

"If you do not know each other, you notice that midwives show some more resistance and more demarcation of their territory. While if you are together in an obstetric partnership, and if you know each other, you become more receptive to each other's opinion and expertise."—Pediatrician, 2014, R8

However, in 2014, in 2015, and still in 2016, professionals frequently indicated (unspoken) mistrust, tension, and hierarchy. Although diminishing, professionals described that mistrust was deeply rooted in history, originating from different visions between, and competition among, professional groups and organizations:

"The collaboration with secondary care [...] I think we need to improve a lot more. Mistrust underlies everything [...] It always comes back to the same: we are afraid of losing clients. Actually especially that. And we all stand up for our own interests, instead of the client's interests. […] That is such a great pity."—Primary care midwife, 2015, R1

2.3 Formalization

Regarding *formalization tools* at obstetric partnership level, most partnerships struggled to find purpose and structure in 2014. However, many partnerships professionalized during 2015 and 2016. They formally established or were formulating: a mission and vision, decision-making procedures, guidelines on the partnerships' structure and daily practices (presidency, board, secretariat, project groups), representativeness, roles, and responsibilities. Although there were regional differences, most partnerships created a layered structure with a mandated, representative board and small project groups, to ensure that the partnership remains manageable, yet also stimulates active involvement. Several professionals, however, wanted more formalization to prevent the issue of collaboration as an opt-in voluntary structure. Yet, they experienced challenges; professionals felt short in time, expertise, and money to re-organize collaboration within their obstetric partnership.

> *"The obstetric partnership has certainly been part of the strengthening of collaboration. I really think so. […] It is simply putting your heads together and gaining insights into each other's ideas about things. And additionally the joint development of protocols."—Primary care midwife, 2015, R13*

In daily practice, professionals in 2014, 2015, and 2016 expressed a high need for (more) alignment in processes, because of differences in diagnosis, treatment, and patient information. Within obstetric partnerships, local multidisciplinary protocols and agreements were made. Both their development and the protocols itself stimulated collaboration. To support the region-wide alignment in processes, the MCNNN facilitated developing regional protocols. Those protocols were appreciated and widely adopted. However, professionals also required guidance in their implementation.

> *"People go to hospital A first and appear to have diabetes, and then come to us and we say: 'no, you don't have diabetes', because we stick to other values."—Hospital-based midwife, 2015, R8*

Concerning *information exchange*, the obstetric partnership meetings were considered a suitable platform. While the questionnaire showed that information is overall well shared, interviews revealed difficulties in structurally sharing information with professionals not present at meetings. Professionals also expressed difficulties in information exchange in daily practice. Different information systems complicated timely and complete information exchange. Inadequate communication also negatively influenced information exchange, which some professionals attributed to time constraints and high workload.

> *"Every moment of referral is, of course, a loss of information."—Obstetrician, 2014, R18*

Professionals increasingly wanted to share information and tools (e.g., concerning integrated care, client participation, and governing an obstetric partnership) among obstetric partnerships, both on regional and national level. They expected the MCNNN to provide this information structure. The regional meetings of the MCNNN were appreciated to share knowledge but did not fully fulfill needs.

2.4 Governance

In 2014, many professionals expressed a need for guidance and support for collaboration. They experienced lacking *centrality* and found that shared *leadership* was affected by power differences, hierarchy, and inequality. Although the obstetric partnerships allowed for *support for innovation*, professionals also experienced resistance for changes in collaboration among colleagues, as well as lacking expertise. *Connectivity* was yet enhanced through the partnerships.

In 2015 and 2016, professionals continued to miss *centrality*: a clear and explicit direction defining how collaboration and integration in maternity care should be reached. Various authorities in politics and policy, including the Ministry of Health, profession-specific associations, the MCNNN, insurance companies, the media, and professional organizations did give directions, but these where heterogeneous, ambiguous, or even contradictory. This delayed improvements and decreased commitment: some obstetric partnerships awaited decisions (e.g., about payment reforms in 2016) and showed slower progress.

Shared *leadership* within obstetric partnerships improved in 2015 and 2016, with a heterogeneous board. Especially the layered structure, agreements on decision-making and having independent chairmen resulted in a more shared and effective decision-making process, representation, and ownership. However, professionals kept on experiencing power differences, hierarchy, and inequality between professional groups that differ in education level and experience. These elements improved when levels of trust and mutual acquaintanceship increased.

> *"It is important that people who think 'what is this about?' dare to speak up and say: 'I do not understand this'."—Hospital-based midwife, 2016, R18*

Since 2014, obstetric partnerships facilitated *support for innovation* because professionals come together to develop shared activities, agreements, and new ways of working. Professionals mentioned an increased commitment because "*there is an increasing awareness that the obstetric partnership is more important than we all thought."—Hospital-based midwife, 2015, R8.* However, professionals also experienced resistance for changes in collaboration among colleagues and this, together with lacking expertise, time, and money to re-organize collaboration and uncertainties about the future organization of maternity care, complicated the development and implementation of changes. Professionals became careful to invest time and energy in innovations, because people feared that their efforts would be in vain.

In 2014, 2015, and 2016, *connectivity* among professionals was facilitated in obstetric partnerships through meetings, shared training sessions, shared research projects, joint intakes, and information provision for clients. The MCNNN assisted the progress of connectivity through

the organization of the Joint Perinatal Meeting. The increasing amount of platforms to meet other maternity care professionals fostered "knowing each other" and knowledge exchange:

> "[within the obstetric partnership] *We get to know each other, we work together and we can learn together."— Obstetrician, 2015, R7*

2.5 Systemic determinants: external and structural factors

As mentioned in the introduction, external and structural factors (systemic determinants) also influence collaboration. In our results, we noticed that these systemic determinants deeply influenced the developments of obstetric partnerships within the four dimensions of collaboration from 2014 to 2016. The segmentation of echelons and its respective separated educational systems, payment structures, cultures, and legislation both underlie and maintain compartmentalization and competition between maternity care professionals and organizations. Systemic determinants thereby influenced both organizational and relational structures.

> *"That is currently a large problem, that we really need to fight for our income at this moment. And well, who maintains the good relations if you have to fight for your own income" - Primary care midwife, 2016, R5*

3. MCNNN as supporting structure

Respondents generally appreciated the MCNNN as supporting structure to increase collaboration. Its meetings, products, and research projects contributed to the developments on the four domains of collaboration. The Joint Perinatal Meetings, for instance, increased knowledge sharing and trust, thereby improving *internalization* as explained above.

> *"I really like the regional meetings. You hear new things. It brings people together. You can meet each other. It is a good place." - Primary care midwife, 2016, R6*

In addition, the development of multidisciplinary regional protocols suited the need for more uniformity in care provision and contributed to *formalization* by addressing different care approaches between obstetric partnerships. Through the joint efforts of professionals within the network, activities were undertaken that individual obstetric partnerships could not achieve, providing direction and support for *centrality* and knowledge (sharing) within partnerships, and in working toward integration in maternity care. Even though the MCNNN was considered effective in supporting the obstetric partnerships, the efficacy of their activities can improve by focusing on the partnerships' needs for more guidance and support in, for example, knowledge exchange among partnerships and the implementation of regional protocols:

> *"That* [the development of regional protocols] *has succeeded [...] But according to me, not everyone sticks to these protocols. What I really miss is that while we were supported to develop them […] right now, nobody evaluates or tries to help with the implementation."—Gynecologist, 2016, R3*

The Steering Committee was instrumental as initiator and supporter of the activities, with an active coordinator and commitment of members as essential elements and driving forces. However, the multidisciplinary Steering Committee also faced collaborative challenges that hampered their effectiveness, comparable to those within obstetric partnerships. The Steering Committee members equally felt under pressure of national politics, with accompanying full professional agendas, limitations in time, experience, budget, and facilitation. Collaborative issues in the workplace and national disagreements also led to the defending of professional autonomy within the Steering Committee. Especially the positioning toward other members was found difficult: being an individual maternity care professional, on the one hand, and having to act as representative of a professional group on the other hand. These aspects hampered timely decision-making and continuation of activities, which was reinforced since both Steering Committee members and other maternity care professionals were unclear on the exact goals and support of the MCNNN.

Although many professionals considered the MCNNN a valuable supporting structure, its effectiveness could improve with a further transformation from a network with a centralized Steering Committee to a knowledge network around a core team that arranges expertise in response to issues from the field. This would allow the regional structure to further facilitate knowledge development and dissemination within the region. Furthermore, this could enlarge the MCNNN's ability to contribute to aligning the maternity care system at a national level by bridging the gap to other regional maternity care networks and national parties.

DISCUSSION

This mixed-method study aimed to determine whether the regional MCNNN and its local obstetric partnerships contributed to collaboration from 2014 to 2016 and, if so, in what way. Our findings showed improvements on both relational and organizational levels of collaboration. Regarding the relational level, the MCNNN and its obstetric partnerships contributed to *shared goals and vision* and *internalization* by increasing insight in other professionals' competencies, knowledge, and vision. Other studies in maternity care also describe how getting to know other professionals through formal and informal contact enhances collaboration, because it improves understanding and respect and it helps to connect easily in daily care delivery (e.g. MacDonald, 2015; Perdok et al., 2016; Peterson, Medves, Davies, & Graham, 2007; van der Lee et al., 2016). Concerning the organizational level, many obstetric partnerships formalized their practices and professionals developed protocols and agreements, which increased *formalization* and *governance* (MacDonald, 2015; Schölmerich et al., 2014; van der Lee et al., 2016). In accordance with Boesveld et al. (2016), we found variances between obstetric partnerships regarding their characteristics and structure, but developments toward integration were generally visible. The strong commitment of professionals contributed to the improvements in collaboration, what arguably originates from believing in the advantages of collaboration for qualitative maternity care (San Martin-Rodriguez et al., 2005). In general, the MCNNN and its local obstetric partnerships were regarded as valuable platforms to exchange knowledge, make previously unknown barriers explicit, develop new activities, and collectively shape collaboration. This way, maternity care professionals formed networks of professionals grounded in different disciplines and organizations, and jointly worked toward integration in maternity care in order to improve client safety, satisfaction, and health outcomes.

Although the MCNNN and its obstetric partnerships seemed effective in initiating and facilitating improvements in collaboration, we also found persisting challenges to collaboration, as the historically grown maternity care system manifested itself in current practices, thereby impeding new forms of organization (Schuitmaker, 2012). For instance, difficulties in information sharing and mistrust, deeply rooted in history, posed important threats (see also van der Lee et al., 2016). These challenges were influenced by uncertainties about the future, different visions, and lacking financial and organizational facilitation. Historically grown systemic features such as the separated payment structures and educational systems increased the need for competition. Arguably, the focus of governmental policy on formalization contributed to competition and interfered with the creation of trust and other (relational) aspects. This illustrates how the relational, organizational, and systemic level are intertwined and all necessary for successful collaboration, which is in line with existing research (e.g., D'Amour et al., 2008; San Martin-Rodriguez et al., 2005). Studies that sought to define models or frameworks of integrated (people-centered) care (e.g., Minkman et al., 2011; Valentijn, Schepman, Opheij, & Bruijnzeels, 2013; World Health Organization, 2015) similarly stress the importance of taking into account the interrelatedness between different levels in the care system, for example, micro, meso, and macro levels. Within the system innovation toward integration in maternity care, it is important to consider how different levels in the system are intertwined both in terms of elements of collaboration (relational, organizational, and systemic) as well as in daily practices (e.g., daily care-delivery, obstetric partnership level, MCNNN level, and national level).

Reeves et al. (2018), following Dow et al. (2017), supported this idea in arguing that conceptualizations of interprofessional practice are usually based on an uncritical understanding of teamwork as a singular, not-networked, phenomenon. In general, literature shows how the concepts used to define and describe interprofessional practice are often used interchangeably (e.g., teamwork and collaboration, or multidisciplinary and interdisciplinary practice). Inconsistencies and different understandings of collaborative practices are themselves considered barriers to success (World Health Organization, 2013), which counteract generating high-quality evidence for interventions (Xyrichis, Reeves, & Zwarenstein, 2017) and thus complicate the identification of what type of interventions are most effective in which situations (Zwarenstein, Goldman, & Reeves, 2009). In our study, we encountered that the already complex processes to increase interprofessional practice in networks of professionals grounded in different disciplines and organizations also did not benefit from different understandings of the concept in theory and practice. Reeves et al. (2018) and Xyrichis et al. (2017) proposed four typologies for interprofessional practices: teamwork, collaboration, coordination, and networking. This classification is based on the contingency approach, in which the form of interprofessional practice needs to be aligned with its main purpose and patient needs by careful deliberation.

To further enhance the institutionalization of collaboration in the maternity care system, the MCNNN requires a further transformation to a *knowledge network* that is focused on reflexively overcoming collaborative challenges at

all levels in the maternity care system. A central element in this knowledge network is the development and dissemination of knowledge for obstetric partnerships that require flexible support in integrating maternity care. The MCNNN then functions both as an innovator and as intermediary between obstetric partnerships and between obstetric partnerships and national organizations. As a regional, multidisciplinary body and umbrella organization covering several obstetric partnerships, the MCNNN may be a suitable structure to contribute to tackling systemic barriers that cannot be solved by individual partnerships (e.g., alignment in information sharing, education, and payment models). Through the accompanying collaboration with other regional maternity care networks and national organizations, local problems could be linked to national policy.

In the process of overcoming systemic barriers, flexibility remains indispensable, considering that the partnerships' needs continuously change; some collaborative challenges are solved, others remain, and new situations present themselves within system innovations (Van Mierlo et al., 2010). Therefore, continuous observation, analysis, reflection, and adjustment of activities is needed. A structured *and* flexible knowledge network focused on reflexively overcoming collaboration challenges can enable the network to respond to the questions and needs of obstetric partnerships, matching with what and when they need it. We, therefore, recommend further research in how the MCNNN can best be structured and which elements are key to fulfill the role of a knowledge network. Furthermore, following Minkman (2017a, 2017b), we recommend further research into the functioning of collaborative processes, organizational forms, and the effective (local) governance of multidisciplinary, collaborative networks and partnerships, in order to increase our understanding of interprofessional and interorganizational collaboration.

Strengths and limitations

The professionals in this study were likely the more active members of obstetric partnerships, who are at the forefront in improving collaboration. Consequently, it is not entirely known how collaboration developed across the whole maternity care system. It would be interesting to have more insight in the perspectives of less active members as well. On the other hand, "active" participants gave insight in the potential of the MCNNN and its obstetric partnerships. Within the system innovation towards integration in maternity care, we expect that the pioneers will be followed by other professionals. A key strength is that insights in collaboration are provided from the perspective of various professional groups and a quarter of all obstetric partnerships in the Netherlands. The high quantity of respondents and the different methodologies contributed to the credibility of the results (Korstjens & Moser, 2018). The methodology of RMA contributed to the successful formation of the MCNNN because it enabled professionals to continuously reflect on the system innovation in maternity care (Van Mierlo et al., 2010).

Conclusions

Within the system innovation toward integration in maternity care, the MCNNN and its obstetric partnerships seem effective structures to initiate and facilitate improvements in interprofessional and interorganizational collaboration. Their meetings, products, and research projects led to improvements in both relational and organizational elements of collaboration. Further improvement in the maternity care system requires the MCNNN to further transform to a knowledge network that is focused on reflexively overcoming collaborative issues at all levels in the care system. This recommendation may be helpful to other healthcare domains striving toward more collaboration and integrated care. Within the system innovation, the methodology of RMA can enable continuous reflection and subsequent adjustments that are needed for success. Future research should focus on the functioning of collaborative processes, organizational forms, and the effective governance of multidisciplinary, collaborative networks and partnerships.

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CONFLICT OF INTEREST

No conflicts of interest.

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