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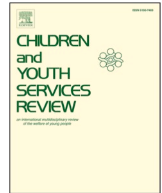

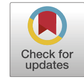

Integrated health and social care for pregnant women and young families in a vulnerable situation in the Netherlands: Professionals' views on cross-sectoral collaboration

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ABSTRACT

Purpose: This qualitative study investigated the perspective of professionals from the medical, social, and public health care sectors with regard to: cross-sectoral collaboration in providing integrated health and social care during the first thousand days of life (preconception up to children aged two years) for pregnant women and young families in a vulnerable situation. This knowledge is needed for the enhancement of cross-sectoral collaboration and the implementation of integrated care.

Methods: Professionals (n = 35) were recruited from three deprived municipalities in South-Limburg, the Netherlands. Semi-structured interviews gained insight into professionals' views, by using a theoretical framework based on the 'National model for integrated care for childhood overweight and obesity'.

Results: Professionals stressed the importance of addressing both medical and social risk factors in pregnant women and young families in a vulnerable situation. However, their interpretation of vulnerability differed, hindering collaborative working. Furthermore, cross-sectoral collaboration was restricted by lack of formal cooperation agreements between sectors, and unclear referral lines from the medical to the social sector. Professionals often did not know the expertise and role of other sectors. Digital information and referral systems are not connected between the sectors which acts as an inhibiting factor.

Discussion/Conclusion: This study highlights the need and ways to facilitate collaborative working between the medical, social, and public health care sectors in delivering integrated care. Recommendations include: 1) Enforcing implementation strategies aimed at facilitating collaborative working: formal regulations, structured agreements, and use of consistent definitions and protocols to facilitate integration; 2) Strengthen informal connections between professionals by the Solid Start local coalitions; 3) Align all professionals, also those not directly involved in the Solid Start local coalition, with the goals and vision of the coalition; 4) Implement a joint digital file or IT referral system to improve cross-sectoral collaboration; 5) Enhance collaboration between sectors at case level through multidisciplinary consultation.

1. Introduction

Children born in deprived areas are at greater risk of getting off to a poorer start in life (Waelput et al., 2017). This includes adverse perinatal health outcomes (such as preterm birth, small-for-gestational-age, and stillbirth)(Vos et al., 2014) and adverse child health and developmental outcomes (such as cognitive developmental delay, language-speech impairment, and mental health problems)(Pillas et al., 2014). In particular, the accumulation of medical and social risk factors, such as low income, low educational attainment, unemployment status, and psychosocial stressors, is present within deprived areas (Timmermans et al., 2011). Molenaar et al. (2023a) have shown that this accumulation

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of multiple risk factors in medical and social sectors is associated with adverse outcomes for mother and child. It is often said that these pregnant women or families are in a 'vulnerable' situation.

In addition to risk factors, there may also be protective factors at play, such as having a stable family environment or a supportive social network. Protective factors should be included in the assessment of vulnerability because they might reduce or prevent the risks of vulnerability of pregnant women (Miolenaar et al., 2023a; Van der Meer et al., 2020). Accordingly, we adopt the definition of Wulffraat and colleagues (Wulffraat et al., 2019) who state that vulnerability is the result of an imbalance between risk factors and protective factors (both medical and social factors), resulting in four different degrees of vulnerability from 'self-reliant' to 'very vulnerable'. The care provider assesses the degree of vulnerability, in consultation with the pregnant woman or the family (Van der Meer et al., 2020; Wulffraat et al., 2019). To tackle multiple, complex health and social problems in pregnant women and young families in vulnerable situations, better collaboration between maternal and child health care professionals and social care professionals is suggested (Boertien et al., 2022; Molenaar et al., 2023a). These problems cannot be solved by the medical or social care sectors alone.

Increasingly, integrated health and social care models are proposed to avoid fragmentation of care and to meet the needs of pregnant women and families, especially those 'at risk' or vulnerable to adverse outcomes (Harmsen van der Vliet-Torij et al., 2022; Schmied et al., 2010; Zonneveld et al., 2018). The implementation of integrated care models depends on cross-sectoral collaboration. This involves partnerships between multiple sectors pursuing a shared goal that single-sector efforts cannot achieve (Calancie, et al., 2021; Lo & Lockwood, 2022). These collaborations are crucial for addressing social determinants of health (Calancie, et al., 2021), and enabling more effective outcomes in the complex interplay of health, social, and environmental factors in a community (Lo & Lockwood, 2022). Challenges have been defined as well, such as differences in the views and interests, institutional performance indicators, and professional roles between sectors and organisations (Fleming et al. 2023; Zonneveld et al., 2018).

International research emphasises the importance of cross-sectoral collaboration in intervention programs to provide every child the best start to life (Barsties et al., 2021; Brand et al., 2008; Cattan et al., 2021; Marmot et al., 2012; National academies of Sciences, Engineering and Medicine, 2019; Renner et al., 2018). However, these studies mainly focus on the perspective of maternity care settings in relation to the medical sector (Barsties et al., 2021; Boertien et al., 2022; Cronie et al., 2018; Dubay et al., 2020; Peterson et al., 2007; Wallace et al., 2021) or they focus on community health in which care providers and social workers are embedded in the medical sector (Williams et al., 2022a; Williams et al., 2022b). These studies do not take the social or public health care sector into consideration. In contrast, the 'Solid Start' policy of the Dutch Ministry of Health, Welfare and Sport (Ministerie van Volksgezondheid Welzijn en Sport, 2022; Ministry of Health Welfare and Sport, 2020) advocates collaboration between organisations from the medical, social and public health sectors to offer children in the first thousand days of life (from conception up to the child's second birthday) the best start to life. These sectors are encouraged to organise care and support close to vulnerable pregnant women and young families. In so-called Solid Start local coalitions agreements are made between municipalities, (maternal) healthcare professionals, public health professionals and social care providers about delivering timely and appropriate care and support (Molenaar et al., 2022).

To understand how collaboration in care and support for pregnant women and/or young families in a vulnerable situation is shaped at a local level, it is important to incorporate the views of professionals from the medical, social and public health care sector. This is expected to provide starting points for improving cross-sectoral collaboration and enhancing implementation of integrated care models. Therefore, our study seeks to answer the following research question: 'What are the views of professionals from the medical, social, and public health care sectors on cross-sectoral collaboration in delivering integrated health and social care to support pregnant women and young families in vulnerable situations?'.

Table 1
List of top 10 Dutch municipalities scoring worst on the indicator 'children born prematurely and/or with a low birth weight' (the so-called Big-2 score) per 1,000 births compared to all Dutch municipalities (N = 355) (Perined, 2020).

Ranking	Municipality*	Big-2 score per 1,000 births
1th	Rozendaal	267.9
2th	Heerlen	200.6
3th	Oldambt	198.6
4th	**Landgraaf***	**196.7**
5th	**Kerkrade***	**195.3**
6th	Woensdrecht	194.2
7th	**Vaals***	**193.2**
8th	Veendam	192.5
9th	Doesburg	192.0
10th	Pekela	191.3
Average	Netherlands	154.7

* The municipalities included in this study are in bold.

2. Methods

2.1. Study design

A qualitative study was conducted. Semi-structured interviews were used to gain insight into the current professionals' views on cross-sectoral collaboration between the medical, social, and public health care sectors.

2.2. Setting / context

This study was conducted among professionals working for organisations who deliver care and support to pregnant women and young families living in three socio-economically deprived municipalities located in the south of the Netherlands: Kerkrade, Landgraaf, and Vaals. These municipalities score poorly on important indicators of perinatal health. They are in the national top ten of worst scoring on the Big-2 score: children born prematurely and/or with a low birth weight (see Table 1) (Perined, 2020). Furthermore, families and potential parents (adults of reproductive age, 15–45 years) living in these municipalities are at higher risk of vulnerability (Erasmus MC & Bernard van Leer Foundation, 2020).

As of 2021, professionals from the medical, social, and public health care sectors involved in care and support for pregnant women and young families meet on a quarterly base in the Solid Start local coalition per municipality. This study focusses on the starting year of the local coalitions to capture the baseline situation of collaboration between professionals from the three sectors. These local coalitions discuss how integrated care and support for pregnant women and young families in a vulnerable situation can be improved.

Professionals of the medical care sector are primary care midwives, general practitioners (assistants), or maternity care assistance managers. Professionals of the social care sector are policy advisors of the municipality, municipal social support teams, and representatives of social care services (such as youth care, mental health care). Professionals of the public health care sector are youth health care nurses or policy advisors (the youth health care service in the Netherlands monitors the child's development up to the age of 18 years) child day-care, or preschool organisations. An overview of the members of the local coalitions per municipality is depicted in Fig. 1. Textbox 1 and Fig. 2 give an overview of the complexity of the health and social care structure in the Netherlands.

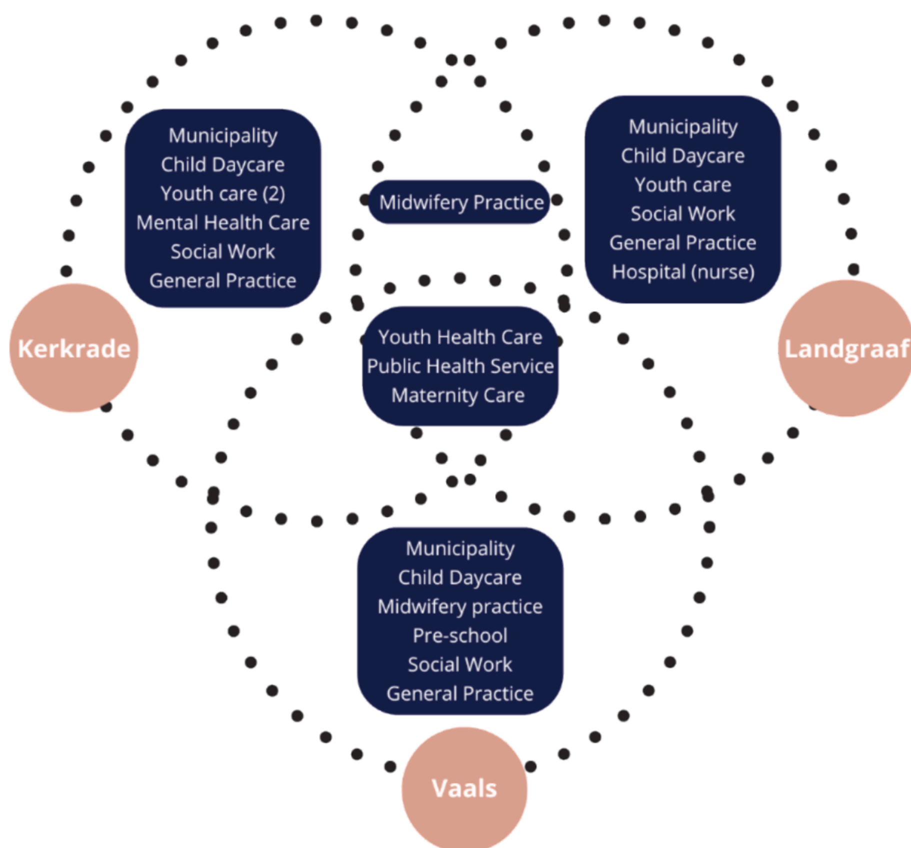

Fig. 1. Overview of the members of the Solid Start local coalitions in the three municipalities: all professionals are involved in providing care and support during the first thousand days of life.
Note. Organisations presented at the intersection of the circles were member of multiple Solid Start local coalitions. This mostly applies to regionally organised organisations.

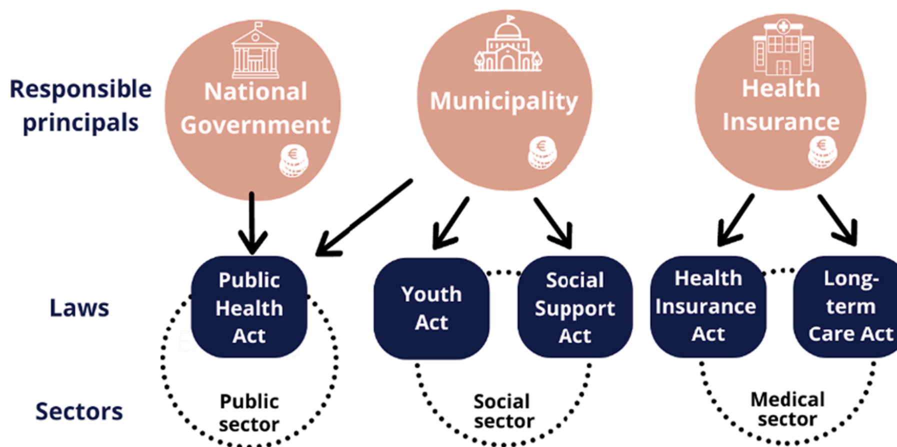

Fig. 2. Overview of the (public) health and social care system in the Netherlands in relation to financing, responsibilities, laws, and sectors (adapted from Heijink & Struijs, 2015).

2.3. Sampling strategy and participants

Purposive sampling was used. All the members of the Solid Start local coalitions of the three municipalities were approached to participate (see Table 2). Furthermore, a paediatrician who is the liaison of hospital-based care for very vulnerable pregnant women was approached by e-mail to participate. In total, all 35 professionals gave written consent to participate, and 24 semi-structured interviews were conducted between June and September 2021. If multiple professionals from one organisation were members of the local coalitions, they preferred to organise a joint interview. Given that mapping the views of all organisations/professional groups present in the local coalitions was the focus of this research, data saturation was not considered, and interviews were conducted with all recruited participants.

2.4. Data collection, processing, and analysis

As the Solid Start policy focusses on integrated care at local level, a

Textbox 1: Care structure.

In the Netherlands, health and social care are the responsibility of the national government, the municipalities, and the health insurance sector (see Fig. 2). The Dutch healthcare system consists of four healthcare-related acts: the Health Insurance Act (Zorgverzekeringswet), the Long-term Care Act (Wet langdurige zorg), the Social Support Act (Wet maatschappelijke ondersteuning), and the Youth Act (Jeugdwet). In the medical care sector, for example care by General Practitioners (GP) or maternity care is paid for out of the compulsory basic health insurance package under the Health Insurance Act.

The municipalities are responsible for the Social Support Act and the Youth Act. These acts provide different types of support, assistance, and care in the social care sector. For example, if a family requires parenting support, or if a child requires support for everyday living, the local authority can provide this under the Youth Act. Moreover, a Public Health Act (Wet Publieke Gezondheid) has been established which is responsible for public health, including youth health care; prevention; health promotion and health protection; and monitoring by the municipalities at a local level. Every four years municipalities have to formulate a local public health policy (Heijink & Struijs, 2015).

Table 2
Overview of professionals interviewed for this study (n = 35).

Sector	Organisation or professional group	Professional (function)	Total
Medical	General practice	Practice nurse mental health	1
		General practitioner	2
	Hospital	Nurse practitioner	1
		Paediatrician	1
	Maternity care assistance	Manager	1
	Midwifery practice	Midwife	4
		Total medical sector	*10*
Social	Mental health care	Manager	1
		Family therapist	1
	Municipality	Municipal social support team	2
		Project manager	1
		Policy advisor	3
		Coordinator	1
	Social work	Social worker	3
		Coordinator	1
	Youth care	Family worker	2
		Behavioural scientist	2
		Manager	2
		Total social sector	*19*
Public	Child day care	Coordinator	1
		Policy advisor	1
	Pre-school	Coordinator	1
	Public Health Service	Project manager	1
	Youth health care	Policy advisor	1
		Youth nurse	1
		Total public sector	*6*
		Total professionals interviewed	***35***

theoretical framework was chosen that has previously been successfully applied in the Netherlands at a local level for integrated care for childhood overweight and obesity: the 'National model for integrated care for childhood overweight and obesity' (Koetsier et al., 2020). Additionally, the 'Tool to monitor the local implementation of Integrated Care for Childhood Overweight and obesity' (TICCO) was used (Jacobs et al., 2019). TICCO is a practical tool which can identify the distinct perspectives of different professionals.

Like integrated care for childhood overweight and obesity (Sijben et al., 2021), integrated care for pregnant women and young families in a vulnerable situation is complex, due to the variety of professionals from the medical, social, and public (health) care sectors involved in addressing multiple different problems. The model (Table 3) consists of five levels that encompass the functioning of a local integrated care approach: 1. chain development, 2. cross-sectoral collaboration, 3. support and care, 4. case management and logistics, and 5. child and family (Jacobs, Sijben, & Halberstadt, 2019). As the current study focused on professionals' views, we only addressed the first four levels and accompanying subthemes of the model in our study. The semi-structured interview guide (see Appendix A) was based on TICCO (Koetsier et al., 2020; Jacobs et al., 2019). Two subthemes of the TICCO were left out. As all professionals had permission from their management to participate in the Solid Start local coalition, 'commitment of management' was not addressed during the interviews. Furthermore, 'involving the target group in chain development' had not yet been done at the time of the interviews, and therefore it was not discussed during the interviews.

The interviews (n = 24) were conducted remotely, due to COVID-19 measures, either using Teams video teleconferencing (n = 23) or on a mobile phone call (n = 1). They lasted between 28 and 62 min, with an average time of 42 min. The first interview was used as a pilot test. Afterwards, the researcher discussed the questions and scope of the interview with the participant. This did not lead to changes in the interview guide. The interview guide's themes were covered in all interviews. Based on answers and further elaboration from the participants, more in-depth questions were asked.

All interviews were audio recorded and transcribed verbatim by one researcher (NS). All transcripts were pseudonymised. A coding template was developed a priori based on the theoretical framework in Table 3. The transcripts were uploaded into the computer program Nvivo (release 1.5), which facilitated the analysis. The coding framework was discussed by two researchers (NS and ML). Text segments were coded into the four levels. A text segment could either be one sentence or multiple sentences if the context was important. All transcripts were then re-read, and subthemes were added to the coded text segments. During the analysis process two subthemes were added to the coding framework of chain development: 'training needs and 'use of definitions or protocols'. These themes were added to the overview of Table 3. Appendix B provides an overview of the amount of text segments coded per (sub)theme.

A second researcher independently analysed and sub coded the interviews. This coding was cross checked by Nvivo. The inter-rater reliability among all interviews using Cohens Kappa was on average 0.63 (range 0–1). The percentage of agreement was on average 79.7 % (range of 69.8 % to 100 %). The researchers discussed the findings and consensus was easily reached. Summaries were made of important findings per subtheme by two researchers (NS and ML). These findings were discussed, and one final analysis summary was completed per subtheme.

2.5. *Ethical issues*

This study was assessed by the independent Medical Ethics Review Committee of Maastricht UMC+ (METC 2021–2772). The METC judged that the Medical Research Involving Human Subjects Act (WMO) does not apply to this study. A non-WMO statement was provided by the METC. The current guidelines concerning the General Data Protection Regulation (GDPR) were followed. Before the interviews, participating professionals signed informed consent documents.

Table 3
Theoretical framework: descriptions of levels and subthemes.[a]

Subtheme	Description
Level 1. Chain development: ***this level provides information on the implementation, organisation, content, and development of the integrated care approach.***	
Shared vision	Organisations have a shared vision of collaboration concerning identifying and exploring problems, and provide tailored support.
Importance of an integrated approach	Organisations agree on the importance of integral working methods which connect the medical, social, and public health care sectors.
Shared goals and ambitions	Organisations agree on what they want to achieve together by setting shared goals and ambitions.
Collaboration agreements	Organisations have made agreements on how to cooperate within the integrated care approach of Solid Start.
Subthemes added to level 1:	
Training needs	Training is desired in certain areas or themes, whether or not it is in collaboration with partners.
Use of definitions or protocols	A definition or protocol for pregnant women and young families in a vulnerable situation is defined.
Level 2. Cross-sectoral collaboration: ***this level provides information on the collaboration and division of tasks between professionals in the integrated care approach.***	
Target group is clear	It is clear to the organisations on which target group the integrated care approach is focused.
Know each other's expertise	Professionals are aware of each other's expertise and tasks.
Roles and division of tasks	Further clarification on roles and tasks is achieved through mutual consultation between professionals where necessary.
Collaboration between sectors	Professionals from the medical, social, and public health care sectors work together.
Direct contact	Regular direct contact between different professionals, either face to face or by phone.
Addressing each other	A culture in which professionals address each other in a professional manner regarding responsibilities and agreements made.
Finding each other	Professionals involved are also better able to find each other in other cases.
Level 3. Care and support: ***this level provides information on the current quality and consistency of care and support in the chain.***	
Target group satisfaction	The wishes and needs of the target group are periodically collected and mapped out.
Align care with target group	The care and support in the chain is tailored to the target group's needs.
Provision of care and support	The provision of care and support in the chain, such as: supply of care, which professionals are involved, and which methodologies or interventions are used.
Level 4. Case management and logistics: ***this level provides information on the coordination of care and support and about 'client flows'.***	
Exchanging client data	There are agreements about handling and exchanging client data and information regarding families.
Refer(ral)	Agreements are made on when and to whom a family or child is referred within the chain.
Finalisation of support	Finalisation on the request for help and how the support ends is agreed upon.
Coordination/case management	Central care providers are deployed who coordinate the care and support at case level.
Family plan	Professionals work with a joint action plan for each family.
Digital file	Organisations use links between their digital information systems, such as secured mail.

Note[a]. The levels and subthemes and their description were derived from the national model for integrated care (Koetsier et al., 2020) and the 'TICCO' (Jacobs et al., 2019).

3. Results

The interviews were analysed (see Textbox 2 for a summary) along the four levels of the theoretical framework (see Table 3). Appendix C provides an extended overview of the analysis per subtheme.

3.1. Chain development

Solid Start local coalitions collaboratively set shared goals and ambitions, with municipal policy advisors as chair to ensure partner involvement.

> *Coordinator 3: "That is also why I think the Solid Start local coalition is just really good, because together with all the partners we look at, well, how can we make sure care is more like a continuous line starting from the stages before pregnancy, during pregnancy, after birth, and also the whole trajectory afterwards."*

Smaller municipalities found it easier to align goals due to fewer partners and good interprofessional contact. Professionals emphasized the need for collaboration across medical, social, and public (health) sectors to address both medical and social risk factors in pregnant women and young families. Early adopters (Rogers, 2003), the professionals involved from the very beginning of the Solid Start local coalition, mainly expressed this shared vision. Additionally, they stressed the need to engage and align other colleagues in this integrated care approach. Social sector professionals advocated for improved understanding of social contexts among medical professionals, and earlier involvement of the social sector to prevent crises. An integrated care approach was said to be crucial, requiring clear communication and timely expertise involvement to prevent family situations from getting worse.

> *Coordinator 4: "Opportunities are being missed there, and I think this ultimately also leads to identifying these children much later, with even bigger problems."*

Formal collaboration agreements existed between municipalities and care providers, as well as regional agreements between maternity care services, midwives, and youth health care. Additionally, professionals also engaged in informal collaborations through verbal agreements and networking. However, without formal agreements and funding these lacked binding commitments.

> *Family worker 1: "Look, sometimes it is […] not always clear: am I the only one, are other professionals involved? Um, the medical sector is often somewhat more difficult to reach, or at least it is difficult to share information. Um, so coordination in that, particularly in that phase where problems are being identified, there are gains to be made in… yes."*

Most professionals knew about the existing Dutch vulnerability definition (Wulffraat et al., 2019), but the majority of professionals did not use this definition to tailor care and support to the degree of vulnerability. Only midwives and youth health care nurses applied definitions comparable to the definition of Wulffraat and colleagues in their risk assessments. Professionals followed their sector-specific protocols, like the National Maternity Care Indication Protocol and Youth Health Care guidelines. Several professionals experienced difficulties in identifying the vulnerable target group and preferred to receive training.

> *Manager 2: "Employees still find it very difficult to start a conversation if the situation is very complicated, we would like to upskill them in that: conversation skills."*

3.2. Cross-sectoral collaboration

Collaboration already improved a bit over the past few years with the

start of the Dutch Solid Start Action Programme in 2018, because it raised awareness of this specific vulnerable target group. The professionals believed collaboration could only improve in the upcoming years through collaboration in these local coalitions. Furthermore, the availability of care and support varies by municipality, which makes it harder for professionals working in multiple municipalities to find the right organizations or care provider. Professionals admitted that finding each other within sectors was easier than across sectors. Municipalities recognized this need to link medical and social care, and used the Solid Start local coalitions to foster better formal and informal connections.

Youth consultant 1: "Because we get together now with the local coalition Solid Start, people are better at finding each other. And you notice this is already happening. The midwife calls the municipality and asks directly for me, like, yes, I know her."

Local coalitions helped to improve cross-sector communication, but building collaboration takes time and required more than just sharing contact information. Professionals stated that familiar faces and mutual trust facilitates better connections, yet obstacles remain, such as: unclear referral pathways, insufficient networking time, and frequent staff changes. There was a need for quicker connections and better communication to ensure smooth collaboration.

Social worker 1: "What we can start to work on is even closer communication between the different partners working with this target group. […] that baby might be about to be born, when in fact you could have done a lot of things beforehand. So, I hope there are some gains to be made in working in an even more preventive way."

Professionals consistently describe the target group as vulnerable pregnant women or families with multiple medical and/or social problems, though their interpretations vary. General practitioners focus for example on medical and physical issues, while social workers consider all life domains.

General Practitioner 5: "We are mostly very much oriented towards medical aspects during pregnancies. And yes well, you always try to ask how pregnancy is going in general. [..] And if you notice something, we do try to pay a bit more attention to that and we make a note about it in our patient file. Yes, well, and depending on how this develops, you consult the mental health care practice nurse or we refer to youth care if there really is a problem."

Collaboration across sectors was not structural. Direct contact within sectors was common, while cross-sector contact (inside but also outside the local coalition) was less frequent and often case-specific. Different professionals encounter families at various stages, with their ability to identify issues dependent on expertise and experience. However, there is a tendency for professionals to work in isolation. Professionals set boundaries to their own roles and tasks, but also for others. This lack of clarity about roles and division of tasks between professionals from different sectors caused a lack of overview as to who is involved in care/support and who does what.

Family worker 2: "We often get cases where actually so much is going on already, that we ask ourselves: why were the problems not identified earlier? By primary care, a youth health care nurse, child day care, everyone around it […] We thought: couldn't more care have been provided or started earlier?"

Because role understanding was sometimes unclear, referrals were delayed, and problems were identified late. Professionals expressed the need to know expertise from other sectors, including how to find each other more quickly through short lines of communication. Midwives highlighted a significant gap between identifying social risk factors and initiating social support.

Midwife 1: "That's when I came to the conclusion that the gap is especially big between identifying problems and actually starting care. But we really are in a great position to identify problems. And maternity care as well. […] But then we need to know where the pregnant woman can be referred to […]. At this phase we kind of held this up and we hoped Youth Health Care would pick it up again. And then the problem often just remained there for quite some time before it was identified again."

3.3. Care and support

Client satisfaction was not regularly monitored, with some organizations conducting occasional evaluation surveys or asking for verbal feedback. Professionals did observe that families prefer to discuss care options together with their care provider, although there were often different expectations between families and professionals about which problems require attention. Professionals indicated that families valued accessible support, the absence of waiting lists, and personalized care.

Family worker 1: "Because we as professionals often want more, while the client doesn't necessarily see problems. And that is sometimes because of their lack of capacity to understand that financial problems can create stress, and stress is just a factor you do not want in a parenting relationship."

Despite using various screening tools, professionals found it challenging to discuss identified risk factors and provide adequate care, due to factors such as care avoidance, low literacy, and cultural differences of the target group. A relationship of trust is essential, particularly for engaging care avoiders.

Midwife 3: "The only thing I always find very hard, […], is people with a language barrier. […] We have to pay extra attention to them, because often you just do not know what is going on. And besides the language barrier, there are often also cultural differences. That they, well, don't discuss these things so easily."

Due to the Solid Start Action Programme more attention was paid to pregnant women and young families in vulnerable situations. Care was tailored to individual needs across all sectors, though professionals sometimes encountered limits to the support they could provide. In the medical sector, customized care involved regular monitoring and referrals based on vulnerability levels. The social care sector offers various types of support, from immediate responses to parenting questions to more intensive help for families with complex issues. Mostly support from families' social networks or volunteers was considered first, before deploying social work, youth care, or mental health services for more complex problems.

3.4. Case management and logistics

Organisations adhered to the General Data Protection Regulation (GDPR) when exchanging client data, requiring client or parental consent unless safety risks were involved. Referrals to partners from the Solid Start local coalition were common, but not all professionals knew the correct referral pathways, particularly from the medical to social care sector. Some referral processes, like those from midwives to public youth health care teams, were well-established. Professionals' involvement with families varied in duration, with care being transferred to other care providers like youth health care nurses after initial periods.

Policy advisor 10: "The difference between process management, and case management or content management, whatever you want to call it, is sometimes difficult to grasp, also for providers of care, of course, because municipalities organise this differently."

Coordination within the social care sector was sometimes unclear, with municipalities generally overseeing process management and care providers handling case management. In case of a pregnancy, the social care case management role was often passed on to the medical care sector, suggesting it was now their responsibility because the woman

Textbox 2: Integrated care approach of Solid Start: main findings along the four levels of the theoretical framework.

Chain development.

- Professionals in all sectors stress the importance of addressing both medical and social risk factors in pregnant women and young families, and they acknowledge the importance of an integrated care approach.
- The shared vision on collaboration between the medical, social, and public health sectors is mostly expressed by the 'early adopters'.
- Shared goals and ambitions are formulated in the Solid Start local coalitions per municipality, but other professionals working in these municipalities are barely involved. In a smaller municipality it is easier to work on shared goals and ambitions.
- Collaboration between sectors in the chain of care is mostly based on verbal agreements (formal collaboration agreements with associated funding are lacking).
- Training needs of professionals focus on how to discuss identified (social) problems and risk factors with women/families in a vulnerable position.
- Almost all professionals are aware of the existing formal definition of vulnerability (Wulffraat et al., 2019), but most of them do not apply it in their daily work.

Cross-sectoral collaboration.

- All professionals recognise the target group as pregnant women and families with young children in vulnerable situations, but their interpretation of vulnerability differs (some focus only on medical risk factors or only on social risk factors; some focus on both).
- *Within* each sector, professionals know each other's expertise, use established lines of referral, and roles and division of tasks are clear. Professionals express the need to know the expertise *across sectors*, including how to find each other more quickly through short lines of communication. Obstacles are: lack of clarity about referral pathways, insufficient time to get to know each other, and frequent staff changes. Direct contact and finding each other is improved through the Solid Start local coalitions per municipality.
- Collaboration between the midwife, the maternity care assistant (both from the medical sector), and the youth health care nurse (from the public health sector) is an example of successful collaboration.
- Lack of clarity about roles and division of tasks between professionals from different sectors causes a lack of overview as to who is involved in care/support and who does what. This, together with differences between professionals in the ability to identify problems, increases the risk that care or support is deployed too late.

Support and care.

- There is no institutional mechanism yet to determine client satisfaction and their wishes/needs.
- Professionals sometimes struggle to discuss identified risk factors and to arrange adequate care or support due to characteristics of the vulnerable target group, such as care avoidance, low literacy, cultural aspects, and multiple or complex problems. Building a relationship of trust is essential.

Case management and logistics.

- Professionals in the medical sector are largely unfamiliar with lines of referral to the social sector, except for some who know how to find the youth health care nurse or the municipal support team.
- Digital information and referral systems are not connected between the sectors.
- Each sector has its own case manager. Women / families with multiple problems in different sectors have to deal with multiple care plans and case managers. This causes confusion among professionals as to who is in charge as a case manager.

was pregnant.

Nurse 1: "[…] The same also applies to mental disorders. Often it is said, especially by the primary care mental health services, now she is pregnant, now we have to stop treatment for a while, because we can only do that again in a stable situation. Whereas right now, the situation can become even more unstable because of the pregnancy."

Family plans, covering various life domains, were common use in social care but varied in format. In contrast, the medical care sector used care plans that predominantly encompassed medical aspects. Therefore, pregnant women or young families with multiple problems require care from different sectors and may have to deal with multiple plans and case managers. This caused confusion among professionals as to who is in charge as a case manager. Furthermore, organisations maintained separate digital systems, hindering direct referral and information sharing across sectors.

Midwife 2: "We always keep an eye on things. Um, is it about housing or financial problems? […] yes, you hope the responsible organisations will monitor this. So you do indeed stay involved to ensure this continues, but there are no structural consultations about this. So that is something that has to be continued through a carry-over, and either we do that or the clients do this themselves."

4. Discussion

This qualitative study aimed to investigate the views of professionals from the medical, social, and public (health) care sectors with regard to cross-sectoral collaboration in providing integrated health and social care for pregnant women and young families in a vulnerable situation. The findings of the study are summarised as lessons learned in Textbox 3. Below, we elaborate on the main findings.

4.1. Facilitating factors

Our study revealed several factors that enhanced cross-sectoral collaboration. All professionals acknowledged the importance of addressing both medical and social risk factors in pregnant women and

young families. This is likely the result of the Dutch 'Solid Start' policy which puts emphasis on the importance of signalling risk factors for adequately providing care and support. There was a shared understanding among professionals in our study that this can only be achieved through collaboration between the medical sector, social sector and public health sector. Here lies the basis for organising integrated care. As found in other studies (Jacobs et al., 2019; Koetsier et al., 2020; Molenaar et al., 2023b; van Dale et al., 2020), key in organising integrated care is to have a shared vision and goals.

We found that some professionals set clear boundaries to their professional responsibilities in delivering care. This role clarification helped them to communicate and collaborate well with other professionals, especially within their sector. This is in line with studies on interprofessional and cross-sectoral collaboration within the medical sector showing that lack of clarity regarding functions and scopes of professionals is a barrier for collaboration (Molenaar et al., 2023b; Rawlinson et al., 2021; Wei et al., 2022). Professionals in this study mentioned that the Solid Start local coalitions had enhanced the knowledge of other professionals' expertise, which resulted in shorter lines of communication and easier referral. The Solid Start local coalitions provided an opportunity for informal communication or consultation between professionals from different sectors, which is essential for collaboration to occur according to Seaton et al. (2021). Wei et al. (2020) also found that human connections and improving communication between professionals are important for establishing collaboration and integrated care.

4.2. Room for improvement

Despite the positive attitude expressed by professionals towards cross-sectoral collaboration and providing integrated care, this study showed that integrated care at a local level was not yet common practice. We found multiple aspects where room for improvement exists.

Collaborative working across sectors is now suboptimal: professionals are not always certain of the sector boundaries, roles, and how to get in touch with other sectors. Furthermore, the use of definitions or protocols for pregnant women and young families in a vulnerable situation varied among the professional groups. Other studies state that formal regulations and structural agreements could enhance the integration of care (Hald et al., 2021; Molenaar et al., 2023b; Rawlinson et al., 2021). Also helpful in improving collaboration is the understanding of professionals' roles by clarification of roles and responsibilities, and valuing each other's skills (Fraser, 2019; Rawlinson et al., 2021). Therefore, enforcing implementation strategies aimed at facilitating collaborative working, and use of consistent definitions and protocols to facilitate integration of medical, social and public health sectors are recommended.

Knowledge and understanding of each other's sectors were limited, which hindered effective collaboration on a local level. The main challenge here is to align all professionals working in these three sectors, also those not directly involved in the Solid Start local coalitions who are without contractual relationships. This is in line with findings of Psaila et al. (2014) and Valaitis et al. (2018) and can contribute to boundary tensions. In addition, professionals experienced the need to find each other more quickly, and to share information through shorter lines of communication. As stated by Jacobs et al. (2019) and Koetsier et al. (2020) knowledge of other sectors needs to improve among professionals, along with ensuring regular contact between the different professionals, to create a culture of addressing each other on responsibilities. The Solid Start local coalitions showed positive impact on development of collaborations, and visible progress had been achieved. Maintaining these coalitions is recommended as well as improving their formal and informal connections at a local level. Furthermore, aligning all professionals, also those not directly involved in the Solid Start local coalition, with the goals and vision of the coalition is important. Therefore, developing formal regulations and structural collaboration agreements between the three sectors is recommended.

Professionals lacked the expertise to discuss identified risk factors and to find adequate care in certain vulnerable target groups, such as people who avoid care, people with low literacy skills, and people with a different ethnic/cultural background. Moreover, professionals lacked training for discussing identified risk factors. In addition, guidance on who to involve or who to refer to in case of identified problems was missing. Especially lines of referral to the social care sector were often missing for the medical care sector. These findings are in line with the barriers found by Vlassak et al. (2022). Furthermore, as stated by Minkman et al. (2011) and Williams et al. (2022a) streamlining information flows by system and data sharing integration, and an accurate referral of patients are important integrated care activities. Therefore, to better align referral between the three sectors the development of digital care pathways for care and support in the social sector needs to be explored. Additionally, the development of a joint digital file or IT referral system is recommended to improve collaboration between the three sectors. Schmied et al. (2010) argued that formal communication pathways, such as working in multidisciplinary teams, can improve outcomes for pregnant women and their families. Therefore we also recommend further enhancement of cross-sectoral collaboration by the exploration of a multidisciplinary collaboration at case level, in order to properly align care with the wishes and needs of pregnant women and young families.

5. Strengths and limitations

This study has several strengths. First, it is one of the few existing studies that maps the views of professionals of three different sectors regarding cross-sectoral collaboration and integrated care for pregnant women and young families in a vulnerable situation at a local level. This is the most appropriate context to examine how cross-sectoral collaboration manifests in practice. Second, compared to other studies (Barsties et al., 2021; Boertien et al., 2022; Cronie et al., 2018; Dubay et al.,2020; Peterson et al., 2007; Molenaar et al., 2023b; Wallace et al., 2021, Williams et al., 2022a; Williams et al., 2022b) we also involved additional types of professionals to our study, namely: youth care workers, mental health care workers, general practitioner assistants, independent client support workers, child day care workers and preschool workers. Additionally, some managers instead of operating professionals were involved. This comprehensive involvement leads to a broader perspective on local dynamics and is essential for understanding the nature of collaboration within municipalities. Third, this study included interviews with all organisations involved in the Solid Start local coalitions in the three municipalities. Therefore, study conclusions are based on views of all organisations and professional groups involved in Solid Start local coalitions. Finally, the research is conducted by an independent researcher who observed the local coalitions, thus ensuring a balanced and unbiased collection and analysis of the interview data.

The results of this study should be interpreted in a view of several possible limitations. First, the findings of this study reflect the early stages of collaboration in a specific setting. The collaboration will unfold over time, but this was not subject of this study. Nevertheless, the recommendations from this study can be used to enhance cross-sectoral collaboration at local level in comparable initiatives or programmes that are in the early stages of achieving integrated care. To enable comparisons with other contexts, we used an internationally recognized framework to structure the insights. While this framework was appropriate to use for this study, it was sometimes repetitive, mainly with regard to the subthemes: target group is clear, know each other's expertise, direct contact, finding each other, and referral. Second, interviews were conducted online due to COVID-19 measures at the time of the data collection. In-person interviews are generally preferred in terms of richness of information (Johnson et al., 2019). However, the COVID pandemic increased the experience of using digital meeting tools and thus improved the efficiency of such meetings. We found that

Textbox 3. Lessons learned regarding cross-sectoral collaboration in providing integrated health and social care, and support for pregnant women and young families in a vulnerable situation.

Facilitating factors.

- Shared vision and acknowledging importance of addressing both medical and social risk factors has been recognised as an important basis for integrated care.
- Certainty about boundaries within their own sector helped professionals to communicate well within their sector.
- Knowledge of expertise of other professionals led to shorter lines of communication and referral.

Room for improvement.

- Use of definitions or protocols for pregnant women and young families in a vulnerable situation varied among the professional groups.
- Collaborative working across sectors is now suboptimal: professionals are not always certain of the sector boundaries, roles, and how to get in touch with other sectors.
- Knowledge and understanding of each other's sectors were limited, which hindered effective collaboration.
- There is a need to find each other more quickly and to share information through short lines of communication. Obstacles in finding each other were: a lack of clarity about referral pathways, insufficient time for networking or getting to know each other, and frequent staff changes.
- Professionals lack expertise to discuss identified risk factors and to find adequate care in certain vulnerable target groups, for instance due to care avoidance, low literacy, or cultural aspects.
- Professionals lack training for discussing identified risk factors, in addition to guidance on who to involve or who to refer to in case of identified problems.

Recommendations.

- Enforce implementation strategies aimed at facilitating collaborative working: formal regulations, structured agreements, and use of consistent definitions and protocols to facilitate integration of medical, social and public health sectors.
- Strengthen informal connections between professionals by the Solid Start local coalitions.
- Align all professionals, also those not directly involved in the Solid Start local coalition, with the goals and vision of the coalition.
- Implement a joint digital file or IT referral system to improve collaboration between the different sectors.
- Enhance collaboration between the sectors at case level through multidisciplinary consultation.

professionals responded in sufficient detail, although we could not rule out the possibility that the distance created by using online interviews may have placed constraints on interaction. Third, in this study we only focussed on the perspectives of the professionals, leaving it to future studies to incorporate the perspective of families. Finally, in the three Solid Start local coalitions professionals from different levels of the organisation were involved. This might have influenced the views towards collaboration, as professionals from the management level might have other experiences with collaboration than professionals working on the operational level with the families. Although the professionals interviewed were considered representatives of their organisation or professional group, their opinion may not always resonate with all medical, social and public health professionals working in a defined area.

6. Conclusion

This study contributes to the understanding of cross-sectoral collaboration in integrated care for pregnant women and young families, with children up to two years, in vulnerable situations. The findings revealed factors that facilitated cross-sectoral collaboration, as well as multiple areas for improvement in achieving integrated care for pregnant women and families. There is a need for strategies aimed at enforcing collaborative working at local level between the medical, social, and public health care sectors. Informal connections and a shared vision between all professionals working in the municipalities, as well as IT systems and multidisciplinary consultation to facilitate collaboration at case-level may improve working more preventively. This may also result in better (health) outcomes for the unborn baby or young child. The findings and recommendations can be valuable for policymakers and professionals working in similar contexts. Further research is needed to learn how integrated care for pregnant women and families can be realised by strengthening cross-sectoral collaboration between the medical, social, and public health care sectors (what works and what does not). Additionally, further research is needed into how integrated care contributes to (health) outcomes for the child and their families over time.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. – Interview guide

An interview guide regarding the different views of professionals from the medical, social, and public health care sector in relation to the cross-sectoral collaboration during the first 1000 days of life for pregnant woman and young families in a vulnerable situation.

Introduction – Interview procedure.

This study investigates the different views of professionals, and provides insight into the functioning of the integrated care approach during the first thousand days of life. We invited you as a member of the Solid Start local coalition to take part in an interview. The aim of this interview is to get acquainted with the members of the Solid Start local coalition and to visualise the existing collaborative context regarding pregnant woman and young families.

- Check informed consent
  - o Consent form – check if information has been read and signed in advance.

Themes.

- Brief introduction
  - o Background information about the organisation and function.
- Target group
  - o Pregnant women and young families in a vulnerable situation:
    - ▪ Use of a definition or protocol for this target group within your organisation?
- Chain development
  - o Working integrally and / or collaboration agreements.
  - o Goals and ambitions.
- Cross-sectoral collaboration
  - o Division of roles and collaboration between involved parties.
  - o Knowing other parties and each other's expertise.
  - o Contacting other parties.
- Care and support
  - o Which care provision / support.
  - o Involvement of target group.
- Case management and logistics
  - o Referring pregnant women and young families.
  - o Exchanging client data and digital files.
  - o Coordination of support / family plan.

Closing

Thank you for your input and your time. Do you have any further questions or remarks?

Appendix B. – Overview of coding

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Table B1
The **main themes** and subthemes of the theoretical framework, based on the national model for integrated care and TICCO, in order of the amount of text segments coded.

Theme	Number of text segments
Chain development	***169****
Collaboration agreements	119
Use of definitions or protocols	73
Shared vision	65
Importance of an integrated approach	64
Shared goals and ambitions	36
Training needs	24
Cross-sectoral collaboration	***382****
Collaboration between sectors	200
Roles and division of tasks	191
Know each other's expertise	118
Finding each other	106
Direct contact	61
Target group is clear	51

(*continued on next page*)

Table B1 (*continued*)

Theme	Number of text segments
Addressing each other	45
Care and support	***190****
Provision of care and support	131
Align care with target group	69
Target group satisfaction	20
Case management and logistics	***178****
Refer(ral)	85
Coordination/case management	70
Exchanging client data	60
Digital file	31
Finalisation of support	14
Family plan	14

* Text segments of a main theme can be coded by several subthemes. Therefore, the sum of subthemes is more than the total text segments coded by a main theme.

Appendix C. Analysis per subtheme

Level 1. Chain development.

1.1. Shared vision

The professionals' shared vision comprised of collaboration between the medical, social, and public health care sector. In particular, this was relevant when addressing both medical and social risk factors in pregnant women and young families, in order to offer timely care and support. However, social sector professionals argued the knowledge and job description of the medical sector needed to be improved and broadened to better identify the social factors and contexts for pregnant women and young families. In this way, information from professionals of the various sectors could be brought together sooner. Furthermore, social sector professionals argued that they need to be involved sooner. Too often, the medical sector only sought contact with the social sector in a crisis situation.

Coordinator 4: "Opportunities are being missed there, and I think this ultimately also leads to […] not seeing that you identify these children much later, with even bigger problems."

Further, the shared vision was predominantly expressed by professionals who adopt new ideas first, namely the early adopters. Professionals stated more attention was needed to connect with other colleagues in the chain of care, and to align them with the shared vision.

Project manager 2: "There are always frontrunners who easily join in, but also quite a few who do not join in […] You look for enthusiasm at this stage to connect people and [to get them to] *join* [the initiative]."

1.2. Importance of an integrated approach

Professionals acknowledged the importance of an integrated approach:

Family worker 1: "Look, sometimes it is […] not always clear: am I the only one, are others [professionals] *involved? Um, the medical sector is often somewhat more difficult to reach, or at least it is difficult to share information. Um, so coordination in that, particularly in that phase where problems are being identified, there are gains to be made in… yes."*

In addition to sharing or the transfer of information regarding individual cases, bringing in the right expertise at the right time from other sectors could help to arrange proactive care and support. This could prevent the family's situation from getting worse.

Manager 5: "How can we properly implement early identification of problems and prevention, without [vulnerable families] *seeking our help for some, because we just have them* [vulnerable families] *in sight. […] Maternity care nurses or youth care nurses can really do that. I mean, they really have a lot of expertise to do that. But we do have to connect with each other."*

1.3. Shared goals and ambitions

Each Solid Start local coalition jointly decided on shared goals and ambitions at a local level. Organisations or professional groups involved in the coalitions supported these.

Coordinator 3: "That is also why I think the [Solid Start] *local coalition is just really good, because together with all the partners we look at, well, how can we make sure care is more like a continuous line starting from the stages before pregnancy, during pregnancy, after birth, and also the whole trajectory afterwards."*

Enthusiasm appeared to be important for facilitating the

collaboration. The municipal policy advisor, who had been appointed as chair, helped to keep all local coalition partners involved. The main challenge was to align other professionals – those not directly involved in the local coalition – with shared goals and ambitions. In a smaller municipality it seemed to work more easily with shared goals and ambitions, because lines were shorter and there were fewer partners to collaborate with. Moreover, they already knew each other, so actions could be taken more quickly.

Project manager 2: "Municipality X has a slightly different character, it is a much smaller municipality. And then you see, you have fewer players around the table, they know each other a bit better. And that is also reflected in their approach [to care and support]. *Then it is much more like, well, we think it is a good idea […] so that is how it is done and how they proceed."*

1.4. Collaboration agreements

Collaboration in the social care sector was defined by contractual agreements, for instance between municipalities and care providers. Furthermore, regional collaboration agreements were made between maternity care services, midwives, and youth health care. In addition to these formal agreements, professionals pointed out that they sought collaboration themselves, such as verbal agreements and making network connections. Without formal collaboration agreements with associated funding, these forms of collaboration were non-binding.

Manager 3: "Those are verbal agreements. Those are not formal agreements. We also have a network […] where we indeed, um, try to move beyond our [professional/organisational] *boundaries and shape the most optimal care together outside those frameworks."*

1.5. Training needs

Professionals experienced difficulties in discussing identified risk factors with pregnant women or young families in a vulnerable situation. To equip professionals with the conversation skills to discuss all life domains with pregnant women or young families, they were encouraged by the Solid Start local coalitions to attend an e-learning and two reflection sessions. Furthermore, they needed guidance on who to involve or who to refer to in case of identified problems.

Manager 2: "Employees still find it very difficult to start a conversation if the situation is very complicated, we would like to upskill them in that: conversation skills."

1.6. Use of definitions or protocols

Every professional worked with the applicable protocols of their organisation or sector, such as the National Maternity Care Indication Protocol (LIP) or the Youth Health Care guidelines for optimal care of youth and their parents. Most professionals knew about the existing Dutch vulnerability definition (Wulffraat et al., 2019), but the majority of professionals did not use this definition to tailor care and support to the degree of vulnerability. An exception were midwives and youth health care nurses who use a similar definition of vulnerability in risk screening or during intake consultations.

Policy advisor 2: "Now we also work with the […] indications for care from the Dutch vulnerability definition. But previously, we actually worked a lot with Bakker's balance model [similar to the definition]. *We looked at the protective factors and risk factors, and we actually weighed up* [these factors to decide] *whether a family was vulnerable, yes or no. And whether they needed more care, and what kind of care was appropriate. So yes, this* [model] *was helpful".*

Level 2. Cross-sectoral collaboration

2.1. Target group is clear

All professionals described the target group as vulnerable pregnant women or families with multiple medical and/or social problems. However, their interpretation of vulnerability differed. For instance, a GP focussed on medical problems when looking at vulnerability, while other professionals, such as a social worker, looked broadly at all life domains to identify problems.

General Practitioner 5: "We do try to, well identify [social] problems, but people come to the GP with certain physical complaints. And you also look at how someone is doing, and which [other] things stand out. But it is sometimes difficult to identify such social problems properly."

Although professionals used screening instruments, questionnaires, and guidelines for identifying vulnerable pregnant women or families, they still struggled to discuss identified risk factors, and to find adequate care or support due to characteristics of the vulnerable target group, such as care avoidance, low literacy, or cultural aspects:

Midwife 2: "They [pregnant women] *expect us to pay attention to the pregnancy and not turn their whole life upside down and going to stir up all sorts of things from their past, for example. People often struggle with that."*

Midwife 3: "The only thing I always find very hard, […], is people with a language barrier. […] We have to pay extra attention to them, because often you just do not know what is going on. And besides the language

barrier, there are often also cultural differences. That they, well, don't discuss these things so easily."

2.2. Know each other's expertise

Professionals from the social care sector often knew the expertise of other professionals in the social care sector. The same applied to professionals in the medical sector and public health care sector. All sectors often used established lines of referral within their own sector. When professionals knew the expertise of professionals from other sectors well, there were often shorter lines of communication and quicker contact. For example, midwives worked closely with maternity care and youth health care, but were less familiar with other providers of (social) care and support, if at all. Professionals from the medical care sector were in need of a referral structure on what to do when identifying *social* problems. Midwives stated explicitly there was a big gap between identifying social risk factors and deploying support:

Midwife 1: "[That's when I] *came to the conclusion that the gap is especially big between identifying problems and actually starting care. But we really are in a great position to identify problems. And* [postnatal] *maternity care as well. […] But then we need to know where the client* [pregnant woman] *can be referred to […]. At this phase we kind of held this up and we hoped Youth Health Care would pick it up again. And then the problem often just remained there for quite some time before it was identified again."*

2.3. Roles and division of tasks

Professionals sometimes faced a lack of understanding of the roles and tasks of other professionals involved with the family. For instance, it was not always clear who was referring the family to whom, when, and how. Professionals experienced this sometimes as 'waiting too long with referral' which could take up to several weeks.

Family worker 2: "We often get cases where actually so much is going on already that we ask ourselves: why were the problems not identified earlier? By primary care, a youth health care nurse, child day care, everyone around it […] We thought: couldn't more care have been provided or started earlier?"

Multiple professionals argued they had a role in identifying problems, meaning they identified medical and/or social risk factors present among pregnant women or young families. Professionals with this role are the midwife, maternity care assistant, youth health care nurse, social worker, or GP. However, they come into contact with the family at different points in time during pregnancy and after the child's birth, and in different ways. The quality of their ability to identify problems depended on the professional's expertise, and work experience:

Policy advisor 2: "Some [youth physicians] *are a bit better at that, and others are a bit weaker at that* [in discussing vulnerability]. *And yes, this also applies to youth health care nurses, of course. […] Some have a bit more experience in a certain approach to care in high-risk cases, for example that you consult one another* [as professionals] *to make a* [care] *plan together […]."*

Professionals set boundaries for their own roles and tasks based on the idea that you should focus on what you are good at:

Midwife 3: "What I would really like to push for is that I still think we are not for in-depth exploring [the problems that family experiences]*, but for identifying problems* [which may be better tackled by other professionals]. *And we have to make sure that everyone sticks to what they are good at, because there are very good professionals who can do it a lot better than us. We just have to find each other."*

As a result of different formal agreements in each municipality with organisations in the social care sector, the availability of, and access to help and support from the social care sector varied per municipality.

Youth nurse 3: "You are bound to the municipality, that um […] how they have arranged it. [municipalities determine which provider may be consulted by purchasing contracts] *[…] But yes, if I look at municipality X, um yes, it does not have a contract. So that has to be requested separately while in municipality Y it is just very easy to consult a specific organisation."*

Consequently, professionals from the medical sector and public health care sector felt they needed to adapt their roles and tasks to the specific local landscape of care and support.

Social worker 3: "Yes, well in my, um, role I think we can do a lot more than we are allowed to do now. […] So actually I cannot really reach out [to other professionals] *at the moment […] Look, we do our best here, we are going to try to move along as much as possible. But we have also indicated many times that if we want to empower ourselves, then we* [would] *rather do it in a different way, and also partners in the chain of care indicate this. They actually want to make use of us much more than they are allowed or able to do now."*

2.4. Collaboration between sectors

The social, medical, and public health care sectors collaborated, but not on a structural basis between all partners. The medical care sector was predominantly focussed on medical issues.

General Practitioner_5: "We are mostly very much oriented towards medical aspects during pregnancies. And yes well, you always try to ask how pregnancy is going in general. [..] And if you notice something weird, um yes, we do try to pay a bit more attention to that and we make a note about it in our [patient] *file. Yes, well, and depending on, um, how this develops, you consult the mental health care practice nurse or we refer to youth care if there really is a problem."*

Successful collaboration between the medical and public health care sector was achieved, for example, between midwifes, maternity care assistants, and youth health care nurses. Moreover, some professionals pointed out they experienced 'too much working from separate islands', especially when it came to involving expertise from other sectors after identifying problems.

Midwife 2: "Mostly, um, yes everyone provides their care on their own island so to speak. And has little connection with, um, the other islands so to speak."

Municipalities, being responsible for the social care sector, acknowledged the importance of linking with the medical care sector. Opportunities for strengthening the collaboration between the medical and social care sectors were discussed with members of the Solid Start local coalitions. These local coalitions also helped professionals to get to know each other better.

Social worker 1: "What we can start to work on is even closer communication between the different partners working with this target group. […] that baby might be about to be born, when in fact you could have done a lot of things beforehand. So, I hope there are some gains to be made to work in an even more preventive way."

2.5. Direct contact

Professionals had direct contact with professionals inside their sector. Only a few professionals had contact outside their sector, and mostly this was on an individual case level.

Family worker 1: "We do have it, at case level, of course, yes, where possible and with those who know about it, you work together with all those involved with the family. That is actually, yes, is just a no go if you do not do it. And yes, usually multiple parties are involved with our families, um, not just us."

Direct contact was self-evident in the collaboration between the midwife, maternity care assistant, and youth health care nurse around the pregnancy. Furthermore, professionals stated that short lines of communication and having direct contact facilitated referral, as well as finding the right care and support.

General Practitioner 2: "And that a patient gets to the right place. That is our job. And you prefer to do that by direct interprofessional contact for patient information exchange. […]. Preferably […] as good as possible and as specific as possible refer to a place where they will indeed get the tailored help".

2.6. Addressing each other

Although peer consultation was not always obvious, professionals contacted one another if, for example, there was a lack of clarity about the coordination of care and provision of tailored support. The medical care sector felt the social care sector sometimes reacted too slowly. However, this was not always unwillingness, because the social care sector was bounded by certain procedures or regulations with regard to taking action.

Coordinator 2: "We [the social care sector] *are bound by the Youth Act and what is possible according to this Act, which sometimes can be conflicting […] and legally complex. And they* [the medical care sector] *assume that we can just come and see that baby in the incubator ward or the maternity ward. And that is not the case, a lot of steps precede that. And then sometimes you end up in arguments [with other care providers]."*

2.7. Finding each other

In line with 'knowing each other's expertise', professionals often knew how to find each other within their own sector. However, connection between different sectors was often missed. For example, midwives were mainly oriented towards the medical care sector, and to a lesser extent towards the social care sector. The sectors got to know each other better at local level through the Solid Start local coalitions.

Youth consultant 1: "Because we get together now with [the local coalition] *Solid Start, people are better at finding each other. And you notice this is already happening. The midwife calls the municipality and asks directly for me, like, yes, I know her."*

Even with these local coalitions, professionals pointed out that collaboration between the social and medical care sectors takes time:

Project manager 2: "It requires more than just exchanging a phone number."

Furthermore, professionals stated finding each other was easier if there were familiar faces, and mutual trust:

Policy advisor 1: "Although it is still a fact: if you know each other, if you once worked on a case together, then it is much easier to identify problems and refer to [each other]*."*

Despite the fact that collaboration between various partners has improved over the years, there was still a need to connect more quickly and to inform each other through short lines of communication. Obstacles in connecting with each other were lack of clarity about referral pathways, insufficient time for networking or getting to know each other, and frequent staff changes.

Manager 2: "We still do not know how to find each other well enough. That is why things sometimes do not run smoothly, whereas if you have a multidisciplinary consultation with all those involved right at the start, you can agree to move in same direction. Um, that saves a lot of 'repair work' afterwards. So, um, in that, um yes, there is still, um, room for improvement."

Level 3. Care and support.

3.1. Target group satisfaction

Client satisfaction was not monitored and measured on a regular basis, and sometimes not at all. Some organisations performed evaluation surveys or verbal evaluations with families. According to the professionals, what families appreciated the most was easily accessible support, no waiting lists, and care and support tailored to their specific needs.

Family worker 2: "The strong point was also to do it together with parents. And just that bit of satisfaction, parents appreciate that humanity of working, um, together alongside them."

3.2. Align care with target group

Professionals noted that families prefer to be involved with them in discussing the options for care or support. Sometimes expectations of families might be different from those of professionals regarding problems that require attention or care and support:

Family worker 1: "Because we [professionals] *often want more, while the client doesn't necessarily see problems* [that we see]. *And that is sometimes because of their lack of capacity to understand that financial problems can create stress, and stress is just, um, yes, a factor you do not want in a parenting relationship."*

It seemed easier to discuss certain sensitive issues if professionals and families saw each other more often, and a relationship of trust developed. In particular, professionals found it difficult to deal with care avoiders: parents who did not want anything or were reluctant to engage.

3.3. Provision of care and support

Recently the focus of care and support shifted to the target group of pregnant women and young families in a vulnerable situation in the provision of care among all organisations. They also started to focus more on parent–child interaction. In all sectors, care and support was as much as possible tailored to the needs and wishes of pregnant women and families. However, sometimes professionals were faced with the limits of the care they could professionally provide:

Midwife 2: "Yes, our care is always tailored. Every pregnant woman is different. Everyone has different care needs. [...] So yes, but tailored support doesn't mean that we can offer, um, say, psychological counselling [...] as part of our services."

In the medical care sector, pregnant women in a vulnerable situation received customised regular care and were monitored; this was tailored to the needs of the women, and could therefore be different for each pregnant woman. The request for help was considered in relation to the degree of vulnerability or self-reliance. Based on this information the midwife or maternity care team considered whether or not to refer the young family to other professionals.

Various types of support could be provided by the social care sector. Often these were simple, parenting-oriented questions that could be dealt with immediately. However, professionals spent the most time on families with multiple, complex problems requiring care or support from different sectors and organisations. First, whether support could be provided by the social network or volunteers was assessed. If short term parenting support was needed, or help with debts, housing, or divorce, partners in the social care sector, such as social work, could be deployed. Youth care or mental health care organisations could be deployed for complex problems.

Level 4. Case management and logistics.

4.1. Exchanging client data

Organisations followed the privacy legislation of the General Data Protection Regulation (GDPR) to exchange client data. Data sharing was only allowed with the explicit permission of the client or parents of the child, except in the case of safety risks or when the child's development was threatened.

Manager 3: "We involve our clients in every step of the way, and because we value that working relationship so much, that [sharing information] *is fine. We share information because we want the situation to get better. [...] And we follow privacy laws. But yes, like I said: the moment a child's safety is at stake, we can also overrule it. But even then we do it in full transparency."*

4.2. Refer(ral)

Organisations shared identified problems and referred to partners. However, not all professionals knew how, or where, to refer these problems. Sometimes the lines of referral to the social care sector were unknown by the medical care sector. However, there were existing lines of referral that were used, such as a referral to the public youth health care team by the midwife to further explore the request for help. Or, in the case of complex social problems, the medical sector could refer to the local municipal support team. This referral was discussed and coordinated with the pregnant woman or family, because they must give permission for this.

Social worker 2: "Well, what we can do ourselves, we do ourselves. But if we have the idea that more intensive help is needed, we scale up to the municipal support team."

4.3. Finalisation of support

Certain professionals are only involved with the family for a fixed amount of time, such as the midwife and maternity care. After that, care and support is transferred to the youth health care nurse or they inform the GP about the course of pregnancy and delivery.

Midwife 2: "We always keep an eye on things. Um, is it about housing or financial problems? [...] yes, you hope the responsible organisations will monitor this [after pregnancy]. *[...] So you do indeed stay involved to ensure this continues [...] there are no structural consultations about this. So that is something that has to be continued through a carry-over, and either we do that or the clients do this themselves."*

For example, in deploying youth or mental health care, fixed evaluation moments were scheduled, in which professionals checked whether the goals of the support have been achieved, or whether an extension of care or support was needed.

4.4. Coordination and case management

Within the social care sector, it was sometimes unclear who was in charge as case manager. As a general rule, the municipality had an overarching coordinating role (process management) and the care provider managed the tailor-made support they provided (case management).

Policy advisor 10: "The difference between process management, and case management or content management, whatever you want to call it, is sometimes difficult to grasp, also for providers of care, of course, because municipalities organise this differently."

For existing care and support, contact was sought by the case manager from the medical care sector with the case manager from the social care sector. In case of a pregnancy, the social care sector case management role was often passed on to the medical care sector, suggesting it was now their responsibility because the woman was pregnant.

Nurse 1: "[...] The same also applies to mental disorders. Often it is said, especially by the primary care mental health services, now she is pregnant, now we have to stop treatment for a while, because we can only do that again in a stable situation. Whereas right now, the situation can become even more unstable because of the pregnancy."

4.5. Family plan

Family plans are common in the social care sector, though different formats are in use. They should cover all life sectors and describe the request for help as well as designating the assigned case manager. In the medical care sector, care plans are used encompassing predominantly medical aspects and the case manager assigned from the medical care sector. A pregnant women or young family with multiple problems in different sectors may have to deal with multiple plans and case managers.

Youth nurse 3: "You do follow 1family1plan [format of a family plan] *within the [XXX] region. Yes, um, actually that is what municipalities are asking for, but I also understood other regions do not use this plan."*

4.6. Digital file

Organisations had their own systems and digital files on which they registered relevant information. The systems of the medical sector, social sector, and public health care sector were not connected, so professionals could not refer directly to each other or share information in one system.

General Practitioner 2: "Yes, um, at the moment we cannot refer yet to the social sector from the medical sector via 'Zorgdomein' [the digital referral system]. *That is our referral system, we use it to refer to the hospital and communicate with the midwife. It would be great if the social sector could also join. Um. And often feedback from those parties [in the social sector] is still provided on paper, by postal mail."*

Data availability

Data will be made available on request.

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