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Federaal Kenniscentrum voor de Gezondheidszorg
Centre Fédéral d'Expertise des Soins de Santé
Belgian Health Care Knowledge Centre

TOWARDS INTEGRATED ANTENATAL CARE FOR LOW-RISK PREGNANCY

SUPPLEMENT





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HEALTH SERVICES RESEARCH

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SUPPLEMENT

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COLOPHON

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LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
ABRUMET	Association BRUxelloise de télématique médicale / Brusselse vereniging voor MEdische Telematica
AIM / IMA	Agence Intermutualiste / Intermutualistisch Agentschap
ANC	Antenatal Care
APALEM	Aide et Prévention Anténatale Liégeoise de l'Enfance Maltraitée
ASBL / VZW	Association Sans But Lucratif / Vereniging Zonder Winstoogmerk (non-profit organisation)
AViQ	Agence pour une Vie de Qualité
BIM / RVT	Bénéficiaire de l'Intervention Majorée / Rechthebbende Verhoogde Tegemoetkoming
BMI	Body Mass Index
BPC	Birth Preparation Classes
BS	Belgisch Staatsblad
CAW	Centrum Algemeen Welzijnswerk (Centres for General Welfare)
CBEU	CytoBacteriological Examination of Urine
CEBAM	Centre Belge d'Evidence-Based Medicine
CEpiP	Centre d'Epidémiologie Périnatale
CHU	Centre Hospitalier Universitaire
CI	Confidence Interval
CMV	Cytomegalovirus
COCOF	COmmission COmmunautaire Française
COCOM / GGC	COmmission communautaire COMmune / Gemeenschappelijke GemeenschapsCommissie
CPAS / OCMW	Centre Public d'Aide Sociale / Openbaar Centrum voor Maatschappelijk Welzijn
DOMINO	Domiciliary In and Out

EBP	Evidence Based Practice
ECTS	European Credits Transfer System
EPDS	Edinburgh Postnatal Depression Scale
EU	European Union
Euro-PERISTAT	European perinatal statistics
FAMPH	Federal Agency for Medicines and Health Products
FEDASIL	Federaal agentschap voor de opvang van asielzoekers / Agence fédérale pour l'accueil des demandeurs d'asile
FPS	Federal Public Service
FTE	Full Time Equivalent
GMF	Global Medical File
GP	General practitioner
GRADE	Grading of Recommendations Assessment, Development and Evaluation
GRAPA / IGO	Garantie de Revenus Aux Personnes Agées / InkomensGarantie voor Ouderen
HAS	Haute Autorité de Santé
HCP	Healthcare practitioner
HP4ALL	Healthy Pregnancy 4 All
HIV	Human Immunodeficiency Virus
INS / NIS	Institut National de la Statistique / Nationaal Instituut voor de Statistiek
ICT	Information and Communication Technology
IQR	Interquartile Range
IT	Information Technology
IVArp	Intern Verzelfstandigd Agentschap met Rechtspersoonlijkheid (Agence autonomisée interne dotée de la personnalité juridique)

K&G	Kind en Gezin
KNOV	Koninklijke Nederlandse Organisatie van Verloskundigen
KPI	Key Performance Indicator
LHV	Landelijke Huisartsen Vereniging
LVR	Landelijke Verloskunde Registratie
MB	Moniteur Belge
MD	Mean Difference
MDC	MultiDisciplinary Consultation
MHCA	Maternal Health Care Areas
MLCC	Midwife-led continuity of care models
MOU	Memoranda of Understanding
NICE	National Institute for health and Care Excellence
NIHDI	National Institute for Health and Disability Insurance
NIPT	Non Invasive Prenatal Testing
NPO	Non-Profit Organisation
NVOG	Nederlandse Vereniging voor Obstetrie en Gynaecologie
OGTT	Oral Glucose Tolerance Test
OMNIO	For all (Latin expression)
ONE	Office de la Naissance et de l'Enfance
OR	Odds Ratio
PANZA	Perinataal Antwerps Netwerk Zwangerschap in Armoede
PAREL	Prenataal Aanbod REgio Leuven
PE	Parenthood Education
PERINTI	PERInataal Netwerk TIenen

PMA	Procréation Médicalement Assistée
PNP	Préparation à la Naissance et à la Parentalité
PPM	Psychopathologie, Psychosociale problemen en/of Middelengebruik
PWD	Perinataal Webbased Dossier
Q1	First Quartil
Q3	Third Quatil
RCT	Randomised Controlled Trial
R4U	Rotterdam Reproduction Risk Reduction scorecard
RHM / MZG	Résumé Hospitalier Minimum / Minimale Ziekenhuis Gegevens
RR	Relative risk
RSW	Réseau Santé Wallon
RVT / BIM	Rechthebbende Verhoogde Tegemoetkoming / Bénéficiaire de l'Intervention Majorée
SALAR	Swedish Association of Local Authorities and Regions
SD	Standard Deviation
SECM	Self-Employed Community Midwives
SEK	Swedish Krona
SPE	Studiecentrum Perinatale Epidemiologie
SPF SPSCAE / FOD VVVL	Service Public Fédéral Santé Publique, Sécurité de la Chaine Alimentaire et Environnement / Federal Overheidsdienst Volksgezondheid Veiligheid van de Voedselketen en Leefmilieu
STI	Sexually Transmitted Infections
TMS	Travailleur Médico-Social
UK	United Kingdom
UMA	Urgent Medical Aid

UpSfb	Union professionnelle des Sages-femmes Belges
USA	United States of America
VBOV	Vlaamse BeroepsOrganisatie van Vroedvrouwen
VIL	Verloskundige IndicatieLijst
VSV	Verloskundige SamenwerkingsVerbanden
VWS	Ministerie van Volksgezondheid, Welzijn en Sport
WHO	World Health Organization

1. INTRODUCTION

How to use this document?

This supplement is not intended to be read as a stand-alone document, but as a complement to the scientific report. It gives a detailed description of the methods and findings of each scientific building block underpinning the recommendations described in the scientific report.

The context, problem description, as well as the discussion of the results are to be found in the scientific report. In addition, a synthesis including concrete proposals and recommandations for integrated antenatal care is also available in French and Dutch. The report and the synthesis are published as separate documents on our website. They can be accessed from the same referral page as the current document.

The purpose of this study is to propose a model of antenatal care (ANC) meeting both the needs of parents and those of professionals. To reach this goal, a multimodal approach was set up combining grey and peer-reviewed literature reviews, international comparison, qualitative and quantitative methods. The multimodal approach consists of a four step process:

- Description of the current organisation of ANC in Belgium

The investigation of the current organisation of ANC in Belgium combined a narrative description of the ANC organisation and a quantitative analysis of the ANC consumption. The narrative description was based on legislation (building blocks 1 to 3 in Figure 1) and explorative interviews with professionals involved in ANC (building block 10 in Figure 1), aiming to identify the role of all healthcare professionals involved in ANC and the relationships between them, including the ICT issue (building block 4 in Figure 1). This description was completed by the legal framework regarding the liabilities of all healthcare professionals as the protective measures for pregnant women (building block 3 in Figure 1).

In addition, facts and figures from the analysis of ANC consumption by women who delivered between 2010 and 2016 were reported (building blocks 7 and 8 in Figure 1).

- Evaluation of the current organisation of ANC in Belgium

The diagnostic phase aimed to identify shortcomings of the current ANC organisation as perceived by ANC professionals and parents, the potential room for improvement and the values ANC professionals find important to be promoted by the future ANC organisation. For this purpose, two different qualitative methods were used. Firstly, interviews were conducted with professionals (building block 10 in Figure 1) and with parents (building block 9 in Figure 1). Secondly, a qualitative method derived from human-centred design was used. The method is based on solution selling, a sale methodology aiming to propose appropriate products or services designed by addressing the customer's problems rather than promoting an existing product or service. This method allowed us to understand the needs in antenatal care from the perspective of ANC professionals (building block 10 in Figure 1).

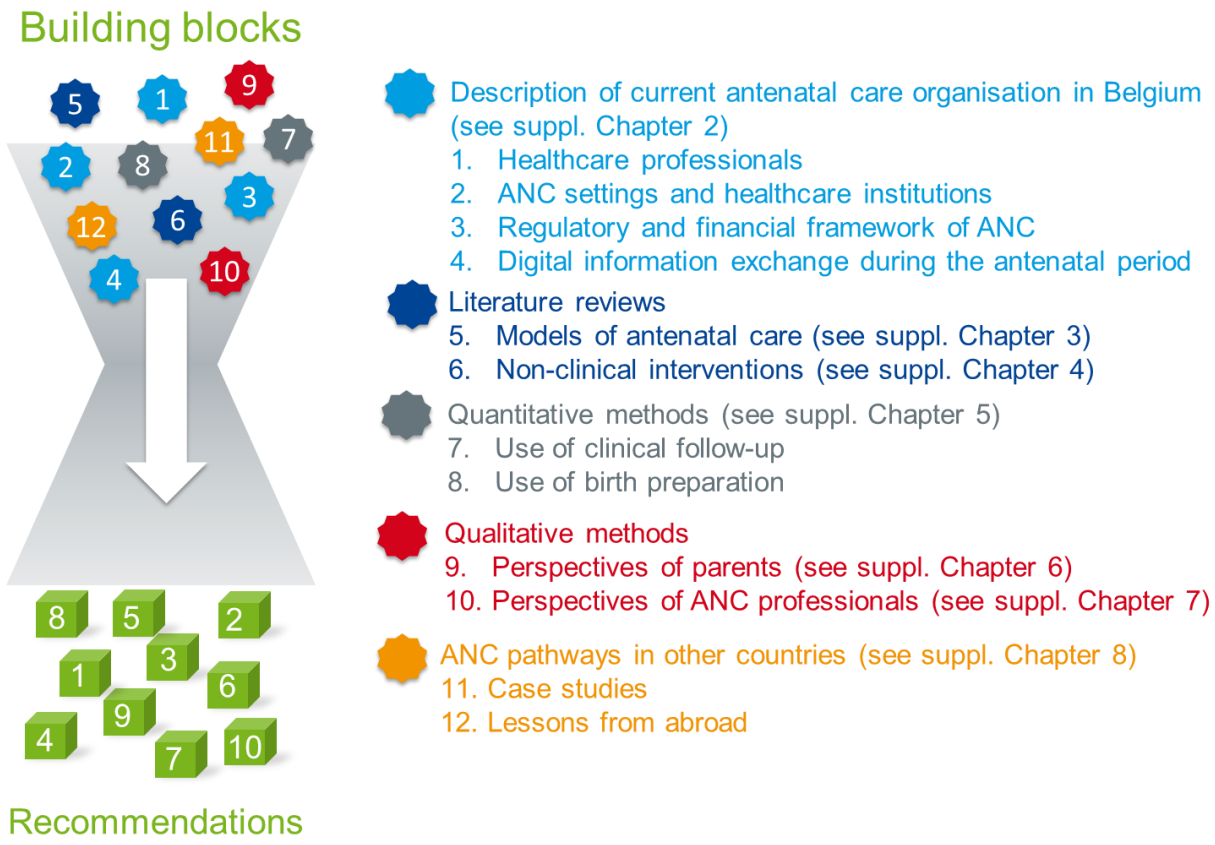
- Potential solutions

The main organisational models of antenatal care published in the international scientific literature were described (building block 5 in Figure 1). More specifically we focused on France, the UK, the Netherlands, Ireland, Sweden and Finland (building block 11 and 12 in Figure 1). The findings of the building blocks 6, 11 and 12 were used to propose, on the one hand, solutions to the shortcomings identified in the diagnostic phase and, on the other hand, a list of non-clinical interventions supporting future parents that may be added to the clinical interventions as described in the KCE guideline on antenatal testing.[1]

- Recommendations on the organisation of antenatal care in Belgium

The recommendations are based on the previously described building blocks. The specific methodology is described in the scientific report.

Figure 1 – Building blocks for the generation of recommendations regarding the organisation of antenatal care in Belgium



2. DESCRIPTION OF THE CURRENT ANTENATAL CARE ORGANISATION IN BELGIUM

2.1. Healthcare professionals engaged in antenatal care

Box 1 – Overview of the competence division between authorities in Belgium and the "Licence to Practice" system

Competence division

In Belgium, social and healthcare policies are shared between the Federal Government, the Communities[a] and the Regions[b]. Therefore, different aspects of antenatal care are under the responsibility of different authorities.
The federal level remains competent for social security (including the reimbursement of healthcare provisions and maternity leave allowance) and for the organisation of healthcare and healthcare professions (including healthcare general institutions, healthcare professionals' competencies, licence to practice, quotas, etc.).
Communities / Regions are however responsible for healthcare policies (outside the federal competencies), the organisation of primary healthcare, health education and preventive medicine. They are also competent for family policy (including social support and assistance to families).

Right to practice and agreement

Healthcare professionals involved in ANC need to obtain a "licence to practice" (visa) from the Federal Public Service Public Health[c]. The conditions to obtain this licence are slightly different from one healthcare professional to another: physicians and pharmacists must first be registered by the national professional association while other healthcare professionals receive their visa automatically from the federal authorities together with their diploma (recognised by the Communities). Moreover, healthcare professionals' qualifications (recognition of professional titles) must be validated to provide reimbursed care.

Physicians (GPs or specialists) are authorised to practise medicine if their diploma has been stamped (visa) by the Federal Public Service Public Health and if they are registered on the list of the Medical Council (Ordre des Médecins / Orde der Artsen).

Midwives are authorised to practise if their diploma has been stamped by the Federal Public Service Public Health. Licence to practice (visa / visum) and recognition (agrément / erkenning) are automatically granted with their diploma when the training was delivered in Belgian High Schools. Professional associations exist but there is no deontological body.

Physiotherapists are automatically granted their visa once they have obtained their diploma and received their recognition from the Communities. Professional associations exist but there is no deontological body.

a Loi spéciale de réforme institutionnelle du 8 août 1980 (MB. 15.08.1980) - Bijzondere wet tot hervorming der instellingen van 8 augustus 1980 (BS. 15.08.1980).

b Some competencies of the Communities are exercised by the Regions.

c Loi coordonnée du 10 mai 2015 relative à l'exercice des professions des soins de santé (MB. 18.06.2015) / Gecoördineerde wet van 10 mei 2015 betreffende de uitoefening van de gezondheidszorgberoepen (BS. 18.06.2015).

2.1.1. Gynaecologists - obstetricians

In contrast to some other countries, in Belgium obstetricians are also gynaecologists. Therefore, in this report, the words 'gynaecologists' and 'obstetricians' are used interchangeably. The term 'gynaecologists' is mainly used. The duration of training in Belgium is 11 years, i.e. 6 years to obtain the medical doctor degree, completed by a minimum of 5 years to obtain the title of medical doctor specialised in gynaecology and obstetrics[d]. In ANC, they are entitled to perform medically assisted procreation and to follow both high and low risk pregnancies. Beyond the general information and specific advice given to (future) pregnant women to ensure a healthy pregnancy, the ANC package consists of clinical consultations, ultrasounds, cardiotocography, invasive obstetric procedures (amniocentesis, chorion villus sampling and foetal blood sampling) and other technical procedures (radiopelvimetry, amnioscopy, cervical cerclage, amniodrainage). Gynaecologists are also entitled to treat existing diseases during pregnancy or avoid their occurrence (e.g. by vaccination, management of infectious diseases or surgical interventions).

According to the Planning Unit for Healthcare Professions Workforce within the FPS Public Health, on 31/12/2017, 1 703 gynaecologists-obstetricians had an official residence in Belgium, and a licence to practice.[2] The percentage of those who were professionally active in the same year is unknown. However, in 2012, 77.2% of gynaecologists licensed to practice were professionally active, and 76.5% were active in the field of health and disability insurance. Nonetheless, the percentage of workforce dedicated to obstetric care is unknown. The country repartition in 2017 showed 835 gynaecologists-obstetricians residing in Flanders, 582 in Wallonia and 286 in Brussels. The overall feminisation rate was 52% and 35% of the gynaecologists were above 60 years old.[2]

The Planning Unit for Healthcare Professions Workforce estimated that the number of gynaecologists-obstetricians in Belgium will range from 2 135 to 2 232 in 2037 depending on the forecasting assumptions (i.e. from 1 541 to 1 935 Full Time Equivalents (FTE)).[3, 4]

- For the Flemish Community, the forecasting showed that the number of gynaecologists-obstetricians will range from 1 135 to 1 203 (i.e. from 960 to 1 210 FTE).[3, 4]
- For the French Community, the number of gynaecologists-obstetricians will range from 1 000 to 1 029 (i.e. from 581 to 725 FTE).[3, 4]

In comparison with 2012, the global number of gynaecologists will increase in both communities. However, the global workforce, expressed in FTE could be very different between communities (see Table 1). In the French Community a shortage of gynaecologists is expected if the worst case scenario of the forecasting model will become a reality, while in the Flemish Community the global workforce will increase beyond the increase of the population irrespective of the scenario.

Table 1 – Estimated variations in gynaecologist workforce in comparison with demographic changes, between 2012 and 2037

Community	Workforce (in FTE)[3, 4]	Evolution of the number of women (inhabitants)[5]	Evolution of the number of women in childbearing age (inhabitants)[5]
Flemish Community	from + 57% to + 65%	+ 11%	+ 0.6%
French Community	from – 12% to + 7%	+ 10%	+ 2.6%

[d] Arrêté ministériel du 15 septembre 1979 fixant les critères spéciaux d'agréation des médecins spécialistes, des maîtres de stage et des services de stage pour la spécialité de la gynécologie-obstétrique (MB 26.09.1979) / 15.09.1979 - Ministerieel besluit tot vaststelling van de bijzondere criteria voor de erkenning van geneesheren-specialisten, stagemeesters en stagediensten voor de specialiteit van gynécologie-verloskunde (BS 26.09.1979)

2.1.2. Midwives

In Belgium, midwives attend a bachelor training in a high school (University College) for 3 years in the Flemish Community or 4 years in the French Community[e]. More information on the midwifery training can be found elsewhere.[6]

For low-risk pregnancy, the professional activities of a midwife encompass:[f]

- antenatal activities including:
  - provision of family planning information and advice,
  - diagnosis of pregnancies and monitoring normal pregnancies,
  - prescribing or advising on the examinations necessary for the earliest possible diagnosis of pregnancies at risk,
  - provision of parenthood preparation programs and,
  - preparation for childbirth including advice on pain management during the labour, delivery management, hygiene and nutrition.
- activities related to labour and delivery including:
  - caring for and assisting the mother during labour and monitoring the condition of the foetus,
  - conducting spontaneous deliveries,
  - recognising the warning signs of abnormality in mother or infant which necessitates referral to a doctor,
  - examining and caring for the newborn.
- activities related to the postnatal period including:
  - caring for and monitoring the progress of the mother and the newborn in the postnatal period,
  - and giving all necessary advice to the mother on infant care.

Beside low-risk pregnancies, a midwife can manage, under a physician's responsibility, the treatment of fertility problems, high-risk pregnancies, high-risk deliveries, neonates with a life-threatening condition (Law of 10/05/2015).

The current practice of the midwifery profession in Belgium is marked by three milestones. Firstly, in 2005, the midwifery education programme has been separated from the nursing training. That implies that, from 2005, a future midwife does no longer benefit from a training to be a nurse responsible for general care. Secondly, the midwifery competences were extended in 2006 to drugs prescription, perineal rehabilitation and

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[e] General diploma requirements are to be found in article 63 of the following legislation : Loi coordonnée du 10 mai 2015 relative à l'exercice des professions des soins de santé (MB. 18.06.2015) / Gecoördineerde wet van 10 mei 2015 betreffende de uitoefening van de gezondheidszorgberoepen (BS. 18.06.2015).

[f] General competencies of the midwives are described in article 62 of the following legislation: Loi coordonnée du 10 mai 2015 relative à l'exercice des professions des soins de santé (MB 18.06.2015) / Gecoördineerde wet van 10 mei 2015 betreffende de uitoefening van de gezondheidszorgberoepen (BS. 18.06.2015). The detailed competencies are described in the Royal Decree of 1 February 1991 related to the profession of midwife (Arrêté royal du 1er février 1991 relatif à l'exercice de la profession de sage-femme (MB. 06.04.1991) / Koninklijk Besluit van 1st Februari 1991 betreffende de uitoefening van het beroep van vroedvrouw (BS. 06.04.1991)).

See also Directive 2005/36/EC on the recognition of professional qualifications, 7 September 2005. Available from: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32005L0036 and Directive 2013/55/EU amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System ('the IMI Regulation'), 20 November 2013. Available from: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32013L0055

performing ultrasounds[g]. The drug prescription is organised by two Royal Decrees (2013)[h] but perineal rehabilitation and performing ultrasounds are awaiting the implementation decree. This means that practically the midwives may prescribe a limited list of drugs after an appropriate training but may not yet perform perineal rehabilitation, nor ultrasounds despite the legal extension of their competencies. Finally, from 1st October 2018, new graduated midwives will restrict their nursing activities to nursing technical procedures related to fertility, maternity, neonatology and gynaecology.[i] New licensed to practice midwives can no longer provide other nursing technical procedures. In practice, this means that in hospitals, midwives will restrict their activities to services where their competencies apply (maternity and neonatal wards). Detailed information about these milestones can be found in KCE report 278.[6]

According to the Planning Unit for Healthcare Professions Workforce, on 31/12/2017, 11 401 midwives were licensed to practice in Belgium (7 723 residing in Flanders, 2 843 in Wallonia and 835 in Brussels).[2] Among them, 686 midwives (i.e. 6.0% of the midwives) were accredited to prescribe drugs (351 in Flanders (4.5%), 252 in Wallonia (8.9%) and 83 in Brussels (9.9%)). The majority of midwives were female and 106 midwives were male (67 in Flemish region, 30 in Wallonia and 9 in Brussels). Among midwives licensed to practice, 4.7% were aged between 60 and 64 and 6.7% were 65 years old or over. In parallel with gynaecologists, no registered data document the real midwifery workforce, i.e. the number actually practising midwifery care.

Therefore, the Planning Unit for Healthcare Professions Workforce estimated the workforce with the PlanCAD methodology (more information on PlanCAD is available in KCE report 278).[6] In 2014, 11 633 midwives were licensed to practice.[7] Among those, 8 671 (i.e. 74.5% of the midwives licensed to practice) were professionally active but only 6 973 (i.e. 59.9% of the midwives licensed to practice) were active in the healthcare sector. Details on activity sectors outside the healthcare sector can be found elsewhere.[7] As shown in Table 2, when looking at the density of active midwives in the healthcare sector per 10 000 women of childbearing age, the south of the country seems to be underserved in comparison with other regions. The proportion of midwives licensed to practice who are really active in midwifery is 43.8% and 50.4% respectively for Flemish Community and French Community. The workforce in midwifery is estimated to 2 435 FTE in the Flemish Community and 1 744 FTE in the French Community.

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g Loi du 13 décembre 2006 portant dispositions diverses en matière de santé (MB. 22.12.2006) - Wet van 13 December 2006 houdende diverse bepalingen betreffende gezondheid (BS. 22.12.2006).

h Arrêté Royal du 15 décembre 2013 fixant les modalités et les critères de qualification particulière permettant au titulaire du titre professionnel de sage-femme de prescrire des médicaments (MB. 14.01.2014) / Koninklijk Besluit van 15 december 2013 tot bepaling van de nadere regels en de bijzondere kwalificatiecriteria die de houder van de beroepstitel van vroedvrouw de mogelijkheid geven geneesmiddelen voor te schrijven (BS. 14.01.2014) and Arrêté royal du 15 décembre 2013 fixant la liste des prescriptions médicamenteuses pouvant être rédigées de manière autonome par les sages-femmes dans le cadre du suivi de la grossesse normale, de la pratique des accouchements eutociques et des soins aux nouveaux-nés bien portants dans ou en dehors d'un hôpital (MB. 14.01.2014) - Koninklijk besluit bepalende de lijst van de geneesmiddelen die door de vroedvrouwen autonoom mogen worden voorgeschreven in het kader van de opvolging van normale zwangerschappen, de praktijk van normale bevallingen en de zorg aan gezonde pasgeborene in en buiten het ziekenhuis (BS. 14.01.2014).

i Loi du 10 avril 2014 portant des dispositions diverses en matière de santé (MB. 30.04.2014) / Wet van de 10 April 2014 houdende diverse bepalingen inzake gezondheid (BS. 30.04.2014).

Table 2 – Repartition of midwives between regions in Belgium (2014)[7]

Midwives	Belgium*	Flanders	Wallonia	Brussels
Licensed to practice (n)	11 633	7 287	2 654	810
Professionally active (n)	8 671	5 974	1 993	553
Active in the healthcare sector (n)	6 973	4 728	1 656	459
Active in the healthcare sector/10 000 women of childbearing age (n)	28	31	19	37
Active in midwifery (n)	Flemish Community: 3 191		French Community: 1 744	
Active in midwifery (FTE)	Flemish Community: 2 435		French Community: 1 327	
Active in midwifery/10 000 women of childbearing age weighted by care consumption (n)	Flemish Community: 7		French Community: 6	

** The number of midwives in Belgium is the sum of midwives living in Flanders, in Wallonia, in Brussels and the number of midwives for whom the residence location is unknown*

As for the gynaecologists, the Planning Unit for Healthcare Professions Workforce has developed a forecasting model and made projections regarding the availability of midwives with a midwifery activity in the coming years. As one of the forecasting assumptions, the authors took into account the end of the right for midwives graduated since 2018 onwards to provide the whole range of nursing technical procedures. Results of the forecasting model for 2039 shows that, in the Flemish Community, 6 025 midwives would be available (i.e. 4 749 FTE) and 3 523 in the French Community (i.e. 2 793 FTE). According to the forecasting model, the workforce would approximately double in 25 years, from 3 762 FTE to 7 542 FTE.[8]

2.1.3. Physiotherapists

The training in physiotherapy is a 4-year master degree in the French Community and a 5-year master degree in the Flemish Community. In the French Community, similar education programmes are delivered in universities and high schools (University College) while in the Flemish Community, only universities offer this training.

Physiotherapy includes the habitual providing of[j] :

1. systematic interventions to address functional musculo-skeletal, neurophysiological, respiratory, cardiovascular, and psychomotor disorders by the application of one or more of the following forms of therapy:
   - mobilization, namely to make the patient move, for medical purposes, with or without physical assistance;
   - massage therapy, namely to submit the patient to techniques of massage, for medical purposes;
   - physical therapy, namely to apply, the non-invasive physical stimuli such as electric currents, electromagnetic radiation, ultrasound, hot and cold or bathing to the patient, for medical purposes;

[j] General diploma requirements and competencies of the physiotherapists are described in article 43 of the following legislation: Loi coordonnée du 10 mai 2015 relative à l'exercice des professions des soins de santé (MB 18.06.2015) / Gecoördineerde wet van 10 mei 2015 betreffende de uitoefening van de gezondheidszorgberoepen (BS. 18.06.2015). Agreement procedure is described in the following legislation : Arrêté royal du 15 avril 2002 relatif à l'agrément en qualité de kinésithérapeute et à l'agrément des titres particuliers et des qualifications particulières (MB. 28.06.2002) - Koninklijk besluit betreffende de erkenning als kinesitherapeut en de erkenning van bijzondere beroepstitels en bijzondere bekwaamheden (BS. 28.06.2002).

2. patient's examination and motor activity reports to support the medical diagnosis or to establish a treatment pathway consisting of interventions described in 1°;
3. the conception and development of treatment consisting of interventions described in 1°;
4. abdomen and pelvic rehabilitation and antenatal physiotherapy.

From 2015, a specific professional qualification in abdomen and pelvic rehabilitation and prenatal physiotherapy is set up[k]. A 45 ECTS training is required after or in complement to the general training in physiotherapy of at least 240 ECTS. This additional training includes theoretical and practical lessons followed by internships in the field of abdomen and pelvic rehabilitation and antenatal physiotherapy. Maintaining this specific accreditation requires, on the one hand, the maintenance and the update of the knowledge in abdomen and pelvic rehabilitation and antenatal physiotherapy and on the other hand, a minimum of 1200-hour practice or scientific research.

According to the Planning Unit for Healthcare Professions Workforce, in 2017, 341 physiotherapists had a professional competence in abdomen and pelvic rehabilitation and antenatal physiotherapy (i.e. 1.0% of all physiotherapists in Belgium).[2] Among those, only 8 were men. There were 333 physiotherapists having this competence in Flanders, 5 in Wallonia and 3 in Brussels. An explanation for the low number of accredited physiotherapists in the French Community may be found in administrative delay to manage the request for recognition. The real workforce dedicated to ANC is unknown.

The figures above are probably underestimated because of the transitory period for the recognition of physiotherapists trained before 2015 and the non-mandatory accreditation to perform ANC.

2.1.4. General Practitioners (GPs)

GPs are trained in Belgium during 3 years after having obtained a 6-year physician degree[l].

GPs may perform any medical care but they should behave as a normally prudent and diligent professional and therefore only provide the care for which they are competent and refer the patient to a colleague when they are not competent.

According to the Planning Unit for Healthcare Professions Workforce, there were, on 31/12/2017, 15 989 GPs in Belgium. The percentage of those who provide ANC is unknown. The country repartition of the GPs licensed to practice shows 8 982 GPs residing in Flanders, 5 425 in Wallonia and 1 582 in Brussels. The overall feminization rate was 40% and 42% of the GPs were older than 60.[2] The forecasting model developed by the Planning Unit for Healthcare Professions Workforce estimated the workforce in 2017: 7 194 FTE for INAMI – RIZIV activities in the Flemish Community and 3 783 FTE in the French Community (i.e. a weighted density by care consumption of 10.72 FTE / 10 000 inhabitants in the Flemish Community and 8.09 FTE / 10 000 inhabitants in the French Community).[3, 4] The forecasting model estimated for 2037 a weighted density from 6.74 to 7.93 FTE / 10 000 inhabitants for the Flemish Community and 5.09 to 7.44 FTE / 10 000 inhabitants for the French Community.

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[k] Arrêté Ministériel du 22 avril 2014 fixant les critères particuliers d'agrément autorisant les kinésithérapeutes à se prévaloir de la qualification professionnelle particulière en rééducation abdomino-pelvienne et kinésithérapie périnatale (MB. 08.08.2014) / Ministerieel besluit van 22 April 2014 tot vaststelling van de bijzondere erkenningscriteria waarbij de kinesitherapeuten gemachtigd worden zich te beroepen op de bijzondere beroepsbekwaamheid in de bekkenbodemreëducatie en perinatale kinesitherapie, BS. 08.08.2014).

[l] The agreement conditions are to be found in the following legislation: Arrêté ministériel du 1er mars 2010 fixant les critères d'agrément des médecins généralistes (MB. 04.03.2010) - Ministerieel besluit van 1 Maart 2010 tot vaststelling van de criteria voor de erkenning van huisartsen (BS. 04.03.2010).

Box 2 – Overview of the general rules applicable to healthcare provision

In addition to the above mentioned diploma and authorisations (see section 2.1.1, 2.1.2, 2.1.3) healthcare practitioners have to comply with the organisational and quality rules defined by the law of 10 May 2015 related to the exercise of healthcare professions (for instance on-duty services, training requirements, referral obligations etc.)[m].

In their therapeutic relationship with their patients, healthcare practitioners must also comply with the law on patient's rights that confers to patients the right to qualitative healthcare provision, the right to choose freely their care providers (and to modify this choice), the right to receive all information to understand their health status, its likely evolution and to freely consent to any intervention, the right to privacy, the right to benefit from medical record carefully updated and held in safekeeping[n].

Therefore, on 22 April 2019, the Belgian legislator adopted a new law relating to the quality of the care provision (Law on the Quality of Healthcare Practice)[o]. This law intends to transpose certain patients' rights in more specific correlative obligations for healthcare practitioners. In other words, it sets specific behaviour rules for all healthcare practitioners. In the event of contradictions, these new rules will prevail over the law on patient's rights[p].

This law will apply to all healthcare professionals covered by the law of 10 May 2015 (doctors, pharmacists, dentists, physiotherapists, nurses, midwives, paramedics) but also to alternative healthcare practitioners. It applies wherever the concerned practitioners' practices (hospital ward, private practice), to all care provisions (reimbursed or not) and to all patients (Belgian or foreigners). It will enter into force in July 2021.

This law takes over some quality obligations of the law related to the exercise of healthcare professions of 10 May 2015[m] and introduces some novelties "strengthening" the prudence obligations for all healthcare professionals. These new quality requirements represent new conditions for practice.

Of particular importance in the context of antenatal care are the following obligations: healthcare practitioners must take **medical decisions on the basis of relevant scientific evidence** and his/her own **professional expertise**, taking into account **patient's preferences** (article 4 of the Law of 22 April 2019)[o]:

- A healthcare practitioner shall only provide care for which he/she is competent and **record his/her experience in a personal portfolio** (article 8)[o];
- A healthcare practitioner must refer the patient to a colleague when he/she is not competent or when the patient's health requires so and **register this referral in the patient's record** (article 9)[o];
- A healthcare practitioner must characterise the medical situation of the patient before treating him and **register the relevant information in the patient's record** (article 12)[o];
- A healthcare practitioner must ensure that he/she works in **an appropriate and qualitative context**. This refers to an obligation of means (e.g. use the appropriate material, check its storage environment, check that the necessary and competent staff is available, comply with the guidelines provided by national and international bodies etc.) (article 14)[o];

[m] Loi coordonnée du 10 mai 2015 relative à l'exercice des professions des soins de santé (MB. 18.06.2015) / Gecoördineerde wet van 10 Mei 2015 betreffende de uitoefening van de gezondheidszorgberoepen (BS. 18.06.2015).

[n] Loi du 22 août 2002 relative aux droits du patient (MB. 26.09.2002) / Wet van 22 Augustus 2002 betreffende de rechten van de patiënt (BS. 26.09.2002).

[o] Loi du 22 avril 2019 relative à la qualité de la pratique des soins de santé (MB. 14.05.2019) / Wet van 22 April 2019 inzake de kwaliteitsvolle praktijkvoering in de gezondheidszorg (BS. 14.05.2019).

[p] *Doc. Parl*., Ch., 2018-2019, n°54-3441/001, p. 10.

- A healthcare practitioner must ensure the continuity of care and provide, when he/she performs high-risk interventions, an efficient emergency transfer procedure (articles 17 to 20).º When various healthcare professionals are involved and if the patient gave his general and informed consent, they should **actively and systematically share** all necessary medical information between the healthcare professionals involved (articles 19 and 36)º;
- A healthcare practitioner must participate in on-duty services when they are organised (articles 26-21)º;
- Healthcare practitioners must complete patients' medical records with detailed information within the scope of his/her competence (articles 33 to 35)º:
  - patient's identification data;
  - patient's general practitioner and other healthcare practitioners involved in the patient specific care;
  - reason for consultation;
  - personal and family medical history;
  - diagnosis established by the healthcare professional involved and test results;
  - summary of the discussions with the patient, other healthcare professionals or third party;
  - certificates, reports or advises received from the patient or third party;
  - the objectives and expression of the will of the patient;
  - the characterisation of the patient as referred to in article 12;
  - the chronological overview of healthcare with an indication of the type and the date;
  - the evolution of the medical condition if it is relevant;
  - referrals to other healthcare professionals, services or third party;
  - pre-, peri- and postoperative medicines and health products, including the medication scheme;
  - complications that require further treatment;
  - in case of hospitalization, if deemed relevant by the healthcare professional, a daily report on the patient's health evolution;
  - the fact that information was provided, with the consent of the patient, to a trusted person or to the patient in the presence of a trusted person and the identity of this person;
  - the request of the patient for not providing him with information;
  - the motivation of not disclosing information to the patient;
  - the request of the patient to be assisted by a trusted person or to exercise its right to consult his/her medical record through this person;
  - the reasons for denying the request of the patient's representative seeking consultation or copy of the medical record of patient;
  - the motivation of the derogation from the decision taken by a representative of the patient.
- Healthcare practitioners must obtain patient's approval to access the medical records held by other professionals (articles 36 to 40)º;

The King may describe further requirements concerning the patient record, the continuity of care, the on-duty services, the cooperation between healthcare practitioners or the quality of care (article 32)º.

2.2. Antenatal care settings and healthcare institutions engaged in antenatal care

The future mothers have always the choice to opt for practitioners in- or outside hospitals for antenatal care. Different settings are available for the clinical follow-up of the pregnancy such as hospitals, private practices or other centres. Healthcare institutions (i.e. the offices for children of the federated entities and the sickness funds) also offer parenthood education and pregnancy support to parents to be (more details are available below).

2.2.1. Hospital settings

Hospitals with a maternity department organise antenatal consultations. Depending on the hospitals, the clinical follow-up is performed by gynaecologists, midwives or by gynaecologists and midwives alternating. The 3 ultrasounds reimbursed by the National Institute for Health and Disability Insurance (NIHDI – INAMI – RIZIV) are up to now always performed by gynaecologists.

Preparation to the delivery may be performed by physiotherapists, midwives or both. The majority of hospitals also propose either individual or group sessions, usually led by physiotherapists or midwives, regarding breastfeeding, parenthood, administrative issues linked to birth, organisation of the postpartum period, return to work, etc. The volume of such group sessions is described in section 5.3.3.

All services provided are financed by fee-for-service payment. Social support may be provided for free by a social worker of the hospital or by the TMS of the ONE in the French Community (see below).

2.2.2. Private practices

Ambulatory antenatal consultations for the clinical follow-up are provided by gynaecologists, midwives or GPs. The private practice may be organised in solo or in group. However, ultrasounds are performed by gynaecologists whose private practices are equipped with material for morphological ultrasounds. Future mothers may be referred to other private practices of gynaecologists or to hospitals when the treating gynaecologist is not equipped. At well-equipped hospitals and private practices, some gynaecologists focus their activities on performing ultrasounds.

Birth preparation may be offered by physiotherapists or midwives working in private practices. Midwives also offer birth and parenthood preparation sessions in private practices.

When a need for social support is observed, the care provider may refer patients to a TMS of ONE in the French Community (see above), K&G consultations in the Flemish community or to social workers of Public Social Welfare Centre (CPAS/OCMW).

2.2.3. Other settings

Medical houses

A medical house (*Maison médicale* – *Wijkgezondheidscentrum*) employs a multidisciplinary team composed of GPs, nurses, physiotherapists and social workers. However, the composition of the team may vary from one medical house to another. Overall, the clinical follow-up of pregnant women can be performed by the GP or, when available, by midwives. However, midwives are included in the team of very few medical houses. The number of pregnancies followed in medical houses is unknown but a recent survey showed that the clinical follow-up of pregnancy is scarce and non-systematic.[9]

The medical houses are funded by fee-for-service (with application of the third-party payment principle) or a capitation grant for each patient registered in a medical house. On 30 June 2018, there were 180 medical houses in Belgium, i.e. 72 in Brussels, 65 in Wallonia and 43 in Flanders (Audit report 2018 – INAMI – RIZIV; personal communication from Patrick Verliefde).

Family planning centres

These outpatient centres endorse multiple missions regarding emotional, relational and sexual life. To carry out their missions, medical doctors including gynaecologists, psychologists, lawyers, nurses and social workers are part of the team of family planning centres.

The family planning centres target the entire population but mainly young people, women and socially vulnerable people. The follow-up of pregnancy is part of their mission in addition to contraception counselling and access to abortion (performed only in some centres). The proposed follow-up includes clinical follow-up, birth and parenthood preparation, legal support and help to obtain a place in a child care facility.

There were 80 family planning centres in Wallonia in 2018 (10 in Walloon Brabant, 30 in Hainaut, 10 in Namur, 10 in Luxembourg and 20 in Liège). In Brussels, there were 29 centres. These centres are organised and financed by the French Community Commission (COCOF) in Brussels[q] and by AViQ in Wallonia.[r] There are no longer family planning centres in Flanders.

The family planning centres apply a fee-for-service system. Most of the family planning centres apply the third-party payment principle.

The number of pregnancies followed in family planning centres is unknown.

Expert centres for maternity care (*Expertisecentra Kraamzorg*)

Since 2003, after the integration of maternity home care in general services for family care, expert centres for perinatal care (*Expertisecentra Kraamzorg*) were installed in Flanders. The aim was to safeguard and develop knowledge regarding maternity home care including, on the one hand, the postnatal care for mother and newborn, and on the other hand, the maternity home care assistance. The expert centres for maternity care were created as partner organisation of “Kind en Gezin” (K&G).

Six expert centres for perinatal care, one in each Flemish province and one for Brussels, realise actions in six areas[s]:

- Collection and distribution of scientific information, specialised documentation and methods regarding maternity care.
- Welfare- and health promotion and education regarding pregnancy, childbirth and postnatal period.
- Disclosure and awareness raising regarding maternity care.
- Evidence-based education and promotion of expert knowledge through advice, support and guidance.
- Signalling function and the provision of input for policy making based on unified registration.
- Alignment of different actors involved in antenatal and postnatal care and facilitation of networks and collaboration.

2.2.4. Kind & Gezin, ONE and Kaleido

After the 2nd State reform in 1980, the Communities decided about matters relating to health and social services. An agency for prevention and support for young children and their parents was created in each of the 3 communities: Kind & Gezin (K&G - Child & Family) in the Flemish Community, Office de la Naissance et de l’Enfance (ONE) in the French Community, and Kaleido Ostbelgien in the German Community. To provide universal ANC is one of the missions of these agencies, in addition to the provision of postnatal follow-up and parental support.

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q Décret de la Commission Communautaire Commune du 5 mars 2009 relatif à l'offre de services ambulatoires dans les domaines de l'action sociale, de la famille et de la santé (MB. 08.05.2014) / Decreet van Franse Gemeenschapcommissie van 5 Maart 2009 betreffende het aanbod van ambulante diensten in de domeinen van de sociale actie, het gezin en de gezondheid (BS. 08.05.2014)

r Décret du Gouvernement Wallon du 23 janvier 2014 modifiant certaines dispositions du Code wallon de l'Action sociale et de la Santé relatives aux centres et aux fédérations de planning et de consultation familiale et conjugale (MB. 11.02.2014) / Decreet van de Waalse Regering van 23 January 2014 tot wijziging van sommige bepalingen van het Waalse wetboek voor sociale actie en gezondheid i.v.m. de centra en federaties voor levens- en gezinsvragen (BS. 11.02.2014)

s http://www.expertisecentrakraamzorg.be

2.2.4.1. Specificities of Kind & Gezin

Formal organisation and structure

K&G was founded in 1984 after the federalisation of Belgium. It is an independent agency (*Intern Verzelfstandigd Agentschap met Rechtspersoonlijkheid* (IVArp)) that works actively in 'Public Health, Welfare and Family' policy area[t]. The agency exercises the tasks defined in the Founding Decree and other regulations. A management agreement between K&G and the Flemish government specifies the services needed to be offered by K&G. This agreement lasts for one legislature and is tuned to the responsible Minister's policy[u]. This Flemish agency focuses on preventive treatment and guidance of young children geared to good outcomes in the future. The purpose is to enable children to achieve their full developmental potential, physically, mentally, emotionally and socially, with respect for diversity and children's rights. This year (2019) the Flemish agencies K&G and Jongerenwelzijn (youth welfare) will be merged into one agency 'Opgroeien' (growing-up) to be able to support families even better.

K&G services related to the antenatal period

K&G organises free guidance for parents (to be) from pregnancy until the child is 3 years old. Hence this comprises both ante- and postnatal care. In infant welfare clinics K&G offers consultations, vaccinations, eye and hearing tests, and follow-up of children's development. Antenatal care services are mostly oriented towards vulnerable parents.

Antenatal support centres (Prenataal steunpunt)

K&G provides targeted services to expectant parents who have minimal or no access to healthcare for administrative, personal, financial or other reasons. K&G offers an easy access for anyone who finds it difficult to ask for assistance.

Their free antenatal services consist of home visits and/or visits to one out of four antenatal support centres (1 in Ghent and 3 in Antwerp). In case no antenatal support centre is available close to the home, future parents are visited at home by a nurse and/or a social worker.

Antenatal support centres (Prenataal steunpunt) offer the following support:

- Intake
- Home visit in weeks 8 and 32 of pregnancy
- Consultation in weeks 12, 16, 20, 24, 28, 36 of pregnancy
- Consultation about 6 weeks after the baby is born.

Services are tailored to the parents' needs, hence the number of contacts vary. When medical care is required (e.g. an ultrasound or support during childbirth), K&G refers to other care providers.

Introductory meeting or home visit

Recently K&G shifted the introductory visit from the first days after birth (bedside visit) to the last trimester of pregnancy. The shift in timing parallels a shift in place, from the bedside in the maternity clinic, the home setting of future parents or another place such as a K&G consultation office or at one of the 'Huizen van het Kind' (Houses of the child). During the introductory home visit future parents are informed about parenthood and about the services K&G has to offer. In function of the needs an integrated family trajectory can already be started. Pregnant women are identified through E-birth, the K&G portal, the K&G newsletter or their application for child allowances. K&G nurses contact the future parents to make an appointment.

[t] Decree of 30 April 2004 setting up the internal independent agency with legal personality Kind en Gezin, O.J. 7 June 2004.

[u] http://www.kindengezin.be/img/beheersovereenkomst-2011-2015.pdf

Information sources for future parents

K&G offers information for future parents, through several channels such as pregnancy booklet, K&G brochures, K&G newsletters and K&G information sessions.

The information sessions are organised in maternity clinics and provide information on topics such as the development of the foetus, support during pregnancy, pregnancy related physical difficulties, antenatal testing, becoming a parent, delivery, breastfeeding, etc.

K&G has an electronic record of each pregnant woman. After birth an electronic child record is automatically created. This record is shared with other ANC professionals through Vitalink (see chapter 2.4). The sharing of information between the maternity clinic and primary care providers (e.g. GPs, midwives) is currently under construction.

Apart from the services described above, K&G offers other services but these are more related to the postnatal period and are therefore beyond the aim of this chapter.

2.2.4.2. Specificities of ONE

General mission

Since the 6th reform of the State, the mission of ONE is enlarged from ANC to health promotion in schools in addition to pre-existing services including early childhood services (nurseries), the organisation of activities for children during their free time or holidays, preventive follow-up for the 0 to 6 years old children, dental health, specialised services for children whose parents have temporarily serious difficulties to care for them, adoption, parenthood support and child abuse. The target population of ONE is composed of children before birth up to 18 years old.

Antenatal activities of ONE consist of pregnancy follow-up, prevention of vulnerabilities and parenthood support.

Preconception

ONE developed a guide for preconception health dedicated to health professionals.[10] In this guide, information may be retrieved about preconception health but also for inter-conception health. ONE provides advices regarding these two topics but the implementation of interventions should be strengthened in collaboration with the family planning centres (*centres de planning familial*).

Organisation of ANC

Hospital based ANC

The clinical follow-up is provided by the hospital staff (midwives or gynaecologists). These consultations are supported by medico-social workers (*travailleurs médico-sociaux* – TMS) working in dyad with the gynaecologists. The TMS's tasks mainly consist of providing information regarding administrative issues, social rights, nutritional advices, breastfeeding, delivery preparation sessions, preparation of maternity discharge, parenthood, etc.[11-17] TMS also evaluate the future parents' needs related to their specific socio-economic situation.

All information given by the TMS and all medical data are stored in "My pregnancy notebook" ('*Mon carnet de grossesse*') that also contains the medical file ('*Dossier Médical*'). It serves as a link between all health professionals during the pregnancy and is a source of information for both professionals and parents.[17] Details are given below.

In 2017, there were 26 hospital based ANC consultation centres. The same year, 16 355 pregnancies were followed during hospital consultations by TMS.[18] This number has been growing these last ten years.

Community based ANC

Regarding community antenatal consultations, the services provided by the TMS are the same as those provided at hospital. However, the clinical follow-up is provided by midwives, GPs or gynaecologists (urine tests, blood tests, weight measurements, blood pressure measurements, fundal

(uterine) height measurements and monitoring). The ultrasounds are performed at hospital or by private gynaecologists. In case of complications occurring during pregnancy, women are referred to a hospital.

Except for ultrasound examinations, all care is financially covered by the French Community, so care is free at the point of use for the mothers-to-be.

In 2017, there were 11 community based ANC centres following 976 pregnancies. This number has declined from the last ten years by approximately 50%. The decrease in the number of births and the limited capacity of community consultations may explain this decline.[18]

Home visit

A home visit is proposed during the pregnancy and at 5 moments after the birth. The schedule of visits is tailored to the family needs. During the antenatal visit, the TMS provides information adapted to the daily lives of pregnant women.

Antenatal platforms for vulnerable women

Since 2012, due to the absence of ONE antenatal consultation structures in the province of Luxembourg, a new form of antenatal follow-up has emerged. A platform made up of two TMS in charge of accompanying pregnant women facing distress or vulnerability has been established. These women are oriented to the platform by the gynaecologists with whom the ONE signed an agreement. When gynaecologists detect a psycho-social problem, they contact the TMS who get in touch the woman to make an additional appointment. This appointment can take place at home or during gynaecologist consultations. The evaluation of the platform in 2014 has shown the value of such a system. On the basis of the experience in the province of Luxembourg, a similar project is being organised since 2014 in the district of Verviers in the province of Liège. The setup of additional platforms would be possible in the coming years.

In 2016, 147 pregnancies were followed in the platforms of Luxembourg and Verviers. This number increased up to 171 pregnancies in 2017.[18]

The birth pathway (*Le chemin de naissance*)

The birth pathway is a guide dedicated to the TMS.[19] This document complements the medical file and is adapted for all types of ONE antenatal follow-up. It is composed of 5 sections:

1. A form to record identification data and notes related to social networks, family and contact details of the health professional(s) who is(are) 'responsible' for the antenatal and postpartum period.
2. Professional notes of the TMS taken during each contact with the future parents.
3. A form to describe:[20]
    a. The future mother: information related to the mother that may influence the pregnancy and the health of both mother and baby such as diet, tobacco use, addiction, diabetes, stress, emotions, and implication in the pregnancy, foetal development, etc.
    b. The parenthood project: initiatives for the arrival of the baby.
    c. The socio-economic situation: information regarding the socio-economic situation of the parents (professional status, unemployment, health insurance, the use of social and financial assistance from CPAS/OCMW, etc.)
    d. The TMS involved in the follow-up: information regarding all professionals around the future parents that are an active resource for the family (CPAS/OCMW, physicians, etc.) as well as parents' denial to be accompanied by one of these resources.

    This birth pathway is completed by another pathway for the perinatal period (*Le chemin périnatal*).
4. A list of topics that need to be discussed with the families.
5. A form dedicated to the contacts with the ONE network and a summary of the contact with future parents.

Birth Plan

All the information needed to construct the birth plan is available in the pregnancy notebook (*'Mon carnet de grossesse'*).[17] The birth plan may be discussed with the gynaecologist, the midwife or the TMS according the mother's preference. The birth plan may be reported in the medical file ('*Dossier Médical'*) of the ONE booklet.[17]

Information sessions

Information sessions regarding birth preparation and parenthood education are organised by ONE in close collaboration with midwives in some hospitals. In addition, a perinatal contact may individually be organised to present the different services proposed by ONE for the period ranged from antenatal up to 18y.

Specific approaches for vulnerability

ONE develops specific interventions for pregnant women in prison,[21] for geographical areas non-covered by ONE consultations (see platforms described above) and highly vulnerable populations (e.g. immigrates or pregnant women living in irregular situation or child refugees). For the latter, a financial support may be offered when medical costs may be covered by urgent medical aid or by hospitals. In addition, an enhanced follow-up is proposed when psycho-social vulnerability is assessed.

Financing

In 2016, 33% of the pregnancies were followed by ONE whatever the modality of service provided. However, the coverage is highly variable across provinces (55.0% in Brussels, 40.0% in Hainaut, 20.5% in Liège, 9.8% in Namur, and 1.2% in Walloon Brabant).[18] All interventions provided by ONE are free of charge for the pregnant women. All the costs are supported by the French Community. In the platforms, gynaecologists and midwives also abandon their fees.

Electronic shared file

An electronic shared file is set up by ONE. This file includes medical and social data covering the period from before birth up to 18y.

2.2.4.3. Specificities of Kaleido-Ostbelgien

General mission

Kaleido-Ostbelgien (*Zentrum für die gesunde Entwicklung von Kindern und jugendichen*) was created in 2014. Its mission is to promote the healthy mental, physical and social development of children and adolescents in the German speaking Community. Its action began from care to pregnant women through the medical follow-up of children in schools and counselling of young adults up to 20 years old.[22]

Information sessions

The services offered to pregnant women consist of counselling, financial assistance, and parenthood education via home visits by a social nurse.

- Birth preparation: Information regarding the services proposed by hospitals is available on the website of Kaleido. Hospitals organise birth preparation (with a midwife and a physiotherapist), aquatic preparation, relaxation, pelvic exercises, pain management during the labour and breastfeeding.[23]
- Information session regarding administrative issues: In the near future, Kaleido will propose information sessions regarding pregnancy and postnatal issue such as family allowance, the role of midwives, child care centre to women at third trimester of pregnancy.
- Parenthood education: Different sessions regarding parenthood are proposed and are led by health professionals (physicians, midwives or educator). During these sessions, a babysitting service is provided to allow parents' attendance. In addition, parents received a discount voucher for nursery material in local shops. Detailed information is available on Kaleido website (https://kaleido-ekb.be/index.php/home.html).

Interventions for vulnerable pregnant women

The services provided in the antenatal period are universal but special attention is dedicated to vulnerable women. Since 2014, the German speaking Community offers financial support to pregnant women in distress. In this community, there are 760 deliveries per year of which 7% by vulnerable women (i.e. 50 to 80 women per year). Home visits may be organised for precarious pregnant women. The purpose is to perform a psycho-social follow-up, to give information over parenthood and to offer fruits and vegetables if needed. In addition, there is a social fund to support vulnerable pregnant women for medical costs during pregnancy. The social fund may take in charge all costs not covered by OCMW / CPAS. The social fund organizes a social investigation based on an analysis of income and expenses of the household. A team of midwives and social nurses supports pregnant women with financial difficulties (85%) and family issues (15%). Family issues are mainly related to mental health problems, addiction, undocumented migrants, lack of social support.

From 2014, the financial support equals 220€/month for a single mother, 185€/month/person in a household composed of 2 or 3 persons and 175€/month/person in a household composed of 4 or more persons. According to the evaluation by Kaleido, some additional grants may be attributed for fruits and vegetables (30€/month), pregnancy clothes (maximum 150€) and baby equipment (maximum 100€).

2.2.5. Sickness funds

Sickness funds play a role in supporting parents-to-be regarding their rights and obligations during the pregnancy and after the delivery. Information and support materials offered vary significantly from one sickness fund to another. Some have developed dedicated webpages, apps, or leaflets including information from preconception up to the postnatal period. In addition, one sickness fund offers a personalized appointment with an advisor.

Sickness funds provide information regarding maternity leave, breastfeeding leave or breastfeeding break during the working time and administrative formalities during the pregnancy and after the delivery (i.e. formalities for employer, municipality, family allowance or birth grant). In addition, some sickness funds offer information about pregnancy related health issues and about the choice of care providers and maternity services (including delivery cost calculators by hospital).

Beside informational support, additional birth grants and/or presents (e.g. discount vouchers, childcare items) are offered by some sickness funds.

2.3. Regulatory and financial framework for ANC

2.3.1. Financial framework

In Belgium, most healthcare professionals involved in ANC are self-employed and are paid on a fee-for-service basis. Patients are partly reimbursed afterwards. Although the analysis of alternative financing approaches for ANC is out of the scope of this report, it is worth mentioning that the interest for bundle payment financing scheme for such care is growing abroad, in particular in England[24] and the USA[25]. More research would be needed to determine if such a system could be appropriate in the Belgian ANC context.

2.3.1.1. Remuneration of healthcare professionals

Health insurance pays for medical services on the basis of a fee schedule, called “nomenclature” (see Box 3).

Box 3 – The remuneration system of healthcare providers

The nomenclature

Medical and paramedical services covered by compulsory health insurance are listed in a fee schedule, called “nomenclature”, which lists almost 9 000 unique covered services.

The list of reimbursable codes contains for each item the professional qualification needed to be eligible for reimbursement, a code-number, a description of the item, a key letter according to the medical or paramedical specialty, a coefficient and application rules.

The coefficient gives for each procedure the relative value compared to other procedures with the same key letter. Multiplying the coefficient by the value of the key letter determines the amount of payment to the provider concerned (i.e. the fee).

Official tariffs negotiated by the Committee on Agreements between healthcare providers and insurers

The type of reimbursable benefits and their amounts (total fee and reimbursement) are determined through a process of negotiations with the various parties involved within INAMI – RIZIV, all within pre-set budgetary limits. The National Commission of Sickness Funds and Providers (la Commission nationale médico-mutualiste / De nationale commissie artsen-ziekenfondsen) negotiates on the tariffs, and more specifically, on the value of the key letter.

The negotiated fee or "convention tariff" is settled in agreements (for physicians and dentists) and conventions (for among others home nurses, midwives, speech therapists, physiotherapists). Physicians who undergo continuing education and reach a minimum threshold of activity per year can obtain an accreditation[v]. This allows them to add a well-defined increment to the negotiated fee for a consultation.

Healthcare providers who subscribe the agreement or the convention (FR: praticiens conventionnés / NL: toegetreden zorgverleners / EN: contracted healthcare professionals) have to adhere to the negotiated fees and receive certain benefits in return, such as a supplementary pension plan. A partially contracted doctor accepts the tariff agreement concluded with the insurers, but only applies the official tariffs at certain times and in certain places.

For example, a partially contracted healthcare provider is contracted for the consultations in a polyclinic but not contracted for the consultations in his private practice. Individual healthcare professionals who do not adhere to the agreement/convention may, in addition to the regulatory fee, charge additional fees, i.e. the fee supplement.

2.3.1.2. Patient cost sharing: reimbursement, co-payments and supplements

Various forms of patient cost sharing are implemented in the Belgian system of compulsory health insurance: co-payments (a flat rate per item or service), coinsurance (a percentage of the cost of the service; only applicable for drugs and disease management programs) and supplements. The co-payment is the difference between the official tariff and the amount that is reimbursed by the compulsory health insurance while a fee supplement is the difference between the freely set fees by providers and the official tariffs. It falls outside the scope of the national health insurance and has to be paid by the patient.

Insurance intervention (reimbursement) is the amount that the sickness fund reimburses to the patient or the amount that the healthcare insurance pays directly to the healthcare professional (in the case of third-party payers). This amount is higher for patients entitled to increased reimbursement (BIM / RVT) than for the others (non-BIM / non-RVT) leading to differences in amounts of co-payments.

Finally, the amount of money paid by the patient (i.e. the out-of-pocket payment) is the sum of the co-payment and the potential supplement.

[v] More details on accreditation are available on:https://www.inami.fgov.be/fr/professionnels/sante/medecins/qualite/accreditation/Pages/default.aspx

2.3.1.3. Negotiated fees, reimbursement and out-of-pocket payments by healthcare practitioner

Gynaecologists

On 1st April 2019, the negotiated fee (convention tariff) for a consultation with a gynaecologist varies from 21.44€ for non-accredited gynaecologists to 26.27€ for accredited gynaecologists. The co-payment for the patient is the same whatever the gynaecologist accreditation status, i.e. 12.00€. However, the co-payment lowers to 3.00€ for women entitled to increased reimbursement. During the prenatal period, consultations with a gynaecologist (nomenclature codes 102012, 102535) are part of the routine care described in article 34 of the Compulsory Health Care and Benefits Insurance Law coordinated on 14 July 1994[w]. These consultations are described in Article 2 of the nomenclature. The code for generic consultations is common to several medical specialties, including gynaecology. Therefore, there is no specific code dedicated to prenatal consultations and they are therefore not part of Article 34(2) of the above-mentioned law allowing health care insurance to cover 100% of the fees for childbirth care.

General Practitioners

On 1st April 2019, the negotiated fee (convention tariff) for a consultation with a GP varies from 21.79€ for non-accredited GPs to 26.27€ for accredited GPs. The co-payment for the patient is the same whatever the GP accreditation status, i.e. 6.00€ but limited to 4.00€ for patients with a Global Medical File (Globaal medisch dossier / Dossier médical global). However, for patients entitled to increased reimbursement, the co-payment lowers to 1.5€ (to 1.00€ for patients with a Global Medical File).

Midwives

On 1st January 2019, the fees for a consultation with a midwife are respectively 37.88€ for the first midwifery session dedicated to the clinical follow-up (minimum duration 60 minutes) and 27.06€ for the following sessions (minimum duration 30 minutes). Unlike gynaecologists, consultations offered by midwives fall under article 34 (2°) of the Compulsory Health Care and Benefits Insurance Law coordinated on 14 July 1994, which is dedicated to childbirth care. As a result, they are fully reimbursed by the health insurance for contracted midwives (see article 37 §5 of the Compulsory Health Care and Indemnity Insurance Act coordinated on 14 July 1994). Non-contracted midwives are free to ask for a higher tariff for women who do not benefit from increased reimbursement but INAMI – RIZIV reimbursement is limited to 28.41€ for the first session and 20.30€ for the following ones.

The same rules apply for birth preparation sessions organised by midwives. On 1st January 2019, the fees for these sessions are respectively 18.04€ for an individual session, 14.43€ for a collective session grouping 2 to 5 pregnant women (fee by pregnant woman) and 9.02€ for a collective session grouping 6 to 10 pregnant women (fee by pregnant woman). Reimbursement equals the negotiated fees for contracted midwives. Non-contracted midwives are free to ask for a higher tariff for women who do not benefit from increased reimbursement but INAMI – RIZIV reimbursement is limited to 13.53€ for individual sessions, 10.83€/6.77€ for the collective sessions of 2-5/6-10 pregnant women. Such limit of reimbursement does not apply to women who benefit from increased reimbursement.

A pregnant woman is entitled to maximum 120V value for antenatal preparation per pregnancy. The 'V' is a key letter for midwives used in the nomenclature (fee schedule). For more details about key letter, the interested reader is referred to Box 3 in section 2.3.1.1.

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[w] Loi relative à l'assurance obligatoire soins de santé et indemnités coordonnée le 14 juillet 1994 (MB. 27/08/1994) / Wet betreffende de verplichte verzekering voor geneeskundige verzorging en uitkeringen gecoördineerd op 14 juli 1994 (BS. 27/08/1994)

The coefficient associated with the key letter V varies depending on whether the session is individual (10V), in a group of 2 to 5 pregnant women (8V) or in a group of 6 to 10 pregnant women (5V). Some women receive both individual and group sessions for birth preparation, so combinations are also possible. All sessions have to last at least 60 minutes

Physiotherapists

On 1st January 2019, the fee for a consultation with a physiotherapist for birth preparation (mean 30 minutes) is 22.26€ for contracted physiotherapists. Non-contracted physiotherapists are free to ask for a higher tariff only for women who do not benefit from increased reimbursement. The reimbursement differs according to the woman's status (increased reimbursement or not) and the physiotherapist's status (contracted or not). For women who benefit from increased reimbursement, reimbursement is 19.29€ (for contracted and non-contracted physiotherapists). Women who do not benefit from increased reimbursement, are reimbursed 15.20€ (for contracted physiotherapists) and 11.40€ (for non-contracted physiotherapists). An additional amount is requested if the physiotherapist consults at the patient's home (fee=23.63€ + travel expenses ~1.31€).

Physiotherapists may charge 9 individual sessions during the perinatal period, without distinction between clinical and non-clinical interventions and cannot deliver group sessions for birth preparation.

Table 3 – Overview of all fees, reimbursement and out-of-pocket payments by type of consultation and healthcare practitioner (applicable since January 1st 2019)

Consultations and healthcare professionals	Negotiated fee (in €)	Reimbursement (in €)		Out-of-pocket payment (in €)**	
		Non-BIM / Non-RVT	BIM / RVT	Non-BIM / Non-RVT	BIM / RVT
Non accredited gynaecologist	21.44	9.44	18.44	12.00 for contracted gynaecologists / ≥ 12.00 for non-contracted gynaecologists	3.00 for contracted gynaecologists / ≥ 3.00 for non-contracted gynaecologists
Accredited gynaecologist	26.27	14.27	23.27	12.00 for contracted gynaecologists / ≥ 12.00 for non-contracted gynaecologists	3.00 for contracted gynaecologists / ≥ 3.00 for non-contracted gynaecologists
Non accredited GP (without Global Medical File)	21.79	15.79	20.29	6.00 for contracted GP / ≥ 6.00 for non-contracted GP	1.50 for contracted GP / ≥ 1.50 for non-contracted GP
Non accredited GP (with Global Medical File)*	21.79	17.79	20.79	4.00 for contracted GP / ≥ 4.00 for non-contracted GP	1.00 for contracted GP / ≥ 1.00 for non-contracted GP
Accredited GP (without Global Medical File)	26.27	20.27	24.77	6.00 for contracted GP / ≥ 6.00 for non-contracted GP	1.50 for contracted GP / ≥ 1.50 for non-contracted GP

Accredited GP (with Global Medical File)*	26.27	22.27	25.27	4.00 for contracted GP / ≥ 4.00 for non-contracted GP	1.00 for contracted GP / ≥ 1.00 for non-contracted GP
Clinical follow-up by a midwife (1st session)	37.88	37.88 for contracted midwives / 28.41 for non-contracted midwives	37.88	0.00 for contracted midwives / ≥ 9.47 for non-contracted midwives	0.00 for contracted midwives / ≥ 0.00 for non-contracted midwives
Clinical follow-up by a midwife (from 2nd session)	27.06	27.06 for contracted midwives / 20.30 for non-contracted midwives	27.06	0.00 for contracted midwives / ≥ 6.76 for non-contracted midwives	0.00 for contracted midwives / ≥ 0.00 for non-contracted midwives
Birth preparation by a midwife (individual session)	18.04	18.04 for contracted midwives / 13.53 for non-contracted midwives	18.04	0.00 for contracted midwives / ≥ 4.51 for non-contracted midwives	0.00 for contracted midwives / ≥ 0.00 for non-contracted midwives
Birth preparation by a midwife (collective session – 2 to 5 participants)	14.43	14.43 for contracted midwives / 10.83 for non-contracted midwives	14.43	0.00 for contracted midwives / ≥ 3.60 for non-contracted midwives	0.00 for contracted midwives / ≥ 0.00 for non-contracted midwives
Birth preparation by a midwife (collective session – 6 to 10 participants)	9.02	9.02 for contracted midwives / 6.77 for non-contracted midwives	9.02	0.00 for contracted midwives / ≥ 2.25 for non-contracted midwives	0.00 for contracted midwives / ≥ 0.00 for non-contracted midwives
Birth preparation by a physiotherapist in a cabinet/hospital	22.26	15.20 for contracted physiotherapists / 11.40 for non-contracted physiotherapists	19.29	7.06 for contracted physiotherapists / ≥ 10.86 for non-contracted physiotherapists	2.97 for contracted physiotherapists / ≥ 2.97 for non-contracted physiotherapists
Birth preparation by a physiotherapist at patient's home	23.63 + 1.31 for travel	14.89 for contracted physiotherapists / 11.17 for non-contracted physiotherapists	19.86	8.74 for contracted physiotherapists / ≥ 12.46 for non-contracted physiotherapists	3.77 for contracted physiotherapists / ≥ 3.77 for non-contracted physiotherapists

*Note. * The management of the GMF by the GP increases the reimbursement amount by the INAMI – RIZIV; ** because non-contracted healthcare professionals may freely set their tariffs, the out-of-pocket payment may greatly vary, rendering the amounts to be paid by the patient unpredictable.*

Some exceptions may apply:

Application of the third party payment principle

Family planning centres and some medical houses are funded by the fee-for-service system but apply the third party payment principle. This implies that mothers-to-be only pay the co-payment part of the INAMI – RIZIV tariffs whereas the care providers are directly paid by the sickness funds.

In medical houses funded by capitation grant, ANC provided by GP is included in the capitation and pregnant women do not have to pay additional costs.

Free consultations

Free ANC consultations are organized by ONE and K&G. The organisation of these consultations and the services provided vary in function of the place where the mother-to-be lives (see section 2.2.4.1 and section 2.2.4.2). While K&G focuses the services of antenatal support centres on vulnerable women, ONE follows approximately one third of the pregnancies in Brussels and Wallonia.[18] For those women, all the costs for ONE consultations are supported by the French Community. In specific areas, no ONE consultations are available. Therefore gynaecologists and midwives abandon their fees for vulnerable women in these areas. In Flanders, ANC at the antenatal support centres of K&G (Prenatale steunpunten K&G) is free of charge.

2.3.2. Legal framework: liabilities and sanctions

The appropriateness of healthcare practitioner's behaviour involved in antenatal care can be assessed from at least three different perspectives: the civil law perspective, the criminal law perspective and the deontological one. These approaches are not mutually exclusive; the same malpractice can lead to civilian obligations for compensation purposes, criminal sanctions and deontological measures. Additionally, the quality of the care provision will soon be assessed by the federal public health authorities and it could lead to sanctions regarding the licence to practice.

Moreover, it should be noted that harm may also arise in the context of healthcare provision independently from any malpractice of the healthcare professional. Harm may indeed be caused by a no-fault medical incident or the use of a defective product. In that case, a specific legal framework will apply.

2.3.2.1. Civil liability

Principles

In the context of providing ANC, the mother and/or the unborn child may be injured. If this harm directly results from a fault of a care provider, this latter may be found liable and sentenced to compensate the victim(s).

Civil liability may concern any healthcare professional or institution involved in ANC, including midwives, physiotherapists, gynaecologists or general practitioners. Within the civil law context, the fault can be the violation of the (written or oral) care contract concluded between the future mother and the hospital or the care provider (**contractual liability**) or the violation of a specific law (for example the law on Patient's rights[x], the Law on the Quality of Healthcare Practice[y], the criminal provision on professional secrecy[z], etc. or of a general requirement for prudence and diligence[aa] (**extra contractual liability**)).

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x Loi du 22 août 2002 relative aux droits du patient (MB. 26.09.2002) / Wet van 22 augustus 2002 betreffende de rechten van de patiënt (BS. 26.09.2002).

y Loi du 22 avril 2019 relative à la qualité de la pratique des soins de santé (MB 14.05.2019) / Wet van 22 april 2019 inzake de kwaliteitsvolle praktijkvoering in de gezondheidszorg (BS. 14.05.2019).

z Articles 458 and 458bis of the Criminal Code (Code Pénal – Strafwetboek).

aa Article 1382 or 1384, subparagraph 3 of the Civilian code (Code Civil – Burgerlijk wetboek). General requirement for prudence and diligence refers to the behaviour of a normally prudent and diligent professional (or institution)

There is no subjective assessment (overloading, mental state etc.) in the assessment of civil fault. Any violation of the aforementioned rules leads, if it is in a causal link to the damage, to the obligation for those who have committed the fault to compensate it.

In the context of ANC, medico-legal liabilities will very often concern **gynaecologists and midwives**. In practice, apart from pathological or high-risk situations, the midwife will be personally responsible for the acts falling within her/his field of competence, even if she/he is a hospital's employee. On the other hand, if the midwife properly referred pathological or risky situations to a physician, this physician will be responsible for actions performed by the midwife under his/her supervision. Usually healthcare professionals, including physicians and midwives have an obligation of means, i.e. the implementation of normal and timely efforts. Obligations to achieve a specific result exist when the law provides a specific behaviour rule or a specific prohibition. Case law also recognises this kind of obligations for interventions such as imaging, lab tests or medical equipment handling.

Midwives may work under an employment contract. Therefore, their liability is in principle covered by their employer, except in cases of gross negligence or wilful or repeated malpractice.[26] Moreover, physicians may also be held responsible for midwives' actions performing care under their supervision[bb]. **Hospitals** will usually be held responsible for midwives' faults. Moreover, they are automatically responsible when the patients' rights are violated inside their walls[cc].

Unlike criminal liability, civil liability may be covered by an insurance. Article 9 of the medical ethics code requires physicians to purchase insurance that sufficiently covers their professional liability.

No legal provision or ethics code mentions a mandatory insurance to cover the professional liability of midwives or physiotherapists.

Examples of frequent civil faults are the misinterpretation of the results shown by monitoring devices, the unappropriate use of forceps, vacuum extraction, or other interventions, ignoring the patient's risk factors and medical history, midwives or nurses neglecting to communicate important information to the physician or physicians neglecting to take into account information transmitted by the medical staff, physicians neglecting to communicate the results of a test to the patient or another practitioner, etc. Violations of the patients' rights, including the right to information on their health status and the right to consent to medical care are also important in the context of ANC.

Patient's rights law[dd] confers to patients the right to freely choose their care providers (and to modify this choice), the right to receive all information to understand their health status, its likely evolution and to freely consent to any intervention, the right to benefit from record carefully updated and held in safekeeping.

Moreover, pregnant women have various specific information rights in relation with their condition (not only on the basis of the patient's right law but also on the basis of specific legislations such as legislations on the midwives' competencies, the legislation on medically assisted procreation, on abortion, etc.). Information in relation to antenatal examinations and investigations are of particular importance. Patients have the right to be properly informed not only on the risks to conduct certain investigations or examinations but also on the interpretation of the results thereof and the possible consequences on the baby's or mother's health. In case a patient refuses an examination or an investigation, both the patient and the

in the same circumstances. For healthcare providers this means behave in accordance with the state of the science at the time.

bb Article 1384 of the Civilian Code (Code Civil – Burgerlijk wetboek).

cc Article 30 of the Law on hospitals of 10 July 2008 - Loi coordonnée sur les hôpitaux et autres établissements de soins du 10 juillet 2008 (MB 07.11.08; mise à jour: 06.05.2019) / Gecoördineerde wet van 10 juli 2008 op de ziekenhuizen en andere verzorgingsinrichtingen (BS. 07.11.17 ; tekstbijwerking 06.05.2019)

dd Loi du 22 août 2002 relative aux droits du patient (MB. 26.09.2002) / Wet van 22 augustus 2002 betreffende de rechten van de patiënt (BS. 26.09.2002).

healthcare professional can always require that this refusal is written and recorded (article 8 § 4 of the Law on patient's rights).

Prejudices resulting from medical faults may be injury or even death of the foetus and/or the mother, impossibility for the parents to timely decide to interrupt the pregnancy to avoid having a disabled child (wrongful birth claim) due to the lack of information or an unexpected pregnancy after a sterilisation intervention (wrongful pregnancy claim).[26]

It follows from the foregoing that the liability chain in antenatal care involves a large range of players. The assessment of these liabilities is always complex and requires to reason on a case by case basis. The civil judge will always look closely at the circumstances and very often refers medical questions to an independent expert. Civil procedures can therefore last for a long time.

It is also important to note, in the assessment of this liability chain, that the pregnant woman's or parents' decisions may also play a role. The multidisciplinary monitoring and care of a pregnant woman during the prenatal phase involve different health care practitioners (doctors, midwives, nurses, physiotherapists, etc.) at different times. In this context, information sharing is crucial. The responsibility for sharing the useful and necessary information and allowing continuity of care lies, according to their skills, with all HCPs involved (e.g. through the obligation to keep a patient record, to fill in a liaison form, etc.). This is notably mentioned in the recent quality law (in Article 19). However, if the pregnant woman or parents voluntarily refrain from disclosing information's that they knew or should have known could have decisively influenced the HCP's decisions, they cannot blame this HCP for having made an inappropriate decision. The same applies to the situation of the parents voluntarily refusing care or deciding to take a risk against the advice of a practitioner. In 2012, the Appeal Court of Liège found that an on-call gynaecologist who handled a pregnant woman at the hospital was not responsible for the death, a few hours later, of the child born by deep asphyxiation because this gynaecologist did not receive crucial information from the mother-to-be and her midwife about the first stages of the labour occurring at home (Court of Appeal of Liège, 10 May 2012, J.L.M.B., 2013/14, p. 779-788).

2.3.2.2. Criminal liability

The most common criminal charges in the context of healthcare are manslaughter, unintentional assaults and injuries (articles 418-422 of the Criminal Code) and negligence (422*bis* and 422*quater* of the Criminal Code). Infringements to article 458 of Criminal code regarding the healthcare providers' professional secrecy is another possible charge.

Article 458 of Criminal Code addresses the professional secrecy and the conditions under which depositaries of a secrecy may lift it. The healthcare professional may lift the obligation of professional secrecy when there is a serious and imminent threat for the physical and mental integrity of a vulnerable person such as pregnant women. However, the sharing of medical data is part of the continuity of care, to improve their quality and safety. A professional can only claim access the medical file of a patient if it is necessary in the context of a therapeutic relation.

This liability may concern all healthcare professionals involved in ANC, including institutions. Criminal responsibility is personal; so employers do not endorse the criminal liability for their employees. Moreover, it is not possible to cover criminal liability by insurance contracts.

The criminal judge, may sentence the guilty person with fines, community services, imprisonment or with a "deferred sentence".

2.3.2.3. Deontological sanctions

Doctors must be registered on the list of the Medical Council (Ordre des Médecins / Orde der Artsen). Specific bodies of this Medical Council (provincial councils) are competent to investigate and sanction deontological faults. The disciplinary procedure can lead to a warning, a censure, a reprimand, a maximum 2 years suspension or a withdrawal of the affiliation to the Medical Council. It is important to note that this Council is only competent to issue disciplinary measures. It will not issue decisions on civil or penal liabilities and is not directly competent to withdraw a licence to practice. However a radiation or suspension of the affiliation will automatically result in a visa withdrawal.

Physiotherapists and midwives do not have professional councils that may rule on the deontological faults. However, this does not impact their civilian and criminal liability and their obligation to fulfil the requirements of their licence to practice.

2.3.2.4. Quality control

Withdrawal or suspension of the right to practice

As mentioned in section 2.1, healthcare professionals involved in ANC need to obtain a "licence to practice" (visa) from the Federal Public Service Health (FPS Health).

Specific bodies have been created within the FPS Public Health to control the exercise of this licence. If there is serious and consistent evidence that the continuation of the practice raises serious concerns for the patient's health, medical provincial commissions may suspend the licence to practice of any healthcare provider (including physicians, midwives and physiotherapists) or impose certain conditions for pursuing the practice[ee]. If the Medical Council confirms the physic or mental incapacity of a physician[ee] or if the healthcare professional was convicted for a criminal offence conflicting with healthcare provision[ee], medical provincial commissions may also withdraw or suspend the licence to practice or impose certain conditions for pursuing the practice.

A claim may be filed by the patient, by a member of the patient's family, by a healthcare professional or by a public body (e.g. INAMI – RIZIV, FAMPH, Federated entity) or another actor involved in healthcare issues (e.g. an insurer).

In the future, the competencies of the medical provincial commissions will be transferred to a Federal Commission for the Control of Healthcare Practice. This Commission will still be part of the FPS Public Health but it will centralize the control on healthcare professionals. Unlike the medical provincial commissions, investigation powers will be granted to this Commission (articles 44 to 63). Moreover, the competencies of this Commission will be extended: it will assess the physical and mental capacity of all healthcare professionals but also the quality of the care provided by them (on basis of the new quality requirements enshrined by the Law on the Quality of Healthcare Practice)[ff].

2.3.2.5. No-fault incidents and defective product liabilities

No-fault procedures and Medical incident Fund

In the context of ANC, a damage can also result from an event linked to a healthcare procedure that does not engage the care provider's liability, that does not result from the patient's health status and that causes an abnormal damage for the patient. The damage is considered as abnormal when it should not occur taking into account the current state of the science, the patient's health status and its objectively foreseeable evolution. It should also meet certain gravity threshold. Treatment failure and diagnostic error without fault are not considered as no fault medical event.

A specific Fund was created in 2010 to compensate damages fulfilling very specific requirements[gg]. This Fund will also provide advice on healthcare professional's medical liability.

[ee] Loi coordonnée du 10 mai 2015 relative à l'exercice des professions des soins de santé (MB. 18.06.2015) / Gecoördineerde wet van 10 mei 2015 betreffende de uitoefening van de gezondheidszorgberoepen (BS. 18.06.2015).

[ff] Loi du 22 avril 2019 relative à la qualité de la pratique des soins de santé (MB. 14.05.2019) / Wet van 22 april 2019 inzake de kwaliteitsvolle praktijkvoering in de gezondheidszorg (BS. 14.05.2019).

[gg] Loi du 31 mars 2010 relative à l'indemnisation des dommages résultant de soins de santé (MB. 02.04.2010) / Wet van 31 maart 2010 betreffende de vergoeding van schade als gevolg van gezondheidszorg (BS. 02.04.2010).

Defect product liabilities

Belgian legal framework introduced a system of liability without fault by which producers are liable for the damage caused by a defect in their products[hh]; the victim must simply provide evidence of the damage existence, the defect and the causal relationship between defect and damage.

2.3.2.6. Overview of possible liabilities in antenatal care provision

Table 4 presents an overview of the legal framework applicable to the healthcare professional's behaviour, to no fault incidents and to defective products.

Table 4 – Legal framework related to possible liabilities in antenatal care provision

Type of procedure	Type of interest	Concerned healthcare professional's and/or HC institution	Claimant	Competent authority	Possible outcome	Possible insurance covering	Essential legal basis for the claim	Publicity
Civil	Personal	Any healthcare professional or institution involved in ANC (doctors, midwives, nurses, physiotherapists, hospital, etc.)	Victims (Mother and / or parents and/or living and viable child)	Civil judge	Financial compensation	Yes	1382 or 1384 of the Belgian Civil Code	Judgments are issued publicly (but not always easily accessible)
Criminal	Society and personal	Any healthcare professional or institution involved in ANC (doctors, midwives, nurses, physiotherapists, hospital, etc.)	Anyone (including mother and/or parents and/or child as from the beginning of the labour)	Criminal judge	Prisons sentences, fines, community services, deferred sentence (and damages to the victim if they couple their criminal claim to a civil one)	No	Criminal Code or criminally sanctioned provisions in the context of healthcare	Investigation phase is secret Judgments are in principle public and offenses are usually registered in a personal record

[hh] Law of 25 February 1991 concerning defective product's liability, MB 22 March 1991, p. 5884.

Deontological	Society / Profession	Physicians	Anyone (including patients, hospitals, public authorities, etc.	Medical Council (provincial councils)	Disciplinary sanctions (warning, censure, reprimand, suspension radiation)	No	Medical Code of ethics and Royal Decree of 10 November 1967 n° 79	Procedure and sentences are secret
Licence to practice	Society	Any healthcare professional involved in ANC (doctors, midwives, nurses, physiotherapists, etc.)	Anyone interested	FPS Heath (medical provincial commissions)	Withdrawal or suspension of the licence to practice Improvement plan (2021)	No	Law of 10.10.2015 and law of 22.04.2019	The withdrawal or suspension is public
No fault	Personal	No fault incidents	Victim	Medical Accident Fund	Advice and mediation on medical (civil) liabilities Or compensation (abnormal damage resulting from a no fault care)	Not applicable	Law of 31 March 2010 relating to no fault damage compensation	Anonymised versions of advice are available
Defective products	Personal	Products (medicines, medical devices)	Victim	Civil judge	Financial compensation	Yes	Law of 25 February 1991 concerning defective product's liability	Judgments are issued publicly (but not always easily accessible)

2.3.3. Protective measures for (vulnerable) pregnant women

2.3.3.1. Protective measures at workplace

This topic is regulated in Title 5 on maternity protection of Book X of the Code of Wellbeing at Work.

Prohibition of discrimination

Both in the engagement and during the execution of the employment contract, the employer must treat female workers and male workers equally. Pregnancy and maternity cannot lead to any form of discrimination. During the job interview, the employer cannot ask any questions about a possible pregnancy, unless such a question is relevant because of the nature or the manner in which the job is performed.

Notification of pregnancy

From the moment the worker is pregnant, a number of legal protection mechanisms come into force. This is mainly a special protection against dismissal, the right to be absent in specific situations and the implementation of a number of safety and health prevention measures. The pregnant worker, for example, has the right to take time off from work to attend antenatal medical examinations that cannot take place outside working hours.

Protection against dismissal by the employer

From the moment the employer becomes aware of the pregnancy, a period of special protection against dismissal begins and the employer cannot do anything to terminate the employment contract because of the pregnancy. This protection applies until one month after the postnatal leave (including extensions).

Prohibition of overtime and night work

Pregnant workers and breastfeeding workers cannot do any overtime work. There are a number of exceptions to this rule, for example, for persons in a position of trust or persons with a managerial function mentioned in the legislation.

The employer cannot force a pregnant worker to do night work (between 8pm and 6am) within the eight weeks before the expected date of delivery.

It is worth mentioning the collective labour agreement n° 46 concluded in the National Labour Council. This convention for the private sector is more favourable than the general regulations. The female worker in the private sector can already apply for a job day from the third month before the expected date of delivery and until the third month after delivery. On the basis of a medical certificate, it is even possible to request a day job after the postnatal leave, and this without limit in time.

Preventive measures for safety and health

Evaluation of the risks inherent to the professional activity

The employer is required to carry out, together with the occupational physician, a risk analysis for all members of his staff including pregnant staff members. Specific risks must be assessed on the basis of a list of agents (physical, chemical and biological agents), processes (industrial processes in which a carcinogenic substance or preparation is released) and working conditions (heavy manual work, psychosocial load, movements, postures and physical loads) included in Appendix X.5-1 of the code of well-being at work. Based on the results of this analysis, preventive measures are to be taken. If exposure to a prohibited agent listed in Appendix X.5-2 of the Code is revealed, the employer must immediately apply a preventive measure.

The employer must immediately inform the occupational physician of the worker's pregnancy. Her workstation is considered a risk position if the assessment reveals a health risk or when the worker performs night work. She is then under the medical supervision of the occupational physician and receives a form of "request for health surveillance". After the medical examination, the occupational doctor completes a health assessment form and communicates his decision to the employer and the worker.

Measures to apply

When the assessment reveals an exposure to agents or working conditions that represent a risk, the employer must take one of the three following

preventive measures, on the proposal of the occupational doctor and adapting it to the specific case of worker: temporary adjustment of working conditions or working time; a change of workstation that is compatible with the worker's state of health; if this proves to be impossible, the execution of the employment contract is suspended. These measures are also applicable during the breastfeeding period.

Maternity leave

For salaried pregnant women

In Belgium, salaried pregnant workers are entitled to 15 weeks maternity leave. It consists of two periods: antenatal leave of 6 weeks and postnatal leave of 9 weeks (Labour Act of 16 March 1971). In case of multiple births, the leave is in principle 17 weeks but may be extended to 19 weeks.

Antenatal leave

At the pregnant worker's request, this leave starts at the earliest six weeks before the expected date of delivery (eight weeks for multiple pregnancies). This date should be substantiated in the medical certificate that the concerned woman should submit to her employer no later than seven weeks before that date.

This antenatal leave comprises of the following:

- Optionally women can choose to transfer up to five weeks from the antenatal period to the postpartum.
- One-week leave before delivery is mandatory. Women are obliged to stop working from the seventh calendar day preceding the expected date of delivery.

In case of multiple births, antenatal leave is eight weeks (seven optional weeks and one compulsory week).

If the child is born later than the expected date of delivery, antenatal leave is extended to the actual date of delivery and the optional part transferred after the postnatal leave is subsequently decreased. If the child is born earlier than the expected date of delivery, within the mandatory week the days are lost.

Postnatal leave

Postnatal leave comprises the following:

- Nine weeks mandatory leave immediately after delivery. In no case an employer can employ a woman during this period, even if she asks for it or agrees to it;
- And, where appropriate, following this mandatory postnatal leave, the whole or part of the optional period of five weeks antenatal leave can be added.

Where the worker can extend the work interruption after the ninth week with at least two weeks, she can convert the last two weeks of this period into days off for postnatal rest. The worker must take these days off within eight weeks starting from the end of the postnatal leave.

For self-employed pregnant women[ii]

The maternity leave is composed of a mandatory period (3 weeks) and a discretionary period (9 weeks for a single birth and 10 weeks for multiple births).

[ii] For self-employed persons, see the following legislations:

- Arrêté royal n°38 du 27 juillet 1967 organisant le statut social des travailleurs indépendants - Koninklijk besluit nr 38 van 27 juli 1967 houdende inrichting van het sociaal statuut der zelfstandigen.
- Arrêté royal du 19 décembre 1967 portant règlement général en exécution de l'arrêté royal n° 38 du 27 juillet 1967 organisant le statut social des travailleurs indépendants, et instaurant une dispense de cotisations en cas de maternité - Koninklijk besluit van 19 december 1967 houdende algemeen reglement in

Antenatal leave

This antenatal leave comprises the following:

- One-week leave before delivery is mandatory. Women are obliged to stop working from the seventh calendar day preceding the expected date of delivery.
- A discretionary period of one week may be taken from the third week to the seventh calendar day preceding the expected date of delivery.

Postnatal leave

Postnatal leave comprises the following:

- Two weeks mandatory leave immediately after delivery.
- And, following this mandatory postnatal leave, the whole or part of the optional period can be added.

The woman may decide to interrupt her professional activity completely or to work part-time. All detailed and updated information are available on the INAMI – RIZIV website (https://www.inami.fgov.be/fr/themes/grossesse-naissance/maternite/Pages/repos-maternite-independantes.aspx#.XWPk1OgzaUk).

2.3.3.2. Protective measures for vulnerable pregnant women

Shelters in the French speaking part of Belgium

A shelter is a structure that offers a solution for a public of adults in difficulty accompanied or not by their children. The professional practices depend on parameters such as the type of accommodation, the infrastructure, the length of stay, the public, the historical context, the subsidising power, the educational project and the strategic choices of the shelter. They are managed by the French Community Commission (COCOF)[jj], and the Joint Community Commission (COCOM/GGC).[kk]

COCOF: The decree does not define as such what a shelter is but Article 2 specifies its missions: "the shelter has for missions to welcome, to accommodate and to provide adapted psychosocial assistance to the beneficiaries in order to promote their independence, their physical well-being and their reintegration into society". Beneficiaries are defined as: adults, emancipated minors, underage mothers and pregnant minors, characterised by a relational, social or material fragility that hampers them to live independently, and their accompanying dependent children. To obtain the official approval (*agrément*) to open a shelter where children will have to live, ONE has to approve the collective project with regard to the reception of children, the conformity of the collective premises with the childcare, the

uitvoering van het koninklijk besluit nr 38 van 27 juli 1967, houdende inrichting van het sociaal statuut der zelfstandigen.

- Arrêté royal du 20 juillet 1971 instituant une assurance indemnités et une assurance maternité en faveur des travailleurs indépendants et des conjoints aidants - Koninklijk besluit van 20 juli 1971 houdende instelling van een uitkeringsverzekering en een moederschapsverzekering ten voordele van de zelfstandigen en van de meewerkende echtgenoten.

jj Décret du 27 mai 1999 de la Commission Communautaire Francaise de la Région de Bruxelles-Capitale relatif à l'octroi de l'agrément et de subventions aux maisons d'accueil (MB. 18.06.1999 dernière modification 27.04.2017) / Decreet van 27 mei 1999 van de Franse Gemeenschapscommissie van het Brussels Hoofdstedelijk gewest betreffende de toekenning van de erkenning en van subsidies aan de opvangtehuizen (BS. 18.06.1999 laste wijziging 27.04.2017)

kk Ordonnance du 7 novembre 2002 de la Commission Communautaire Commune de la Région de Bruxelles-Capitale relative aux centres et services de l'aide aux personnes (MB. 27.11.2002 dernière modification 10.07.2018) / Ordonnantie van 7 november 2002 van de Gemeenschappelijke Gemeenschapscommissie van het Brussels Hoofdstedelijk Gewest betreffende de centra en diensten voor bijstand aan personen (BS. 27.11.2002 laste wijziging 10.07.2018)

availability of equipment for their education as well as the individual projects related to pregnant women and children, including preschool integration.[27]

A shelter may be approved for one or more of the following categories:

- category 1: reception of isolated adults
- category 2: reception of separated adults with children
- category 3: hosting families

A maximum capacity is determined for each category of activity at the time of approval.

COCOM/GGC: Although the 'Ordinance on centres and services of assistance to persons' does not define the notion of shelter, the following tasks are specified for these services "to offer adults, emancipated minors, minor mothers, pregnant minors, whether or not accompanied by children, who request it and who are temporarily incapacitated to live independently, reception, accommodation and psychosocial support to help them to regain this capacity". A shelter must be able to accommodate at least 10 people. The ordinance was drafted taking into account existing services in Brussels and which were not approved by the COCOF or the Flemish Community.[27]

For the Brussels shelters, no maximum length of stay is set by regulations. The Walloon regulations determined a maximum stay of 9 months. This can be renewed 3 times for an additional 90 nights.

Of the 65 shelters in Wallonia (N=49) and Brussels (N=16) in 2018, 15 were previously 'maternal houses' (*maisons maternelles*).[27] When they were created, they were approved and funded by the ONE. At that time, the missions of a maternal house were described as follows "to house any mother or future mother accompanied by her child(ren), who is temporarily unable to resolve her physical, psychological or social difficulties and for which an accommodation and psycho-social guidance are needed in order to support her in the acquisition or recovery of autonomy and social integration or reintegration. The maternal house had to adopt an adapted pedagogical project for the young child and his mother. This accommodation was set for a maximum duration of 9 months (exceptions accorded by the ONE).

To be approved, the maternal house had to fulfil three conditions: possibility to welcome any mother or future mother in crisis accompanied by her child(ren) 24h/24 ; the permanent availability of a qualified educator or a qualified night worker, and to employ a qualified multidisciplinary team. The maximum age of the children was 6 years.[27]

This system therefore existed alongside the shelters which, for some, were also dedicated to adults accompanied by children. Following the State reform leading to the devolution of some responsibilities on person-related matters from the French community to the French Community Commission (COCOF) and the Walloon region, the maternal houses joined the frame of the shelters for adults in difficulty in 1998 for the COCOF and in 2000 for the Walloon Region.[27]

There is one shelter for 4 women and their children (*Frauenfluchthause*) in Eupen – German Community.[28] This shelter offers a psycho-social support for women in crisis situation. Therefore, the stay is temporary and can last several months. Because of the low capacity, women may be transferred to Verviers, Liège or Aachen (Aix-la-Chapelle/Aken).

Shelters in the Dutch speaking part of Belgium

In Flanders shelters exist for women being threatened or victimized by their partner, including (future) mothers and their children. In Flanders no shelters exist exclusively targeting mothers and their children. Shelters are situated at a secret address to safeguard women and their children. The shelters are located in ten cities spread over Flanders. Shelters are organised by the local CAW's (Centrum Algemeen Welzijnswerk – Centres for General Welfare) under the authority of the Flemish Minister of Welfare, Public Health and Families.

Urgent Medical Aid

Urgent Medical Aid (UMA) aims to support medical costs for undocumented migrants. An agreement with a Public Social Welfare Centre (CPAS/OCMW) allows financial interventions in preventive and curative care. The assessment of care needs is performed by a physician while the CPAS/OCMW assesses if the access conditions to UMA are fulfilled.[29]

UMA does not include social, housing or pecuniary aides. However, undocumented migrants with underage children may benefit from housing in shelter.[30]

Overall, pregnancy of undocumented migrants is a situation covered by UMA. However, some treatments (e.g. some screening tests such as Down syndrome testing) or supportive interventions of ANC (e.g. birth preparation) are not being offered or covered by the CPAS/OCMW, because they are considered as not to be part of the UMA.[29]

The number of pregnancies financially supported by UMA in 2014 is estimated via the RHM/MKG data. They were 786 women in Belgium i.e. 0.6% of all deliveries (n = 316 in Brussels (1.2%) – n = 296 in Flanders (0.5%) – n = 174 in Wallonia (0.5%)).

Other initiatives in the French-speaking part of Belgium

In the French-speaking part of Belgium, ONE organises free antenatal consultations for medical and social guidance during pregnancy. In addition, TMS give support to future parents (see section 2.2.4.2). There are agreements between gynaecologists and ONE to refer vulnerable future mothers to the antenatal ONE consultations. In addition there are three perinatal services (Aquarelle (CHU Saint-Pierre), Echoline (Charleroi) and Seconde Peau (Liège)), with a programme subsidised by ONE. They provide medical and social guidance to pregnant women or women in a vulnerable situation who have just given birth.

Aquarelle (Brussels)

Given its geographical location and its status as a public hospital, the CHU St Pierre maternity hospital in Brussels welcomes a large number of women with an immigrant background, living in a precarious situation, without social security and without medical monitoring during pregnancy. The hospital stay after childbirth is often shortened as well.

The non-profit organisation (NPO) Aquarelle was founded in 1999 to offer free medical and social support to a population of pregnant or childbearing women without social security and not eligible for Urgent Medical Assistance. The Marguerite-Marie Delacroix Support Fund enabled the creation of Aquarelle. The project was subsequently supported by the Vlaamse Gemeenschapscommissie, the Impulse Fund for Immigrants Policy, the Wallonia-Brussels Federation, the King Baudouin Foundation, the Fortis Foundation Belgium, Kiwanis, Public municipal welfare centre (CPAS/OCMW) from Brussels and volunteers. It is now financed by CHU Saint-Pierre and subsidised by ONE.

The objectives pursued by Aquarelle are to guarantee access to regular and comprehensive medical monitoring of pregnancy for women of immigrant background living in precarious situations without social security:

- Prevention of prematurity, detection of growth retardation, malformations...
- Detection of diseases (diabetes, hepatitis, syphilis, HIV, chlamydia, tuberculosis...)
- Listening and availability during consultations
- Individual information regarding birth

The antenatal and postnatal consultations are provided by midwives of Aquarelle in collaboration with gynaecologists. Ultrasounds and biological exams are programmed and sessions of preparation for birth are organised. They actively collaborate with the maternity unit of the Saint-Pierre University Hospital for a subset of interventions: information (preparation for birth and visit of delivery rooms) and referral to other structures, material assistance and meeting parents-baby (speaking and exchange groups, baby-massage, administrative assistance, etc.).

The delivery takes place at the Saint Pierre University Hospital with the team of gynaecologists and midwives. During the stay at the maternity ward, the midwives of Aquarelle visit each mother they followed during pregnancy and offer them the opportunity of an early return at home from the second postpartum day with home visits (consisting of listening, medical supervision of mother and baby, supporting breastfeeding, contraception advice, and administrative support). Each mother meets a medico-social worker from the

ONE/Kind en Gezin who evaluates with the social worker of the hospital, the necessary social care on a case by case basis.

The originality of Aquarelle's approach lies in its preventive as well as curative and intra- and extra-hospital action. Around 450 deliveries a year are performed in this setting. More broadly, Aquarelle is also concerned about the registration of the siblings in a school, the learning of a national language for the mother, etc. Beyond their midwifery skills, the team takes a "social worker" look at the family situation as a whole. With this in mind, Aquarelle offers different types of services in different locations: ante- and postnatal consultations and referral to other structures, but also home visits to better assess the living conditions of the whole family.

All the different parameters to take into account - economic, social, cultural, and even linguistic - make the psycho-medico-social work intra and extra-hospital particularly difficult: absences at fixed appointments, communication difficulties when spoken dialects are incomprehensible, even for professional translators, but also confrontation with the diversity of cultures and beliefs, misinformation about administrative matters as well as about contraception.

Ulysse-Aïda (Brussels)

Since January 2019, (Ulysse-) Aïda in partnership with ONE proposes free perinatal consultations to migrant pregnant women. TMS have the mission to tackle the specific needs linked to the exiled and the related vulnerabilities.

Echoline (Charleroi)

The non-profit organisation "Echoline" offers obstetrical and/or psychological support for anyone with medical, psychological or social difficulties during the perinatal period. Echoline targets young pregnant women, young mothers who have just given birth or who have a toddler, and who are experiencing difficulties. **Antenatal and postnatal consultations** offer individual or group support, at home or in the premises of Echoline. The support is given at the request of the concerned person and this without obligations or constraints.

This service is accessible during pregnancy up until the age of 6 months for the baby (by a midwife) but can continue until the age of 3 (by a psychologist). The request for intervention can be introduced by the mother herself, her family or any reference person / professional around her. The pregnant woman needs to live in the region of 'extended' Charleroi (including 21 municipalities). As Echoline is a free service aiming at the accessibility of health care, the service is only accessible for people in a precarious financial situation.

Echoline does not accept to handle emergency situations except an urgent medical request (e.g. if the mother has had no pregnancy follow-up, a midwife can perform a first antenatal consultation and then send her back to an existing consultation; if the mother returns home early and requires some obstetrical care). At the end of the urgent medical follow-up, the file is closed or goes back to the waiting list for a regular follow-up.

It tries to reach people who are particularly marginalised, socially isolated and in need for help. Under these conditions, pregnancies and childbirth are largely compromised, weakening the parent-child bond, which can lead to problems of neglect or even abuse. By working in the field and aiming to support families in their psycho-medical-social dimensions, Echoline takes an active part in the prevention of abuse.

Echoline's multidisciplinary team is composed of **midwives and psychologists**. It provides a relay function and a partnership with all maternity units and the entire psycho-medico-social network (including the medico-social workers of ONE) in the Charleroi region.

APALEM and Seconde Peau (Liège)

Three partners are involved to help families with high psychosocial vulnerability in the region of Liège: APALEM (*Aide et Prévention Anténatale Liégeoise de l'Enfance Maltraitée*), Seconde Peau and the grouping of 19 medical houses in Liège.

The project allows to reach a large number of vulnerable families at an early stage, either within the hospital environment or at home. It uses the "crisis" moment of childbirth and the few hospitalisation days that follow to strengthen/support the parent-child bond in vulnerable situations (integrated

coordination between **pre- and post-natal workers** and maternity services), and to promote early and appropriate care in these situations.

They intervene to work on parenting skills and set up a more child-friendly development framework, as early as possible, from pregnancy up until the 3rd life year of the child. The intervention is free and home-based. At the parent level, they offer a psychological support and emphasise the bonding with the child; at the child level, they work with massages and psychomotor games. These meetings with the parent-child dyad are used as a starting point to: sensitize the parent(s) to their baby's ability to interact, and to the importance of interacting with him or her; provide cognitive, psychomotor and emotional stimulation to the child; optimise parenting skills and enable their progressive empowerment; strengthen the emotional parent-child bond and monitor the child's good development. The follow-up proposed via the "Seconde Peau" project uses video as a therapeutic tool. The service also organises "Formative Networking" for better networking around families (networking between the first and the second line and between all psycho-social practitioners).

Accordages (Mons)

Accordages is an ASBL/VZW created by ONE workers in 2014 that proposes support with the social and medical procedures from the pregnancy until the third year of the child. Home visits are offered in the Mons-Borinage to parents-to-be with social, psychological or medical problems. The main purpose of Accordages is to support the link between parents and child(ren). Accordages' team is composed of a midwife, psychologists and social workers supported by a paediatrician, an obstetrician and a psychiatrist.

Chrysalide (La Louvière)

Chrysalide was created in 2016 based on the reflexion of a working group including professionals of youth welfare services, legal protection services, SOS-Enfant teams and ONE around 'Abuse and network'.

Three intervention approaches are targeted:

- To prevent depression risk and attachment disorders
- To break the family isolation
- To optimize the child development

Its functioning is similar to Accordages: free support servives are proposed to families with multiple vulnerabilities living around La Louvière from the pregnancy until the third year of the child. The Chrysalide team is composed of a psychologist and a midwife. The funding comes from donations (Viva for Life) and from subventions of ONE.

Accordages and Chrysalide are currently evaluated in the framework of a research performed by the University of Mons.

Other initiatives and organisations in the Dutch speaking part of Belgium

In Flanders, K&G organises free antenatal consultations during pregnancy (see section 2.2.4.1) at **antenatal support centers**, but apart from this no initiatives providing free medical care for pregnant women exist, except for 'De Kiem' (Sint-Niklaas). '**De Kiem' is an antenatal care centre** targeting all pregnant women living in Sint-Niklaas, but especially future mothers in vulnerable situations, such as poverty, unwanted pregnancy, mental health problems, or addictions. This centre offers antenatal care in small groups (CenteringPregnancy approach).

In addition, some Flemish cities have a "**perinataal netwerk**" (perinatal network), e.g. PAREL in Leuven, PANZA in Antwerp, PERINTI in Tienen. Perinatal networks group local organisations offering some kind of support, care or help to future and new parents in poverty.

Also the **buddy near the crib** needs to be mentioned. Specifically for underprivileged families perinatal coaching by means of buddies is organised in several Flemish cities (e.g. Ghent, Leuven, Sint-Niklaas). "In the Buddy Near the Crib model, midwifery and social care students take on the role of a buddy and assist an underprivileged family during a period of 18 months. As a buddy, they offer basic emotional support and assist the

family in obtaining health and social care, empower the family's sense of self-sufficiency and strengthen the family's social network".[31] For more information see www.expoo.be/buddys-bij-de-wieg.

Finally, **Fara** is relevant in this context. Fara is a non-profit organisation offering guidance to future parents confronted with difficult pregnancy choices. Fara is subsidized by the Flemish Government. Fara counts five staff members with background in amongst others psychology, social work, philosophy and sexology.

In Brussels: 'Born in Brussels' Project

From 2005 to 2010, 25% of the children were born into a household under the poverty threshold in Brussels.[32] Therefore, RIZIV/INAMI in collaboration with VUB launched the project **'Born in Brussels'**. The project encompasses 3 stages. Firstly, a network will be created to organise and to coordinate the existing field actors who may support vulnerable pregnant women. Because the identification of vulnerable women is challenging, the development of a screening tool will complete the first stage of the project. The purpose of the second stage is to build a pathway to respond to the specific needs of each pregnant woman. The pathway will include tailored specific interventions that have to be added to the standard care package. Finally, 'Centering Pregnancy' will be tested as a care model to implement the pathway developed in the second stage of the project. Results are expected for 2020.

2.4. Digital information exchange during the antenatal period

2.4.1. The eHealth initiative

Digital information sharing facilitates multidisciplinary collaboration. For that purpose, the federal authorities created the eHealth platform, a public institution, whose missions include the promotion and support of mutual electronic exchange of information between healthcare practitioners with necessary warrantees of security and protection of medical secrecy and of private life for both patient and healthcare providers. The eHealth platform aims to optimise the quality, the continuity and the safety of healthcare while reducing administrative workload for healthcare providers and offering a strong support to healthcare policy.

The e-health platform is responsible for many tasks[33], including:

- To develop a vision and a strategy for eHealth;
- To set-up open ICT norms, standards, technical and functional specifications and a basic architecture that are not related to a specific provider;
- To validate the software adopted by the healthcare professionals for the management of patient electronic files;
- To design, develop and manage a collaborative platform for safe exchanges of electronic data;
- To agree on task repartition between healthcare services (who is responsible for the gathering, record and transmission of data) and on quality criteria to be met by recorded data; this will allow to alleviate administrative workload, by avoiding multiple data transfers from care providers to public services or sickness funds;
- To promote and to coordinate the programs and projects using the platform developed by the eHealth platform;
- To manage and to coordinate the ICT issues in data exchange in the context of patient electronic files and digital prescriptions;
- To support scientific research and policy by coding and anonymizing personal data related to health (trusted third party);
- To impulse the changes required to apply the vision and the strategy for eHealth;
- To organise a large collaboration between public institutions in charge of the coordination of e-services.

The eHealth platform only allows the electronic collaboration between multiple healthcare stakeholders but does not modify the task repartition between professionals. The eHealth platform has no monopoly on electronic

services and does not want to discourage other public or private initiatives. The eHealth platform does not collect personal data and does not realise studies on health care.[33]

Achievements in 2013-2018 that may have a link with ANC:

- Personal Health Viewer ('MyHealth / MijnGezondheid / MaSanté') is a secure portal, patient-oriented, including numerous possibilities (e.g. access to the Summarized Electronic Health Record (Sumehr); overview of medication and vaccination; reports from consultations with specialists in hospitals; link to the digital platform of sickness funds, eBox).

  In Flanders, an additional viewer 'MyHealthViewer' linked to 'MyHealth / MijnGezondheid / MaSanté'. 'MyHealthViewer' provides an access to the K&G file of each child (currently limited to children born in 2014 and later). It contains information on for example growth, vaccinations and screenings. In addition to 'MyHealthViewer' K&G launched in May 2019 'MyPregnancy / MijnZwangerschap'. With this online application future parents receive tailored information, including weekly information, tips and advice based on the due date and parity, K&G brochures and checklists (e.g. when to search for child care), and an overview of childbirth related services and activities in their neighbourhood (e.g. antenatal lessons, baby massage).

  In collaboration with the 'Réseau de Santé Bruxellois' (Abrumet) and the 'Réseau de Santé Wallon' (RSW)[ll] ONE is developing a way to make ONE data accessible for healthcare professionals. Access for parents is also foreseen but not yet rolled-out.

- eHealthbox and Sumehr

  The eHealthbox offers a secure way for electronic exchange of information between physicians (and dentists). Therefore, they may use the Sumehr, a template including the minimum data needed for a physician to have an overview of a patient's medical situation.

  The 4.1 project of the eHealth action plan 2019-2021 should enable digital patient-related information share between healthcare professionals (within or between profession(s)). For example the action plan includes the share of information regarding delivery and the first two months postpartum between maternity services, K&G/ONE, independent midwives and other care providers. In the same way, ANC professionals expressed the need for sharing antenatal information.

- ebirth

  Fedict (Federal public service for the information technology and the communication) developed the electronic notification of birth in the context of eHealth platform.

- Patient electronic file and its uptake by GPs

  The eHealth platform sets up a speed up program for digital patient file in hospital and electronic invoicing. It takes also measures to encourage the uptake of the patient electronic file by GPs.

- Training in eHealth for professionals

  Flanders, Wallonia and Brussels set up a structure to allow all healthcare professionals to follow continuing education related to eHealth.

The eHealth action plan 2019-2021 is the continuation of the work performed so far. It includes 44 projects clustered around seven themes[mm]. Among others, the multidisiplinary information exchange ('Care sets') and Personal health viewer will be further developed.

[ll] Abrumet and RSW are electronic platforms enabling exchange of electronic documents between healthcare providers for a specific patient respectively in Brussels and in Wallonia

[mm] For more information on the seven themes: https://www.ehealth.fgov.be/nl/egezondheid/roadmap-30

In the future, the exchange of information will be based on structured and standardized data sets known as Care Sets. These Care Sets will focus on predefined themes (e.g. allergies, vaccination, glycemia, weight assessment, medical history, patient wishes, electronic drug prescriptions, electronic dietetic prescriptions, electronic physiotherapy prescriptions, etc.). Administrative Care Sets are also provided to allow the identification of the patient and information providers via the Identification Social Security Number (ISSN). Each Care Set operates as a structured, independent and dynamic module allowing for standardized multidisciplinary information exchange between healthcare providers who have a therapeutic relationship with the patient and for whom the patient has given informed consent for data sharing.

The construction of the information exchange in different modules (Care sets) will allow:

- to avoid multiple entries by providers,
- to avoid duplication of interventions through data sharing among all healthcare providers,
- to standardize and unify the content and wording of the information using a coding based on the international clinical terminology system SNOMED CT ® ,
- to secure and select access to data (via Fast Healthcare Interoperability Resources (FHIR) standardization),
- to consult the content history,
- to trace the provider of the content.

The Care Sets will be available via hubs (Vitalink, Abrumet, and the Réseau de Santé Wallon). The information contained in the Care Sets will be accessible by professionals through their approved software and by patients through the Personal Health Viewer (online portal "MaSanté" / "MijnGezondheid").

In addition, to support the use of ICT among care providers, INAMI – RIZIV offers an annual lump sum to midwives, physiotherapists and GPs who satisfy certain conditions (see Table 5). This annual premium is 800€ for midwives and physiotherapists. For GPs, the annual premium varies from 1000 € to 6000 €.

Table 5 – Annual lump sum for ICT use and summary of conditions to be satisfied by ANC professionals

Professional	Annual lump sum	Conditions
Midwives	800 €	1. Use of software to manage patient electronic file 2. To be a contracted midwife 3. To attest a least 500 procedures reimbursed by INAMI – RIZIV 4. To use MyCareNet$ at least once a month during 6 months 5. To upload one message with eHealthbox 6. To attest 50 procedures applying third party pay principle via the electronic invoicing
Physiotherapists	800 €	1. To be a contracted physiotherapist 2. To practice physiotherapy as principal activity 3. To attest annually at least 500 procedures reimbursed by INAMI – RIZIV during the last 2 years 4. To use a software approved by eHealth 5. To confirm that multiple users of the software are allowed in case of combined use of the software
GPs	1 000 €	1. To be GP in training or to be actually active as GP (i.e. to attest procedures to INAMI – RIZIV for at least 25 000€) 2. To be registered in an on-call service program 3. When GPs use **a non-approved software** by National Commission of Sickness Funds and Providers for the physicians (la Commission nationale médico-mutualiste / De nationale commissie artsen-ziekenfondsen) or reach a threshold of **6 out of 10 parameters*** of e-service use or **5 out 7 parameters*** of e-service use for GPs who work in medical houses
	3 500 €	1. To be actually active as GP (i.e. to attest procedures to INAMI – RIZIV for at least 25 000€) 2. To be registered in an on-call service program 3. When GPs use **an approved software** by National Commission of Sickness Funds and Providers (la Commission nationale médico-mutualiste / De nationale commissie artsen-ziekenfondsen for the physicians) or reach a threshold of **6 out of 10 parameters*** of e-service use or **5 out 7 parameters*** of e-service use for GP who work in medical houses
	4 500 €	1. To be actually active as GP (i.e. to attest procedures to INAMI – RIZIV for at least 25 000€) 2. To be registered in an on-call service program 3. When GPs use **an approved software** by National Commission of Sickness Funds and Providers for the physicians (la Commission nationale médico-mutualiste / De nationale commissie artsen-ziekenfondsen) or

		reach a threshold of **7 out of 10 parameters*** of e-service use or **6 out 7 parameters*** of e-service use for GP who work in medical houses
	6 000 €	1. To be actually active as GP (i.e. to attest procedures to INAMI – RIZIV for at least 25 000€) 2. To be registered in an on-call service program 3. When GPs use **an approved software** by National Commission of Sickness Funds and Providers for the physicians (la Commission nationale médico-mutualiste / De nationale commissie artsen-ziekenfondsen) or reach a threshold of **8 out of 10 parameters*** of e-service use or **all 7 parameters*** of e-service use for GP who work in medical houses

* parameters of e-services use are linked to the use of the following e-services (detailed info on INAMI – RIZIV website):

1. Recip-e: Recip-e allows different healthcare providers (physicians, dentists, midwives) to send secured electronic prescriptions to a server. They are encoded and stored until their use by other providers (pharmacists, nurses and physiotherapists). The sending and the withdrawal is done by a specialised software using Recip-e.
2. MyCareNet - chapter IV: $MyCareNet is a central platform for healthcare professionals and institutions to enable simple, trusted and secured information exchanges with the sickness funds. MyCareNet – chapter IV enables the introduction of a request for medications needing an approval of a medical advisor (médecin conseil / adviserend arts).
3. MyCareNet - eFact: It is a service for the electronic invoice of third party payment from the GP or the specialist to the sickness funds.
4. Informed consent for centralised medical file (dossier médical global / globaal medisch dossier) registered via eHealth platform
5. Upload of Sumehr via Vitalink, RSW ou Abrumet: Vitalink, RSW and Abrumet enable exchange of electronic documents between healthcare providers for a specific patient respectively in Flanders, in Wallonia and in Brussels
6. MyCareNet - electronic management of fees for centralised medical file (dossier médical global/ Globaal medisch dossier)
7. Creation or adaptation of medication scheme
8. CEBAM evidence linker: It is a linker in the electronic medical file of a patient enabling to find the available evidence based guidelines for his (her) specific condition.
9. MyCareNet - e-Attest: e-Attest enables the direct sending of a care attest to the sickness funds. The care attest is the document a patient receives after a consultation or a procedure and sent to the sickness fund to obtain a reimbursement. With e-Attest, the patient is reimbursed without sending the care attest to a sickness fund.
10. Electronic form for disability evaluation from Public Federal Service for Social Security

2.4.3. Websites and mobile applications (apps)

In February 2015, the Flemish Minister of Welfare, Public Health and Family launched a website on preconception care: www.gezondzwangerworden.be. It provides a lot of evidence-based information on preconception (e.g. intake folic acid, lifestyle). A compilation of evidence was made through reviewing well-established guidelines on preconception and prenatal care.[34] Examples of other preconception and pregnancy related websites are: www.testjevruchtbaarheid.be, www.ovulatie-berekenen.com, www.deverdwaaldeooievaar.be, www.fara.be and https://tictacboom.be/.

In addition the websites of K&G and ONE provide information on preconception, pregnancy, childbirth and postpartum. De websites of the 'Fédération Wallonie-Bruxelles' and the Flemish government offer information on administrative formalities relative to pregnancy and childbirth (i.e. formalities for the employer, municipality, family allowance or birth grant)[nn]. Also sickness funds developed websites, apps (example: https://www.bebeetmoi.be/, available in French and in a near future in German), or leaflets including information from preconception to the postnatal period (see chapter 2.2.5).

Finally, a multitude of pregnancy apps are available, some for free, others paying. The quality of the information they provide is variable.

2.5. Conclusions

As shown in Figure 2, the ANC organisation in Belgium is based on the clinical follow-up and on non-clinical interventions (e.g. birth preparation and parenthood education). Many healthcare professionals and many settings are involved in ANC. The current legislative framework organising the funding of pregnancy follow-up and birth preparation (see Figure 3) creates a distortion between professionals regarding co-payments and out-of-pocket costs as well as the fee received by contracted professionals. Against malpractice, civilian obligations for compensation purposes, criminal sanctions, deontological measures and withdrawal or suspension of the licence to practice are foreseen for all healthcare professionals (see Figure 4).

[nn] http://www.federation-wallonie-bruxelles.be
and https://www.vlaanderen.be/zwangerschap-en-geboorte

Figure 2 – Current organisation of the Belgian system of antenatal care

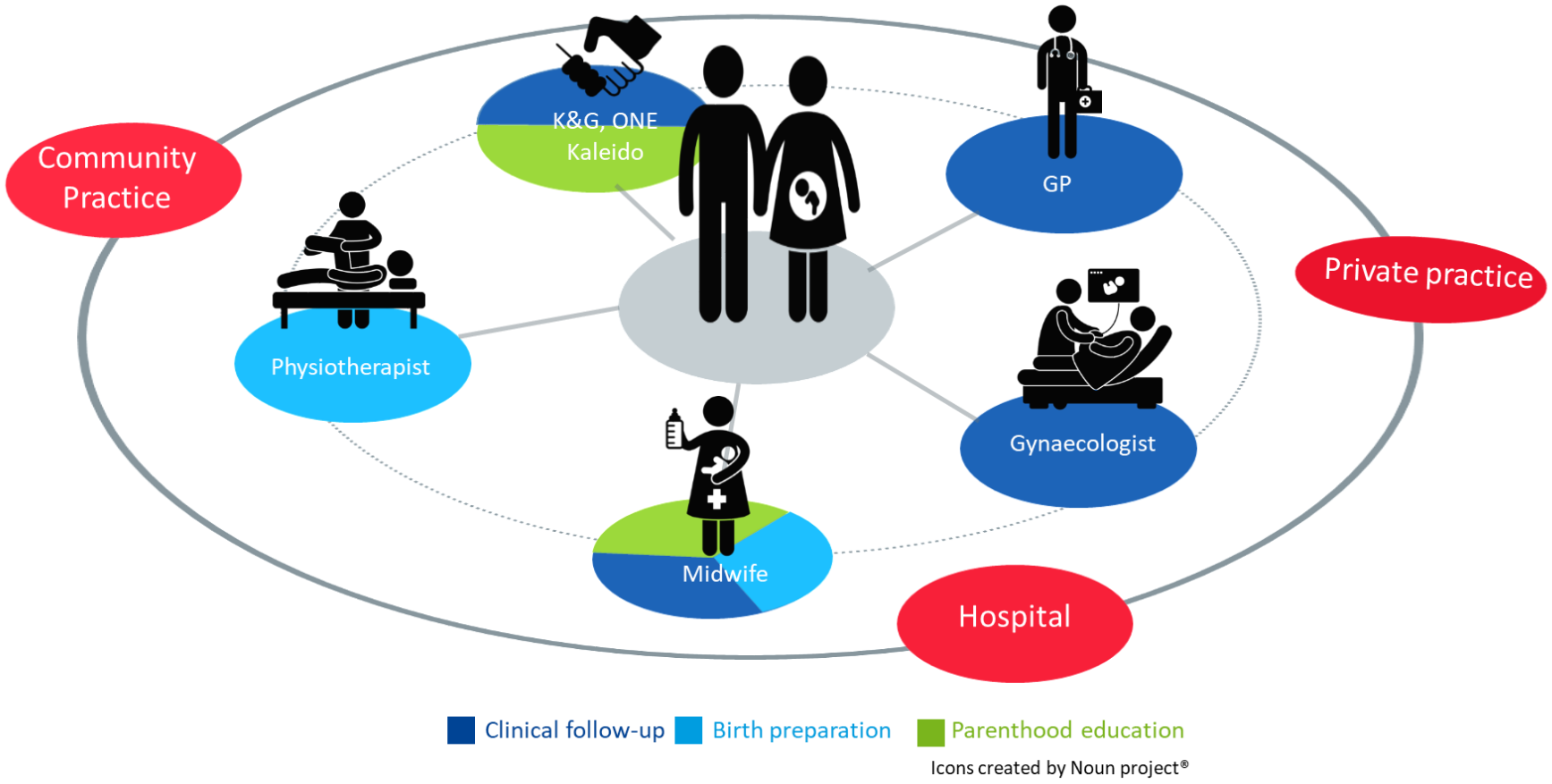
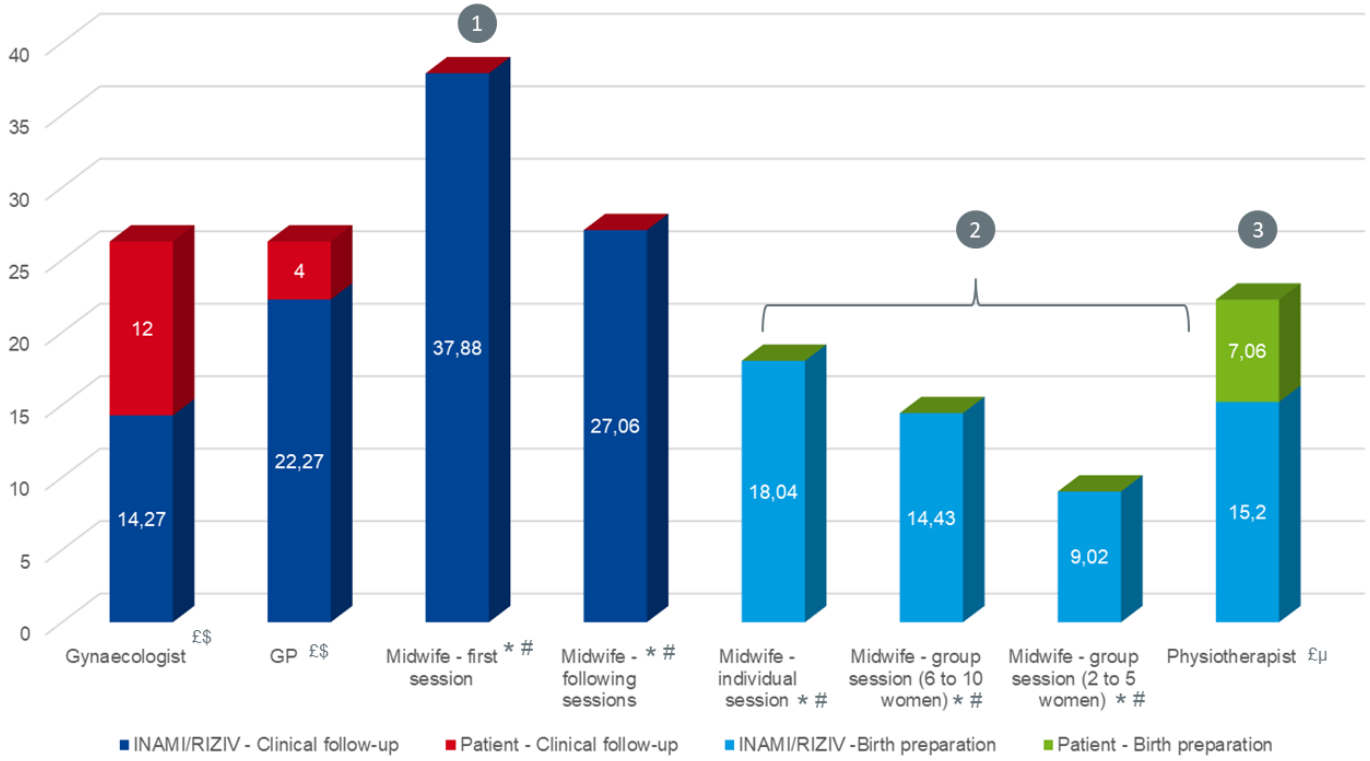


Figure 3 – Overview of INAMI – RIZIV financial interventions and patient's out-of-pocket payment (in €) for non BIM / non RVT pregnant women consulting an accredited and contracted healthcare professional



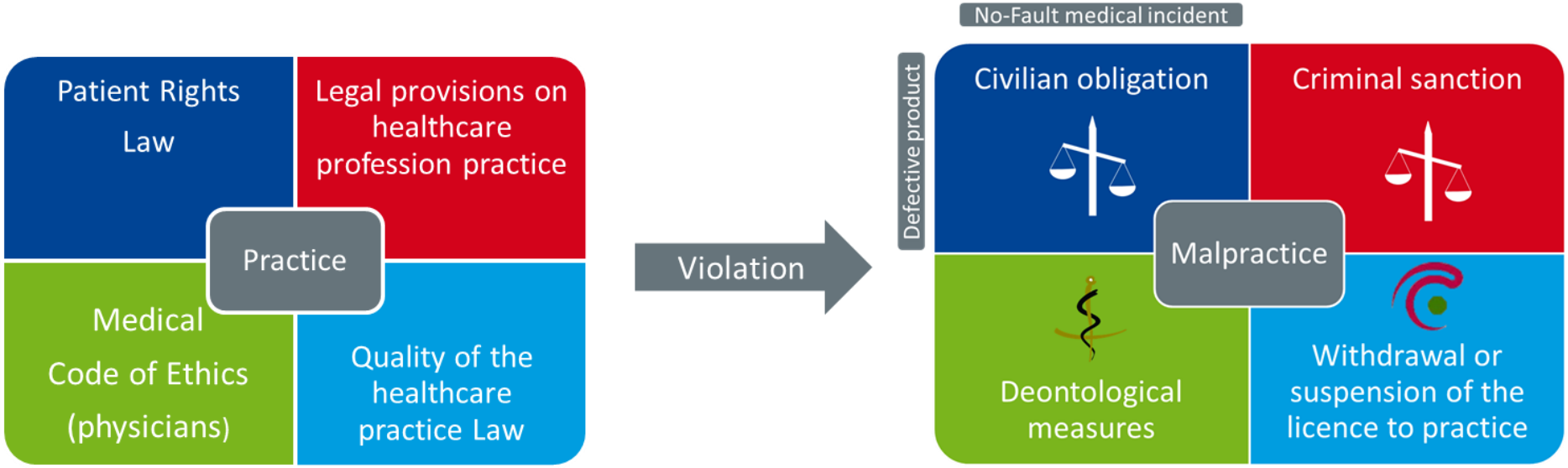
1 Minimum duration: 60 minutes

2 Minimum duration: 60 minutes - Maximum 12 sessions during the pregnancy

3 Minimum duration: 30 minutes - Maximum 9 sessions during the perinatal period

Compulsory Health Care and Benefits Insurance Law: £ Article 34 (1°) – routine care * Article 34 (2°) – childbirth
Healthcare nomenclature: $ Article 2, µ Article 7 and # Article 9

Figure 4 – Overview of the legislative framework



Key messages

Clinical follow-up

- Current ANC system offers to parents-to-be the free choice of practitioners among gynaecologists, midwives or GPs for the clinical follow-up of the pregnancy; however, until now ultrasounds are only performed by gynaecologists.
- Financial access is ensured by the official tariffs negotiated within the INAMI – RIZIV by type of consultation and type of healthcare professional, and the corresponding reimbursement rates. Co-payments are limited for women entitled to increased reimbursement who consult contracted healthcare professionals.
    - From the INAMI – RIZIV perceptive, midwifery sessions for the clinical follow-up are approximately twice as expensive as those performed by gynaecologists.
    - From the patient perspective, midwifery sessions are free when the care provider is contracted while consultations with GPs and gynaecologists are charged. Free access to ANC is also ensured by K&G and ONE while Kaleido offers financial support for vulnerable mothers-to-be.
- Care settings
    - ANC is delivered in various places such as private practices, hospital settings, K&G or ONE offices, medical houses and family planning centres.
    - While gynaecologists, midwives and GPs are available in private practices, they are not all present in the other care settings. Hospital settings propose gynaecologist and midwife consultations while at K&G or ONE offices and medical houses, only GPs and midwives provide consultations. In family planning centres, pregnant women may mainly consult gynaecologists and GPs.

Birth preparation

- Current ANC system offers to parents-to-be the free choice of practitioners for birth preparation. Pregnant women may choose between midwives and physiotherapists.
- Financial access to birth preparation is ensured by the official tariffs negotiated within the INAMI – RIZIV by type of consultation and type of healthcare professional, and the corresponding reimbursement rates. Co-payments are limited for women entitled to increased reimbursement who consult contracted healthcare professionals.
    - For INAMI – RIZIV and pregnant women, birth preparation sessions performed by midwives are cheaper than those performed by physiotherapists.
    - The number of reimbursed sessions varies according to the care provider. Physiotherapists may charge 9 individual sessions during the antenatal period and may not deliver group sessions for birth preparation. Midwives may charge 12 individual sessions during the antenatal period and may deliver group sessions for birth preparation. Only these sessions are covered by INAMI – RIZIV. Other private initiatives (e.g. prenatal singing, yoga) are totally charged to the pregnant women.
- Care settings
    - Midwives offer their services in private practices, birth centres or in hospitals.
    - Birth preparation may be provided by physiotherapists at patient's home, in private practices or in hospitals.

Information provided to pregnant women

- A wide range of suppliers provide pregnancy information, including commercial companies (i.e. pharmaceutical industries, nappy manufacturers) and non-profit organisations (i.e. ONE, K&G, Kaleido, Expertise Centra Kraamzorg, sickness funds, FARA, Federal and regional authorities…). Supports include books, leaflets, flyers, websites, apps.

eHealth

- The eHealth platform aims to optimise the quality, the continuity and the safety of healthcare while reducing the administrative workload for healthcare providers and offering a strong support to healthcare policy.

Protective measures for pregnant women

- From the moment the worker is pregnant, a number of legal protection mechanisms come into force. This is mainly a protection against overtime and night work, any form of discrimination and dismissal. In addition, the legal dispositions also specify, one the one hand, the obligation for employers to implement a number of safety and health prevention measures and in the other hand, the conditions and the duration of maternity leave.
- Numerous measures are dedicated to take care of vulnerable pregnant women such as social guidance, free clinical follow-up provided on individual basis or, seldom, according the centering pregnancy model, financial support from German speaking Community or CPAS/OCMW or Urgent Medical Aid (for undocumented migrants). Shelters also welcome, accommodate and provide adapted psychosocial assistance to (among others) vulnerable pregnant women. These structures are not specifically dedicated to this group but also to other beneficiaries (adults, emancipated minors, underage mothers and pregnant minors, characterised by a relational, social or material fragility that hampers them to live independently, and their accompanying dependent children).

  Additional initiatives are being taken by ONE and Kind en Gezin to complement the management of vulnerable pregnant women (perinatal services such as Aquarelle in Brussels, Echoline in Charleroi, APALEM and Seconde Peau in Liège, De Kiem in Sint-Niklaas; perinatal networks such as PAREL in Leuven, PANZA in Antwerp, PERINTI in Tienen).

  An ongoing project 'Born in Brussels' aims to create a network to identify vulnerable women, to build a personalized pathway and to test the effectiveness of CenteringPregnancy to implement this pathway.

Professional liability

- In the context of providing antenatal care, both civil court and penal court may be seized when malpractice occurs. When the litigation is referred to the civil court, the healthcare professional may be found liable and sentenced to compensate the victim(s). The aim of penal court is to identify the liability and, eventually to sentence the healthcare professional for manslaughter, unintentional assaults, and injuries or for infringements of the professional secrecy. When several healthcare professionals are involved in the therapeutic relationship, the judge assesses the liability of each party.
- Moreover, if there is serious and consistent evidence that the continuation of the practice raises serious concerns for the patient's health, medical provincial commissions may suspend the licence to practice of any healthcare provider (including physicians, midwives and physiotherapists) or impose certain conditions for pursuing the practice. In addition, specific bodies of the Medical Council (provincial councils) are competent to investigate and sanction deontological faults committed by doctors. For them, a disciplinary procedure can lead to a warning, a censure, a reprimand, a maximum 2 years suspension or a withdrawal of the affiliation to the Medical Council.

3. MODELS OF ANTENAL CARE

3.1. Introduction

Antenatal care (ANC) can be defined as the care provided to childbearing women in order to warrant the best health conditions for both mother and baby during pregnancy to reach the best maternal and child health outcomes. ANC aims to reduce maternal and perinatal morbidity and mortality both directly, through detection and management of pregnancy-related complications, and indirectly, through the identification of women at increased risk of developing complications during labour and delivery, thus ensuring referral to an appropriate level of care.[35] ANC aims to reduce maternal and perinatal morbidity and mortality both directly, through detection and management of pregnancy-related complications, and indirectly, through the identification of women and girls at increased risk of developing complications during labour and delivery, thus ensuring referral to an appropriate level of care.[35]

In 2016, The World Health Organization (WHO) published a consolidated guideline for routine ANC that is relevant to all pregnant women and adolescent girls receiving ANC in any health-care facility or community-based setting, and to their unborn foetuses and newborns.[35] A scoping review was conducted to prepare this guideline, and it revealed that what women want and expect from ANC is to have a "positive pregnancy experience".[36]

Box 4 – Definition of a positive pregnancy experience

A positive pregnancy experience is defined as:[36]

- maintaining physical and sociocultural normality
- maintaining a healthy pregnancy for mother and baby (including preventing and treating risks, illness and death)
- having an effective transition to positive labour and birth, and
- achieving positive motherhood (including maternal self-esteem, competence and autonomy)

This scoping review also promoted a revised, woman-centred ANC service, covering three equally important domains:[36]

1. **clinical care/therapeutic practices** (biomedical interventions and tests integrated with spiritual and religious practices, where appropriate); tailored use rather than routine use of biomedical tests and interventions is advocated;
2. **relevant and timely information** that includes physiological, behavioural, social, cultural and biomedical components. It should be tailored to the needs of the particular woman at the specific time in her pregnancy when that particular information is needed, and it should be given in a manner and through a medium that is comprehensible and accessible for her; and,
3. **psychosocial and emotional support** provided by practitioners with positive interpersonal behaviours and skills and competencies. The added value of community women's groups that are set up in pregnancy and continue postpartum is also emphasized.

Women require that the healthcare system they were accessing should enable ANC to be available, safely accessible, affordable, good quality, and that it should offer enough time for each woman to ensure that her particular needs were met, in private spaces that facilitate social exchange between women and staff, and between pregnant women and their peers.[36]

The WHO guideline identified the evidence-based practices during ANC that improve outcomes and lead to a positive pregnancy experience, including nutritional interventions, maternal and foetal assessment, preventive measures, and interventions for common physiological symptoms (nausea, vomiting, heartburn, leg cramps, low back and pelvic pain, constipation, varicose veins and oedema). Beyond these questions, it also addressed healthcare system interventions to improve the utilization and quality of ANC.[35]

Among a multitude of interventions that can be initiated to improve the utilization and quality of ANC, the WHO guideline supports two organisational models for antenatal care, i.e. midwife-led continuity of care models (MLCC) and group antenatal care.

3.2. Midwife-led continuity models compared to doctor-led models of care during pregnancy

Antenatal care can be delivered by different professionals according to their initial training, their level of autonomy and the initiatives they are authorised to take both for the childbearing woman and her baby. Traditionally, one can identify obstetricians, general practitioners and midwives who look after and deliver advice and care for pregnant women. In some situations, nurses and physiotherapists also contribute to antenatal care.

Models of antenatal care differ between countries or between regions in one country. Sometimes, an obstetrician or another doctor is the lead healthcare professional and at other times it is a midwife. Sometimes, the accountability is shared between obstetricians and midwives.[37]

We need to know if these two models, either the midwife-led continuity model or the doctor-led models are equally safe, if they bring benefits to mothers and babies and are well-experienced by the professionals themselves. Ideally, outcomes need to be measured in order to identify optimal models for **routine ante-, intra- and postnatal care** for healthy pregnant women with uncomplicated pregnancies.

3.2.1. Midwife-led continuity models of care (MLCC)

One of the models of antenatal care is called 'the midwife-led continuity model'. According to this model, the midwife is, in partnership with the woman, the lead professional in the planning, organisation and delivery of care starting from the initial booking appointment, up to and including the early days of parenting.[37] The midwife is accountable for the assessment of the woman's needs, the planning of her care, the referral to other professionals as appropriate, and for ensuring the provision of maternity services. MLCC aim to provide care in either community or hospital settings, usually to healthy women with uncomplicated or 'low risk' pregnancies.

In some models, midwives provide continuity of midwifery care to all women from a defined geographical location, acting as lead professional for women whose pregnancy and birth is uncomplicated, and continuing to provide midwifery care to women who experience medical and obstetric complications in partnership with other professionals.

MLCC oriented to a defined group of women through a team of midwives sharing a caseload, are often called 'team' midwifery. Thus, a woman will receive her care from several midwives in the team, the size of which can vary. Other models, often termed 'caseload midwifery', aim to offer greater relationship continuity, by ensuring that childbearing women receive their ante-, intra- and postnatal care from one single midwife or her/his practice partner.[37]

3.2.2. Doctor-led and shared models of care

Other models of care include the following:[37]

(a) **Obstetrician-provided care**. This is common in Belgium, in France but also in North America, where obstetricians are the primary providers of antenatal care for most childbearing women. An obstetrician (not necessarily the one who provided antenatal care) attends the birth, and midwives provide intrapartum and postnatal care.

(b) **Family doctor-provided care**, with referral to specialist obstetric care if needed. Obstetric nurses or midwives provide intrapartum and immediate postnatal care but not at a decision-making level, and a medical doctor (i.e. GP) attends the birth.

(c) **Shared models of care**, where responsibility for the organisation and delivery of care, throughout initial booking to the postnatal period, is shared between different health professionals. At various points during pregnancy, childbirth, and the postnatal period, responsibility for care can shift to a different provider or group of providers. Care is often shared by family doctors and midwives, by obstetricians and midwives, or by providers from all three groups.

In some countries (e.g. Canada and The Netherlands), the midwifery scope of practice is limited to the care of women experiencing uncomplicated pregnancies, while in other countries (e.g. the United Kingdom, France, Australia and New Zealand), midwives provide care to women who experience medical and obstetric complications in collaboration with physicians (including GPs and obstetricians). In addition, maternity care in some countries (e.g. Republic of Ireland, Iran and Lebanon), is predominantly provided by a midwife but is obstetrician-led, in that the midwife might provide the actual care, but the obstetrician assumes overall responsibility for the care provided to the woman throughout her ante-, intra- and postpartum periods.

3.2.3. Comparison between models of care

A Cochrane systematic review and meta-analysis was conducted aiming to compare MLCC with other models of care for childbearing women and their infants.[37]

Authors identified 15 studies involving 17 674 mothers and babies (search date 25 January 2016; Cochrane Pregnancy and Childbirth Group's Trials). Included studies were conducted in the public healthcare systems in Australia, Canada, Ireland and the United Kingdom with variations in models of care, risk status of participating women and practice settings. All trials included licensed midwives, and none included lay or traditional midwives (e.g. Doulas). The review included trials that compared midwife-led continuity of care given both during the antepartum and the intrapartum period with other models of care, which involved obstetricians or family physicians, or both, collaborating with nurses and midwives in a variety of organisational settings. Four studies assessed a caseload model of care and 10 studies a team model of care. Eight studies compared a midwife-led continuity model of care with a shared model of care, three studies compared a midwife-led continuity model of care with medical-led models of care and three studies compared midwife-led continuity of care with various options of standard care including shared, medical-led and shared care. Levels of continuity of care were measured (e.g. the proportion of births attended to by a known caregiver), and were in the ranges of 63–98% for MLCC and 0–21% for other models.

Women were included if they were at low risk of complications or at increased risk, without currently experiencing problems. Women were classified as being at low risk of complications in eight studies and as 'low and high' and 'high' in six studies. All the trials involved professionally-qualified midwives and no trial included models of care that offered home birth. Seven key outcomes were assessed using the GRADE methodology: preterm birth (birth before 37 weeks of pregnancy); the risk of losing the baby in pregnancy or in the first month after birth; spontaneous vaginal birth (when labour was not induced and birth not assisted by forceps); caesarean birth; instrumental vaginal birth (births using forceps or ventouse); whether the perineum remained intact, and use of regional analgesia (such as epidural). All primary outcomes were graded as of high quality. The evidence was not downgraded for risk of bias due to lack of blinding (one study was at low risk of bias for blinding of outcome assessment, four were judged as high risk of bias and 10 studies were at unclear risk of bias).

3.2.3.1. Critical outcomes related to the birth

Women who received midwife-led continuity of care were less likely to have an epidural (RR 0.85; 95% CI 0.78 to 0.92; participants = 17 674; studies = 14; high quality), fewer women had instrumental vaginal births (RR 0.90, 95% CI 0.83 to 0.97; participants = 17 501; studies = 13; high quality), women were more likely to have a spontaneous vaginal birth (RR 1.05, 95% CI 1.03 to 1.07; participants = 16 687; studies = 12; high quality), women were less likely to experience preterm birth (RR 0.76, 95% CI 0.64 to 0.91; participants = 13 238; studies = 8; high quality), and they were also at a lower risk of losing their babies before and after 24 weeks or during birth (RR 0.84, 95% CI 0.71 to 0.99; participants = 17 561; studies = 13; high quality evidence). However, there was no difference in the number of caesarean sections or intact perineum reported in both care models.[37]

3.2.3.2. Secondary outcomes related to the birth

Women who had MLCC were less likely to experience amniotomy (RR 0.80, 95% CI 0.66 to 0.98; participants = 3 253; studies = 4), episiotomy (RR 0.84, 95% CI 0.77 to 0.92; participants = 17 674; studies = 14) and foetal loss at less than 24 weeks and neonatal death (RR 0.81, 95% CI 0.67 to 0.98; participants = 15 645; studies = 11). Women who had MLCC were more likely to experience no intrapartum analgesia/anaesthesia (average RR 1.21, 95% CI 1.06 to 1.37; participants = 10,499; studies = 7), had a longer mean length of labour (hours) (mean difference (MD) 0.50, 95% CI 0.27 to 0.74; participants = 3 328; studies = 3) and were more likely to be attended by a known midwife during birth (RR 7.04, 95% CI 4.48 to 11.08; participants = 6 917; studies = 7; however, the effect estimates for individual studies are highly variable, as reflected in substantial statistical heterogeneity).[37]

Important results of this study are the **absence of differences between groups** for foetal loss at or after 24 weeks and neonatal death, induction of labour, antenatal hospitalisation, antepartum haemorrhage, augmentation/artificial oxytocin during labour, opiate analgesia, perineal laceration requiring suturing, postpartum haemorrhage, breastfeeding initiation, low birthweight infant, five-minute Apgar score less than or equal to seven, neonatal convulsions, admission of infant to special care or neonatal intensive care unit(s) or in mean length of neonatal hospital stay (days).[37]

The majority of included studies reported narratively a higher rate of maternal satisfaction in MLCC.[37] Similarly, there was a trend towards a cost-saving effect for midwife-led continuity care compared to other care models. Unfortunately, no additional outcomes were measured to evaluate the antenatal management of the childbearing women.[37]

The authors of the meta-analysis also compared outcomes obtained by MLCC versus other models of care according to the risk status of the pregnant women.[37] Eight trials randomised 11 195 women defined to be at low risk. Six trials randomised over 6578 women in women defined to be at mixed risk of complications. Of these, two trials excluded women who booked late - after 24 weeks' gestation and 16 weeks' gestation.

Two trials excluded women with a substance misuse problem, and two trials excluded women with significant medical disease or previous history of a classical caesarean or more than two caesareans, or women requiring admission to the maternal foetal medicine unit. There was no evidence of differences in treatment effect between the low risk and mixed risk subgroups for any of the outcomes included (regional analgesia (epidural/spinal), caesarean birth, instrumental vaginal birth (forceps/vacuum), spontaneous vaginal birth, intact perineum, preterm birth (< 37 weeks) and all foetal loss before and after 24 weeks plus neonatal death).

Following outcomes could not be analysed, due to a lack of data, data unable to be extracted, or high proportion of losses and exclusions (> 20% of the randomised participants). No maternal deaths were reported. Only one trial reported the following outcomes: mean number of antenatal visits, perceptions of control, breastfeeding on discharge and postpartum depression and so results were not included in a meta-analysis. No trials reported on longer-term outcomes: any breastfeeding at three months; prolonged perineal pain; pain during sexual intercourse; urinary incontinence; faecal incontinence; and prolonged backache.[37]

3.3. Comparison between caseload model of care and team model of care

Four trials compared a caseload model of care (defined as one midwife carrying responsibility for a defined caseload of women in partnership with a midwife partner) with other models of care. Caseload sizes differed between studies, from 32 to 45 women per midwife per year.[37]

Globally, there was no evidence of a difference between the caseload and team subgroups for any of the outcomes under investigation (caesarean section, instrumental vaginal birth, spontaneous vaginal birth, intact perineum, preterm birth < 37 weeks and all foetal loss before and after 24 weeks plus neonatal death), except a small difference between subgroups for regional analgesia. Due to heterogeneity and to the small number of trials in each subgroup, caution is required when interpreting this result.

3.3.1. *Midwife-led continuity models of care: impact on human resources and organisation of care*

The WHO recommended in 2016 the implementation of midwife-led continuity-of-care models for pregnant women in settings with well-functioning midwifery programmes.[35]

However, WHO reminds that some precautions are needed before adopting a new model of care:[35]

- Decision-makers in countries or regions *without* well-functioning midwife programmes should consider implementing this model only after having successfully assessed and increased the number and skill level of practising midwives. Moreover, stakeholders may wish to envisage different ways of providing continuous care through other care providers, because continuity of care is valued by women.
- The monitoring of human resource use as well as provider burnout and workload is essential to conclude whether caseload or team care models are more sustainable in individual settings.
- This model requires the availability of sufficient midwives (numbers and skills) to ensure the continuity of care for a limited number of women throughout pregnancy and during childbirth. The whole health system needs to have a sufficient number of midwives to maintain acceptable caseloads.
- The introduction of such model of care will lead to a major transformation in the roles and responsibilities of midwives as well as other healthcare professionals (obstetricians, family doctors) who have previously been in charge of antenatal and postnatal care. Before introducing such organisational change, all relevant stakeholders will ideally be consulted and human resources departments of clinics and hospitals involved. Consultation with relevant professional organizations could also support the implementation process.
- The need for additional one-off or continuing training and education should be assessed, and should be provided where necessary.

3.3.2. *Comparison between midwifery and obstetric units*

An additional randomized controlled trial compared low-risk women satisfaction with intrapartum care in a midwifery unit and an obstetric unit within the same hospital in Norway.[38]

In Norway five large obstetric clinics have established alongside midwifery units. Midwifery units intend to present an alternative setting to women with low risk of complications during labour. The design of the low-risk birth care units is often a homelike environment with medical and technical equipment at a low or a moderate level. The midwifery unit is dedicated to healthy women with low risk of complications who want a normal labour without interventions. The unit does not offer epidural analgesia nor augmentation with oxytocin. Obstetricians are not present, but will come when called for. Women who need extended surveillance or medical pain relief are transferred to the obstetric unit that offers extended surveillance, epidural analgesia and instrumental vaginal deliveries. Antenatal care is provided by midwives in primary care; however no continuity of care by a unique practitioner is offered at the midwifery unit nor at the obstetric unit.

Women randomized to the midwifery unit were significantly more satisfied with intrapartum care than those randomized to the obstetric unit (183 versus 176 of maximum 204 scoring points, mean difference 7.2, p = 0.002); the difference is quite small and its clinical relevance is unclear. No difference was found between the units for women who had an obstetrician involved during labour or delivery.

Key messages

- Midwife-led continuity model of care and medical-led models of care are equally safe for healthy women with uncomplicated pregnancies; both models are equivalent in terms of quality of care delivered. Authors did not find any increased likelihood for any adverse outcome for women or their infants associated with having been randomised to a midwife-led continuity model of care.
    - Women who received midwife-led continuity of care were on average less likely to experience instrumental birth (regional

analgesia, episiotomy, and use of forceps or ventouses) compared to women who received other models of care without detriment to outcomes.

  - Women who received midwife-led continuity of care were on average more likely to experience spontaneous vaginal birth and to be attended at birth by a known midwife but had a longer mean length of labour.
  - Women who received midwife-led continuity of care were on average less likely to experience foetal loss less than 24 weeks and neonatal death and preterm birth before 37 weeks.
  - No differences in caesarean birth rates were reported between both groups.

- Such benefits and positive outcomes are conferred when midwives provide intrapartum care in hospital settings and also where midwives provide continuity through pregnancy and childbirth.
- Practice settings such as midwife-led units can be a confounding influence on outcomes of midwife-led continuity of care, although home birth was not offered in any of the trials.
- More research is needed on non-physical outcomes such as satisfaction and breastfeeding initiation.
- More research is needed before applying the findings of this review to women with substantial medical or obstetric complications.
- Midwife-led continuity of care is a complex intervention, and it is impossible to unpick the relative importance of philosophy and continuity of care.
- The adoption of midwife-led continuity of care requires settings with well-functioning midwifery programmes (sufficient numbers of well-trained midwives, shift in roles and responsibilities between midwives and other care providers for the management of antenatal and postnatal care), and adequate financing of midwife-led services.

3.4. Individual antenatal care (one-to-one visits) compared to use of a group model

In most Western countries, the predominant model of antenatal care involves a schedule of one-to-one visits with a midwife, an obstetrician or a general practitioner (GP) in a hospital or in another clinical setting. An alternative way of providing antenatal care involves the use of a group model rather than a one-to-one approach. Group antenatal care is provided by a midwife or an obstetrician to groups of eight to 12 women of similar gestational age. Groups meet eight to 10 times during pregnancy at the usual scheduled visits, with sessions running for 90 to 120 minutes.[39]

3.4.1. Traditional individual antenatal care

Traditionally the model of antenatal care involves a longer first visit including a complete history and examination, followed by an average of 6 to 9 short, private visits with a clinician, most often an obstetrician, less frequently a midwife. Antenatal care providers are experiencing pressure to consult an increasing number of women, who are receiving shorter appointments but longer waiting times. Due to the limited time devoted to every individual patient, answering questions and providing counselling on health behaviours is often limited.[40]

3.4.2. Group antenatal care

Group antenatal care is based on some intuitive principles, which assert that care is most effectively and efficiently provided in groups and that learning and support are enhanced. Indeed, group antenatal care provides significantly more contact with providers (from two hours across pregnancy in individual care to 20 h in group), provides support services, and answers to the complex needs of pregnant women. Advantages of group interventions include, but are not limited to: enhanced learning and development of parenting skills, attitude change and motivation, higher insight through sharing common experiences, and peer support. In turn, groups facilitate development of new community norms for health enhancing behaviours.

Usually in the group practices, antenatal care is provided by a midwife, an obstetrician or another maternity care provider. Physical assessments such as fundal height and foetal heart rate do not take place in the group room but are an individual assessment alongside the group to maintain privacy. Groups integrate the usual antenatal assessment with information, education and peer support. Emphasis is placed on engaging women more fully in their own health assessments. Women with issues of high risk during pregnancy receive concurrent care provided by a specialist obstetrician or physician, in addition to attending group sessions.

Group antenatal care has been developed in the USA in a model known as CenteringPregnancy, developed by Sharon Schindler Rising. CenteringPregnancy, as one model of group antenatal care, allows increased time in antenatal care, with women receiving between 12 and 20 hours of care in a group setting compared with an estimated two to three hours (eight to 10 visits of 15 to 20 minutes' duration) during conventional antenatal care. This would be likely to result in increased education about pregnancy, childbirth and early parenting, which in turn may affect perinatal outcomes.[39]

Group antenatal care is currently implemented in over 300 settings in the United States, Canada, the United Kingdom, and Sweden.[41] Since 2012, CenteringPregnancy has also been offered in the Netherlands in 8 different midwifery practices. A recent study[42] comparing 597 pregnant women receiving CenteringPregnancy and 1610 women receiving individual care in the same practices showed that CenterPregnancy led to better pregnancy processes and better experiences among pregnant women and care providers in this country (less frequent use of pain relief and oxytocin, more frequent breastfeeding, better feeling of being supported and active participation to care and greater enthusiasm of healthcare providers). No statistical differences were reported for neonatal outcomes between individual and group follow-up. The bottlenecks for the wider implementation of this model of group antenatal care are the greater time investment of care providers (99 minutes per meeting) and the lack of structural financial compensation for this.[42]

In Belgium, similar pilot projects dedicated to vulnerable pregnant women have been launched in 3 Flemish cities: Sint-Niklaas (*de Kiem*), Antwerpen (*Expertisecentrum Kraamzorg De Kraamvogel* in collaboration with *Huizen van het Kind* Antwerpen) en Leuven (*Expertisecentrum Kraamzorg De Bakermat* in collaboration with *Huis van het Kind* Leuven). As in other countries, this form of antenatal care implies a large time investment of the care providers and an adapted financing.[43] These temporary pilot projects were financed by project funds (King Baudouin Foundation, City of Antwerp, and City of Louvain).

3.4.3. Comparison between models of care

A Cochrane systematic review and meta-analysis was conducted aiming to compare the effects of group versus conventional individual antenatal care on psychosocial, physiological, labour and birth outcomes for women and their babies as well as on care provider satisfaction.[39] Four randomised controlled trials (involving 2350 women) were included: two were undertaken in the USA, one in Sweden and one in Iran. This review included models of CenteringPregnancy, as well as other models that provide antenatal care in a group setting. The overall risk of bias for the included studies was assessed as acceptable in two studies and good in two studies.

No differences were observed between women who received group antenatal care and those given one-to-one care in terms of important pregnancy outcomes such as preterm birth (RR 0.75, 95% CI 0.57 to 1.00; three trials; N = 1888), low birthweight (RR 0.92, 95% CI 0.68 to 1.23; three trials; N = 1935) or perinatal mortality (RR 0.63, 95% CI 0.32 to 1.25; three trials; N = 1943). Women who attended group antenatal care were no more likely to initiate breastfeeding than those receiving individual care. In one trial, women who attended group antenatal care rated their satisfaction as similar to women receiving individual care (mean difference 4.90, 95% CI 3.10 to 6.70; one study; N = 993: the 5 point difference is not clinically meaningful on the scale used). Numerous outcomes related to stress and depression were reported in one trial. No differences between groups were observed for any of these outcomes.[39]

3.4.4. Group antenatal care: acceptability and feasibility issues

The WHO (2016) recommended that group antenatal care provided by qualified healthcare professionals may be offered as an alternative to individual antenatal care for pregnant women in the context of rigorous research, depending on a woman's preferences and on the availability of the infrastructure and resources for delivery of group antenatal care.[35]

However, WHO highlighted some organisational issues:[35]

- Because allocation to groups is ideally performed according to gestational age, manageable sized groups need to be composed.
- Appropriate facilities to deal with group sessions will be accessible to healthcare providers, including large, well ventilated rooms or spaces with adequate seating. Private rooms should be available for examinations, and opportunities should be offered for private conversations.
- Group antenatal care require longer sessions than individual antenatal care, and this may pose practical problems for some women in terms of work and childcare. A variety of time slots should be offered for group sessions (morning, afternoon, evening) and individual care needs to remain available.
- Group antenatal care may be associated with lower provider costs due to increased productivity and efficiency; e.g. healthcare providers avoid to repeat advice to each woman individually. However, training and supervising healthcare providers to conduct group based counselling and participatory discussions may also be costly.
- Generally, women appreciate group sessions since they offer opportunities to build relationships with other pregnant women and to share their experiences. Longer sessions delivered by unhurried care providers are particularly appreciated, but for some women this time commitment is seen as a barrier to attend group sessions. The lack of privacy is also a concern for some women who prefer individual format and the presence of their partner. Providers are also satisfied about the efficiency of the group format and the opportunity offered to ensure the continuity of care.

3.4.5. Innovative experiences based on group antenatal care

In the USA, a transdisciplinary team of researchers at Yale University, representatives from United Health Group, and healthcare providers at Vanderbilt University Medical Center developed an innovative model of group antenatal care with a novel information technology (IT) platform, called *Expect With Me*.[44] *Expect With Me* is designed to improve patient commitment and support, improve health behaviours and decision making, associate providers and patients, and improve health service delivery. *Expect With Me* provides care to groups of 8–12 women of the same gestational age. Women begin antenatal care in the traditional way. Formal intake (history, exam) is performed at an initial visit prior to group assignment. All antenatal care afterwards occurs within a group setting, except for health issues that entail privacy and cervical assessments in late pregnancy. Ultrasounds and laboratory screenings follow the recommendations formulated by The American College of Obstetricians and Gynecologists.[44]

This program is implemented from week 14 of pregnancy (after initial individual assessment) through delivery, following the same schedule as individual care. However, group visits are 90–120 min each, and follow a distinctive structured curriculum that incorporates the standard content of antenatal care, and highlights important health issues related to pregnancy, such as nutrition, physical activity, stress/mental health, and sexual health. Table 6 summarizes the timing and recommended topics to be covered during each session. Participants may bring their partner, family member, or other support person to group sessions.[44]

In a group setting, antenatal care providers (e.g., obstetrician, midwife) conduct one-on-one assessments with each patient (30 min) and then facilitate group discussions on the topics of pregnancy, using adult learning principles (60–90 min). Further, women access the IT platform (optimized for use on smartphones and computers), during their antenatal visit to record and monitor their own health data (e.g., weight, blood pressure, visit attendance) and health behaviours (e.g., taking prenatal vitamin, drinking water, exercising). This encourages patient involvement in self-care and introduces them to the online experience of care that will continue throughout their pregnancy and postpartum. Pregnant women can access

educational materials, including videos, tip sheets, audio files with relaxation/mindful meditation exercises, and links to online resources.[44]

In February 2014, *Expect With Me* was implemented in five clinical sites in Detroit. This program is currently under evaluation via a multisite, longitudinal matched-cohort study, in which data are collected in a real-world settings at the patient and organizational levels (https://clinicaltrials.gov/ct2/show/results/NCT02169024). A multi-method evaluation is conducted to assess the impact of the adherence to this program on maternal health and birth outcomes, to identify and address barriers to national scalability to evaluate the healthcare costs and utilization of care. All data collection will be completed by May 2018 (note from the author: no results were published on 26/04/2019).

Table 6 – Expect With Me group antenatal care session timing and topics

Session	Themes	Topics
1. (13–17 weeks)	You're a healthy mom	Eat and live healthy for you and your baby Stay active while you're expecting Maintain healthy weight during pregnancy Understand routine antenatal testing and emergencies Know what blood pressure and weight numbers are healthy for you
2. (17–21 weeks)	Staying healthy and strong through change	How babies grow and develop Mom's clean teeth = healthier mother and baby Learn why you're feeling the way you do Move safely and comfortably while pregnant Get a good night's sleep Keep calm and stress-free while expecting Stay safe at home, work and play
3. (21–24 weeks)	Breastfeeding = Healthy Babies and Healthy Moms	Benefits of breastfeeding Barriers to breastfeeding Basics of breastfeeding Choose a paediatric provider (Part 1) Your support systems (Part 1)
4. (25–29 weeks)	Healthy moms building healthy relationships	Understand Gestational Diabetes Testing Build healthy relationships Prevent STDs including HIV (Part 1) Choose when to get pregnant again (Part 1)
5. (27–31 weeks)	Healthy moms and healthy labour	Signs of labour Stages of labour (Part 1) Foetal heart rate monitoring

		Stay comfortable during labour Understand Caesarean birth
6. (29–33 weeks)	Healthy labour	Stages of Labour (Part 2) What happens immediately after delivery Labour and delivery decisions Provider policies and options for labour and delivery Prevent STDs including HIV (Part 2)
7. (31–35 weeks)	Healthy labour and healthy relationships	Prepare for hospital stay and return home Negotiate to build healthy relationships Understand Group B Strep testing and prevention
8. (33–37 weeks)	Taking care of mom and baby	Caring for your baby Choose a paediatric provider (Part 2) Care for your postpartum body Set goals to build healthy relationships (Part 1)
9. (35–39 weeks)	Preparing for a Healthy Future	How to breastfeed Staying healthy and strong after pregnancy Signs of postpartum depression Make sure your home is safe you and your baby
10. (37+ weeks)	Build a healthy future	Choosing a day care provider Going back to work Your support systems (Part 2) Choose when to get pregnant again (Part 2) Set goals for a healthy relationship (Part 2)

Source: Cunningham et al. (2017)[44]

Key messages

- Compared to one-to-one care, group antenatal care was not associated with a lower rate of preterm birth nor with higher rate of other adverse outcomes, although additional studies are needed to confirm this finding.
- Women reported similar satisfaction with group antenatal care as with individual care.
- In the Netherlands and Belgium, innovative pilot projects were recently launched to offer group antenatal care to socially vulnerable women. The objective is to contribute to reduce the health gap in this population group. These projects were financed by private or public financial means and organized at a local level.
- Future research is required:
  - to consider whether benefits are derived for specific groups of women, for example obese women.
  - to consider whether benefits are associated with group antenatal care plus continuity of care provider from labour to the postpartum period.
  - to determine the best model for group antenatal care (should partners be encouraged to attend? Or are women-only groups more beneficial?)
  - to consider the experiences of care providers, including costs of training and ongoing support mechanisms and experiences.

4. NON-CLINICAL INTERVENTIONS: BIRTH PREPARATION AND PARENTHOOD EDUCATION

4.1. Introduction

Non-clinical interventions refer to interventions aiming to support pregnant women during pregnancy, to prepare the delivery and the transition to parenthood. These interventions exclude, on the one hand, the diagnoses and on the other hand, the clinical assessment and screening tests. These latter interventions were covered by the KCE guideline on clinical assessment and screening tests during pregnancy.[1] Readers interested in preconception care and interventions for common physiological symptoms are invited to consult other sources.

We found no guidelines dedicated to birth preparation classes (BPC) or to parenthood education (PE). At the very most, the pathways developed in UK and the Netherlands foresee to refer patients to BPC or to PE but do not describe the content of the interventions (see chapter 8). In contrast, France settles a path for BPC and PE starting from pregnancy with an individual or couple early interview up to the maternity stay and the postnatal period. This path describes the objectives of BPC and PE and the skills to be learned by the (future) parents. The path is tailored to each parent. The different steps of the BPC and the PE are agreed upon during the early interview. The latter is also used for the psychosocial anamnesis performed by the first health professional met in early pregnancy or by another professional as soon as the pregnancy is confirmed. If potential vulnerabilities are identified during the early interview, the path is tailored to address them. The psychosocial anamnesis is repeated several times during pregnancy. Additional details can be found in chapter 8.

The purpose of this chapter is to complete the latest published guideline on 'the recommended clinical assessment and screening tests'[1] by interventions related to birth preparation and parenthood education.

4.2. Method

A multimodal approach was used to select relevant non-clinical interventions needed to complete the KCE guideline on recommended 'clinical assessment and screening tests'. This approach combined qualitative method to retrieve data on Belgian practice (see section 7.3.3), a literature review conducted in peer-reviewed journals and on grey literature, especially for the international comparison.

Data from the literature was extracted in two steps by one researcher. First, a review of reviews was performed based on a search for systematic reviews in Medline from 2008 to September 14th 2018. This was completed on December 20th 2018 by a review of RCTs describing non-clinical interventions as defined above. Details on search strategies can be found in Appendix 1.

A large range of topics is covered by the literature regarding birth preparation and parenthood education (e.g. parents' expectations and preferences for BPC and PE,[45-48] the challenge of online information,[49, 50] the type and the content of interventions,[51-55] the specificities of fatherhood,[56-58]…). For the purpose of this chapter, the literature review focused on the impact of birth preparation or parenthood education interventions on health outcomes or health related behaviours. The general population was the target population of this review. Therefore we excluded studies focusing on sub-populations such as obese or overweighed women, diabetic women, low-income women or specific ethnic groups. Detailed inclusion criteria can be found in Appendix 1.

4.3. Results of the literature review in peer-reviewed journals

4.3.1. Selection results

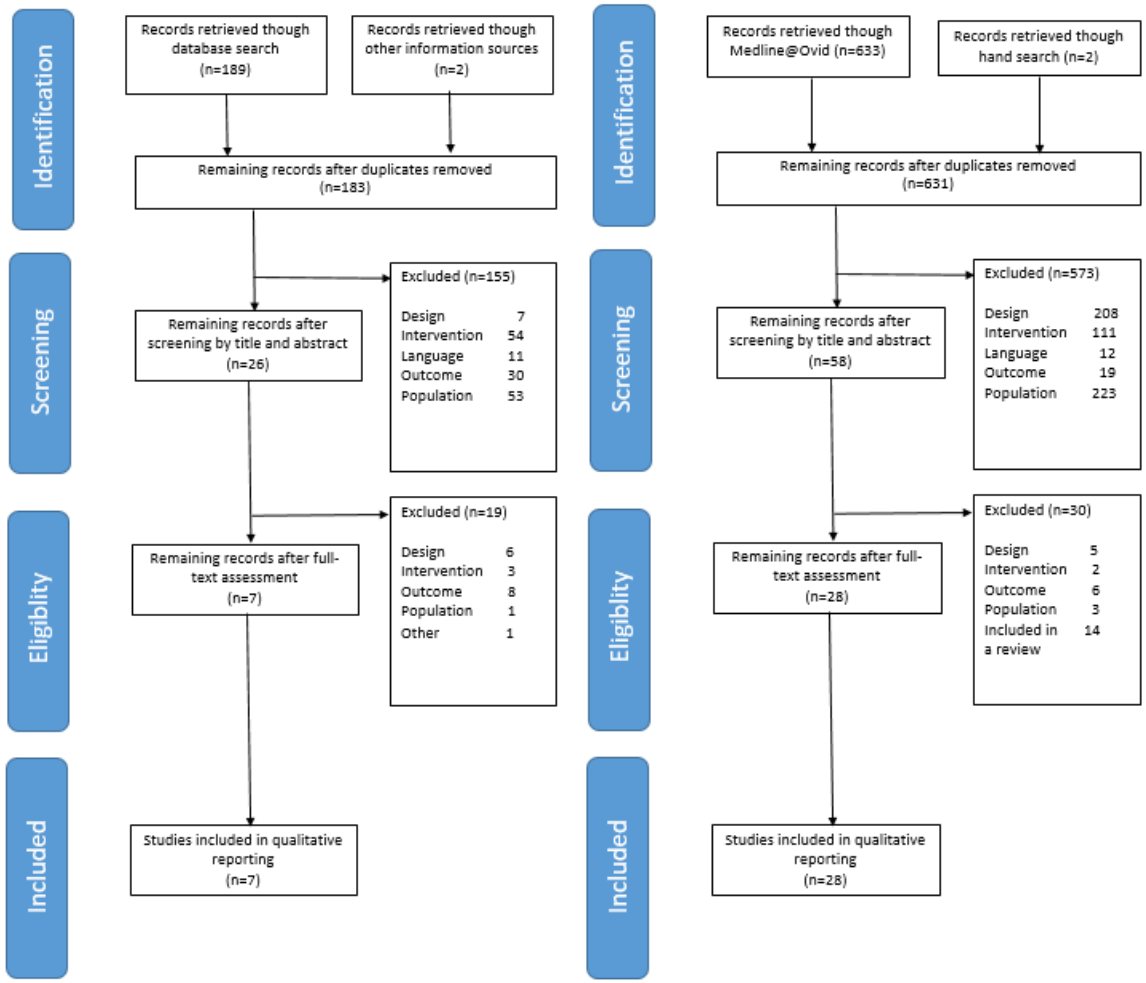
Among 821 publications retrieved (189 reviews and 632 RCTs), we included 37 studies (7 reviews and 26 RCTs). Screening of the reference lists of the included studies yielded 2 additional systematic reviews and 2 additional RCTs. PRISMA flowcharts can be found in Figure 5.

Among included reviews, 3 papers dealt with breastfeeding,[59-61] 3 papers with obstetrical outcomes,[61-63] 4 papers with mental health,[61, 63-65] 1 with weight gain management,[66] and 2 with perineal education.[67, 68]

Among included RCTs, 3 with obstetrical outcomes,[69-71] 11 with mental health,[72-82] 9 with weight gain management,[83-91] and 5 with health related behaviours.[92-96]

Overall, 9 reviews were included. Twenty-eight publications reporting 23 RCTs were included.

Figure 5 – PRISMA flowcharts for review and for RCT selection



4.3.2. Search results

4.3.2.1. Obstetrical outcomes

Caesarean sections

One very recent review assessed the impact of non-clinical interventions for reducing unnecessary caesarean section. Chen et al. retrieved evidence regarding interventions targeting women or families, healthcare professionals and healthcare organisations or facilities.[62] Only the first category of interventions is reported here.

The authors included 15 RCTs to study the effect of interventions targeting women or families. Results showed that childbirth training workshop, nurse-led applied relaxation training programme, psychosocial couple-based prevention programme may reduce caesarean section rate. Data from 2 studies[97, 98] suggest that childbirth training workshop and psychoeducation may increase rates of vaginal births. Other form of non-clinical interventions has little to no effect on caesarean section rate in comparison with standard maternity care. Interventions under study were antenatal education programme for physiologic childbirth, pelvic floor muscle training exercises with/without telephone follow-up, antenatal education on natural childbirth preparation with training in breathing and relaxation techniques, psychoeducation, computer-based decision aids, decision aid booklet, and intensive group therapy. In addition, the effect of psychoeducation sessions by phone and antenatal education for the expectant father on caesarean section rates is uncertain. Finally, little or no differences in rates of caesarean section are showed according to the format of education intervention. Included studies were rated at low quality of evidence by the authors of the review.

In addition to RCTs included in this review, a RCT found a lower risk of caesarean section in primiparous women with low risk pregnancy when complementary therapies were used.[69] Complementary therapies included six interventions provided in a two-day course among participants prior to 36 weeks' gestation. The interventions were visualisation, yoga postures, breathing techniques, massage, acupressure and facilitated partner support (low risk of bias). Complementary therapy antenatal programme seems to be cost saving from the payers perspective[99] and to give satisfaction to women and partners.[100]

False labour admissions

Fergusson et al. published a structured review on the effect of antenatal education on labour and birth. Because of several methodological shortcomings, we assessed the quality of the review as very low (e.g. no quality assessment of included studies, selection process poorly described…).[63]

Based on 4 RCTs, 1 observational study and 1 comparison study,[101-106] authors concluded that a significant decrease in false labour admissions was observed when women were provided with specific education about recognising true labour.

Induction of labour

Fergusson et al.[63] identified one RCT[107] showing that antenatal education may increase the induction labour rates. However, this finding has to be interpreted with caution because more women were induced for postdate in the group with antenatal education.

In a review performed by Brixval et al. in 2015,[61] one RCT[108] showed the self-hypnosis has no effect on induction of labour. The quality of this RCT was assessed at high risk of bias.

Reduced rates of augmentation in labour and length of second stage of labour was shown when complementary therapies was used (low risk of bias).[69]

Pain management

Brixval et al.[61] identified two RCTs[108, 109] on the use of epidural analgesia as pain relief during the labour. While group-based antenatal training among primiparous women had a protective effect on the use of epidural analgesia, self-hypnosis had no effect on the use of epidural analgesia during the labour.

In a third RCT[70], individual antenatal care seemed to increase the readiness for labour and delivery at 35 weeks gestation in comparison to those who followed antenatal education program in small classes. No effect on antenatal distress at 35 weeks gestation was observed in this study. The risk of bias was rated by the authors of the review as high to moderate. After publishing this review, Brixval et al.[71] performed a RCT (NEWBORN Trial) to study, among others, the use of epidural analgesia among pregnant women participating in small classes versus pregnant women participating in auditorium-based lectures in Denmark. No difference was found between the two groups.

While an additional RCT[69] showed that complementary therapies allowed to reduce the epidural rate in primiparous women with low-risk pregnancy (low risk of bias), another one[110] found no difference in epidural rate in primiparous women according to the use of mindfulness in antenatal training for preparing birth (high risk of bias due to very small sample size).

4.3.2.2. Breastfeeding

Our literature search yielded two systematic reviews[59, 60] studying the effects of antenatal breastfeeding education on breastfeeding initiation and duration. Another review[61] studied effects of antenatal education in small classes on breastfeeding but is not reported here because all included studies are included in the below described Cochrane review.

In 2016, a Cochrane review[59] assessed the effectiveness of antenatal breastfeeding education for increasing breastfeeding initiation and duration. The review included 19 RCTs and 4 cluster randomised trials that studied the effect of antenatal interventions. The studies combining antenatal and intrapartum or postpartum breastfeeding education components were excluded. Most studies took place in high-income countries. The authors concluded that there is no conclusive evidence supporting a positive effect of antenatal breastfeeding education (whatever the form or the content) on initiation rate of breastfeeding, on proportion of women that (exclusively) breastfed at 3 or 6 months nor on breastfeeding duration. The quality of evidence ranged according to the considered outcome (high quality of evidence for initiation of breastfeeding and proportion of any breastfeeding at 6 months, moderate for exclusive breastfeeding outcomes, low quality for any breastfeeding at 3 months).

Based on 14 RCTs, 1 cluster RCT and 4 quasi-experimental studies, Wong et al.[60] could not draw strong conclusions about the effectiveness of group versus individual antenatal breastfeeding education, mainly due to the quality of the included studies. However, the authors found that, when compared with standard care, both group and individual professional antenatal education showed some effect in extending the breastfeeding duration but only in subgroups of the population (vulnerable pregnant women, minority groups, low-income women or low-education participants). Any significant effect of antenatal breastfeeding education was found in low-risk, educated women. Finally, antenatal breastfeeding education showed a positive effect on short term breastfeeding outcomes (at 3 months) but a limited effect on long term breastfeeding rate (at 6 months).

4.3.2.3. Mental health and well-being

Depression

The effect of antenatal interventions on postnatal depression is unclear. Our search for evidence yielded 1 review[61] and 3 additional RCTs.[76, 79, 81]

Brixval et al.[61] found four RCTs[109, 111-113] regarding depression. No effect of antenatal classes was found in postnatal depression prevention (high risk of bias).

Findings from RCTs formulated opposite conclusions. In 2014, a small size RCT[76] showed that participating in childbirth education classes significantly improved women's postnatal mental health in Poland. A RCT, performed in Australia[79], also demonstrated a reduction in symptoms of postnatal depression and anxiety when antenatal intervention comprising reading of self-help workbook completed by discussion of the content with a psychologist by phone was offered. However, Mainburg[81] found that short general antenatal programme in Danish pregnant women may not be sufficient to prevent postpartum depression six weeks after birth.

Stress, anxiety and childbirth self-efficacy

In the Danish NEWBORN trial, Koushede et al.[77] found no difference in perceived stress or in antenatal depressive symptomatology among women at 37 weeks gestation depending on whether they had received antenatal small-class education or auditorium-based lectures. In the same trial, Brixval et al.[73] showed that antenatal education in small classes may increase childbirth self-efficacy (mothers' confidence in their own ability to manage labour and unexpected events during the delivery and to make childbirth a positive experience). Participants of the NEWBORN[72] trial estimated that it is relevant to learn, during antenatal education, about communication skills and changes in the relationship during and after the pregnancy.

Based on 1 RCT and two observational studies,[101, 106, 114] Fergusson et al.[63] found some positive emotional effects of antenatal education on women's labour and birth e.g. decrease in women's anxiety and higher partner involvement (low quality of evidence).

Fear of childbirth

Our search for evidence identified one systematic review[64] dealing with reduction of fear of childbirth. The authors concluded that educational interventions may reduce fear with double effect for hypnosis. However, when we extract RCT targeting the population of our review, no effect of educational interventions was found.

In addition of the previous mentioned review, we found 4 RCTs.

Haapio et al.[75] tested in a RCT the impact of an additional enhanced 2-hour childbirth education on the childbirth fear in Swedish first-time mothers. The intervention was delivered by midwives and tailored according the previous participants' knowledge. At 34 weeks of gestation, mothers with the additional education session had less childbirth-related fear than those without this additional session. The women's everyday lives were less affected by fear in the intervention group but no effect of the additional session was found on stress symptoms caused by fear of childbirth and on the wish to have caesarean section.

Larsson et al.[78] studied the effectiveness of internet-based cognitive behaviour therapy compared to face-to-face interview for childbirth fear. The internet-based cognitive behaviour therapy seemed to have no effect on childbirth fear and women were more satisfied with the face-to-face counselling compared to internet-based cognitive behaviour therapy. The authors highlighted the high percentage of lost to follow-up and the small sample size. Therefore, authors concluded that further researches are needed on this topic.

The impact of psycho-education group session in pregnancy and after the childbirth showed an increase in mothers' preparedness for childbirth in primiparous pregnant women with intense fear of birth.[82]

Maimburg et al.[80] analysed the impact of antenatal education on first time pregnant women. The antenatal education program consisted in three 3-hour modules between 30th and 35th weeks of pregnancy including birth, newborn, parenthood, and relationship topics delivered through lectures, video completed by discussion or practical exercise. Primiparous women attending this program experienced lower extent of worry in late pregnancy related to medical and birth issues compared to those not included in the antenatal education programme.

Psychological wellbeing

We found one RCT[74] testing the effects of an exercise programme on health-related quality of life in 855 healthy pregnant women in Norway. The exercise program included both aerobic and strength training for women between 20 and 36 weeks of pregnancy. One group session per week during 12 weeks was offered and led by physiotherapists. Women were also encouraged to follow a home exercise programme at least twice a week. While it is generally agreed that regular exercise during pregnancy led to health benefits, the results of this RCT indicate that offering exercise program during the pregnancy did not seem to improve psychological wellbeing and self-perceived general health of pregnant women in the third trimester.

Partners' outcomes

Suto et al. published in 2017 a systematic review[65] including 11 RCTs dealing with the effects of antenatal childbirth education for partners of pregnant women on paternal postnatal mental health and couple relationship. A large range of antenatal interventions were included in this review. Evidence seems to show that expectant fathers in intervention groups reported lower parenting stress three months after birth, lower postnatal state of anxiety two hours after birth, greater satisfaction with the experience of childbirth and were more likely to participate in the delivery room. Because low to very low quality of evidence, review authors estimated that the available evidence was inconclusive regarding antenatal childbirth education's effects on partner postnatal mental health and couple relationship.

Brixval et al.[61] identified one other RCT[115] reporting that fathers invited to psycho-social prevention program for couples experienced significant higher co-parental support, parenting-based closeness and lower father-child dysfunctional interaction compared to fathers without such intervention (high risk of bias).

4.3.2.4. Perineal education

We found two Cochrane reviews[67, 68] dealing respectively with pelvic floor muscle training and antenatal perineal massage.

Beckmann and Stock[67] retrieved 4 RCTs[116-119] dealing with the effects of antenatal massage on perineal trauma. The authors found that perineal massage, undertaken at least once or twice a week from 35-week gestation by the woman or the partner reduced the likelihood of episiotomies and ongoing perineal pain in women who had not given birth vaginally before. The effects are less clear for women who previously delivered vaginally. When comparing women who practised perineal massage compared to those who did not, no differences were observed in the incidence of incontinence, instrumental deliveries or sexual satisfaction.

The findings from the review performed by Woodley et al.[68] supported that pelvic floor muscle training offered in early pregnancy may prevent the onset of urinary incontinence in late pregnancy and postpartum. It might also reduce the prevalence of urinary incontinence in late pregnancy and postpartum.

4.3.2.5. Health related behaviours

In Sweden, the impact of information regarding antenatal Down syndrome screening delivered with a video as complement to written and verbal information versus written and verbal information alone was tested among 390 pregnant women.[92] The intervention led to an increased number of women who made an informed choice about Down syndrome screening. In the intervention group, participants also increased their ability to give informed consent.

Video education was also tested to improve pregnant women's influenza vaccination health beliefs and vaccination rate. Video education viewed prior to a routine antenatal visit positively influenced health beliefs regarding influenza vaccination without improving the vaccination rate in one trial.[96] A cluster-randomized trial among 11 obstetric practices in Georgia tested the effects of an intervention package on antenatal vaccination. The intervention encompassed provider-level component and patient-level component including iPad-based interactive tutorial and maps to local vaccine providers. The authors did not significantly improve antenatal influenza or tetanus, diphtheria and acellular pertussis vaccine coverage between intervention group and control group (receiving no intervention).[93] However, women enrolled in their third trimester asked more often family members to vaccinate to protect the infant in the intervention group compared to the control group.[94] A last three arm RCT[95] using video failed to demonstrate association between interventions with the decision to decline of Guthrie test. A first intervention consisted in viewing a movie on newborn blood spot screening and brochure. A second intervention consisted in viewing a movie on newborn blood spot screening and residual dried blood spots, and brochure. The control group received no intervention.

4.3.2.6. Weight management

We identified one review[66] searching until 2009, dealing with antenatal interventions aiming to reduce excessive gestational weight gain. When focusing on our inclusion criteria, the authors found one RCT[120] that we also found during our literature search. In this RCT, intervention included a consultation with a dietician in early pregnancy, a moderate-intensity exercise program and information about appropriate weight gain during pregnancy recommended by the Institute of Medicine. Participants in the intensive group gained significantly less weight than those in the routine care group but any difference in the rate of adherence to the appropriate weight gain recommendation was shown. The authors found that the most predictive factor for the appropriate weight gain recommendation was having a normal Body Mass Index (BMI) before to be pregnant. Intervention has not impact on rate of caesarean section, preeclampsia, gestational diabetes mellitus, operative vaginal delivery, or vaginal lacerations.

Our literature search yield 7 additional RCTs.

The first trial, pushed in two papers,[83, 84] tested a composite intervention including education on appropriate weight gain during pregnancy recommended by the Institute of Medicine, application of personalised weight graph, formalised prescription of exercise and regular monitoring of weight gain at every antenatal visit. The authors found a significantly lower weight gain among women receiving the intervention in comparison with those receiving standard maternity care. However, the effect of the intervention did not remain at long term (i.e. at 1 year postpartum). In addition, no statistically significant difference was observed in the proportion of women who exceeded the recommended appropriate weight gain. The risk of excessive long-term weight retention was increased in women that exceeded the recommended gestational weight gain by Institute of Medicine.

A second trial reported in two papers[85, 86] tested dietary counselling twice by telephone with access to exercise groups twice a week in 591 women living in Norway. The weight gain of women included in intervention group was 1.3kg lower than those receiving routine antenatal care. Reduction in insulin and leptin levels was observed in the intervention group compared to the routine antenatal care. However, glucose levels were unchanged whatever the group. Finally, there was no difference between groups in the rate of pregnancy complications, operative deliveries (i.e. operative vaginal deliveries and caesarean sections) and newborn birthweight.

Two RCTs[87, 88] tested the same intervention in Canada. While the recruitment occurred in the same place, the recruitment period is slightly different. Therefore, overlap in the sampling of these two studies is suspected. The intervention consisted in community-based group exercise sessions, instructed home exercise and dietary counselling between 20 and 36 weeks of gestation. In the first trial,[87] the authors noticed that intervention allowed a decrease in daily intake of calories, fat, saturated fat and cholesterol, a reduction of the prevalence of excessive gestational weight gain as defined by the Institute of Medicine in comparison with standard antenatal care. In addition, higher physical activity 2 months after enrolment was observed in intervention group. The second trial[88] drew the same conclusion regarding excessive gestational weight gain, physical activity and carbohydrate intake but these effects were only noticed in pregnant women with normal pre-pregnancy BMI. In addition, offspring birth weight was also lower in women with normal pre-pregnancy BMI included in the intervention group compared to those with normal pre-pregnancy BMI in the control group.

Althuizen et al.[89] tested an intervention consisting in four face-to-face counselling sessions about weight, physical activity and diet during pregnancy and one session by phone after delivery. The intervention was delivered by midwives in 106 women in the Netherlands whereas 113 pregnant women received routine antenatal care. The authors concluded that lifestyle counselling did not have any effect on excessive weight gain or on postpartum weight retention.

In Australia, Wilkinson et al.[90] evaluated the impact of 60 minutes group session delivered by a dietitian in comparison with giving an information booklet regarding fruit and vegetable intake, healthy weight gain and physical activity in 360 pregnant women. No difference between intervention group and control group was reported in the proportion of women who reached the gestational weight gain.

However, intervention allowed to enhance lifestyle behaviours by increasing fruit and vegetable intakes and physical activity.

A last trial occurring in Norway[91] analysed the impact of 12-week programme including 60 minutes exercise (aerobic and strength training) twice a week and supervised by aerobics instructors completed by 30 minutes of moderate self-imposed physical activity after the 12-week period. The exercise programme was based on the recommendations of the American College of Obstetricians and Gynaecologists. No difference of excessive weight gain as defined by Institute of Medicine was observed between intervention group and control group that did not change their usual physical activity pattern. Participants attending the 24 exercise sessions showed a significantly lower weight gain during the pregnancy and a lower postpartum weight retention compared to control group.

4.4. Results of the literature review in grey publications

Table 7 reports a list of non-clinical interventions for France, UK, the Netherlands, and to a lesser extent, Sweden. For Sweden, additional evidence[121] was found to complete data. When comparing this list to the list proposed by the Belgian stakeholders (see above), we noticed no great discrepancies. However, three interventions were not mentioned by the Belgian stakeholders: participant-led antenatal classes (UK), home visit to assess the environment in which the newborn will arrive and to advise the future parents (the Netherlands) and hygiene care of a newborn (UK and France). The latter was discussed during the meeting with the Belgian stakeholders but it was decided to exclude this intervention because of the overwhelming amount of information already given to expectant parents during the pregnancy.

Table 7 – Non-clinical interventions reported in France, UK, the Netherlands and Sweden

Interventions	Timing	Countries
Assessment of needs and vulnerabilities of the pregnant women		
Early interview (vulnerability and need for birth preparation and parenthood education need)	as soon as possible and repeated	France
Birth plan and program of sessions for childbirth preparation and parenthood education		
Individual birth care plan	16 weeks	Netherlands, France
Program of sessions for birth preparation and parenthood education		France
Participant-led antenatal classes	10 weeks	UK
Early visit to assess information and education needs		Sweden
Rights during the pregnancy		
Preparation for parenthood and practical matters, such as the declaration to the municipality, maternity leave, etc.	26-38 weeks	Netherlands
Session related to parents' right (at work, at maternity)		France

Pregnancy process		
Information about pregnancy courses	22-28 weeks	Netherlands, Sweden
Baby development during pregnancy	10 weeks	UK
Explanation about the process of a pregnancy, delivery and parenthood		France
Recognise the warning signs during the pregnancy		France
Feeding a newborn		
Feeding of the newborn	22-28 weeks	Netherlands
Feeding of the newborn	26-38 weeks	Netherlands
Breastfeeding (workshops)	10 weeks	UK
Breastfeeding information, including technique and good management practices that would help a woman succeed, such as detailed in the UNICEF Baby Friendly Initiative	36 weeks	UK
How to deal with problems related to breastfeeding		France
Breastfeeding: normal procedure, helpful suggestions, breastfeeding problems and solutions		Sweden
Childbirth		
Preparation for the delivery (place, manner, posture, pain and possibilities for (drug) pain relieving)	22-28 weeks	Netherlands
Information and counselling about at least the preparation for the delivery (provisions, support), the delivery itself (place, manner, posture, pain and possibilities for (drug) pain relief)	26-38 weeks	Netherlands
Preparation for labour and birth, including information about coping with pain in labour and the birth plan	36 weeks 36-40 weeks	UK Netherlands
Recognition of active labour	36 weeks	UK
Information regarding labour, pain relief and possible complications		Sweden
Information about the self-care, partner's role, birthing instruments, caesarean section		
Information regarding the child's first breath, behaviour, mental, physical, emotional first contact with child		Sweden
Organize the delivery (who accompanies during the delivery, care of delivery, breastfeeding),		France

Maternity period and - care	26-38 weeks	Netherlands
Confirmation of the birth place	36-40 weeks	Netherlands
Place of birth	10 weeks	UK
Clinical follow-up at home		
Home visit 1 : follow-up of the pregnant woman	before 32 weeks	Netherlands
Home visit 2 : assessment of environment in which the baby will arrive and to advise the future parents	34 weeks	Netherlands
How to organize the domicile and the way of life (prevention of risk factors for the baby)		France
Screening tests		
Discussion of all antenatal screening tests	10 weeks	UK
Information on newborn screening tests	36-40 weeks	Netherlands
Information on newborn screening tests	36 weeks	UK
Nutrition of mother		
Nutrition and diet	10 weeks	UK
Physical exercises		
Exercise, including pelvic floor exercises (antenatal)	10 weeks	UK
Awareness of postnatal physical exercises		France
Mental health		
Discussion of mental health issues	10 weeks	UK
Awareness of 'baby blues' and postnatal depression	36 weeks	UK
Care organisation		
Pregnancy care pathway	10 weeks	UK
Awareness of the elements of the medical follow-up for the mother and the baby		France
Utilization of care services: when consultation is needed, when to go to the emergencies or maternity		France

Postnatal mother care		
Postnatal self-care	36-40 weeks	Netherlands
Postnatal self-care	36 weeks	UK
Postnatal baby care		
Care of the new baby	36 weeks	UK
Hospital care for the baby		Sweden
Hygiene care for the baby		France
Adjustment to baby needs		France
First visits to child healthcare clinic		Sweden
Parenthood		
First day at home after childbirth		Sweden
Maintaining the couple's relationship including sex after childbirth and division of responsibilities between parents		Sweden
Emotion, health, sleep deprivation, dealing with crying/screaming		Sweden
When, where, and who to turn to with problems		Sweden

4.5. Discussion

Our literature review allowed to identify impact of non-clinical interventions on obstetrical outcomes, breastfeeding, mental health and well-being, weight management and health related behaviours. The impact of antenatal perineal education was also discussed. According to the literature, non-clinical interventions may have a positive effect to reduce caesarean section rate, false labour admissions, anxiety, and urinary incontinence and to enhance childbirth self-efficacy. However, the added-value of non-clinical interventions is unclear regarding induction of labour, pain management, breastfeeding, depression, partner postnatal mental health, couple relationship, health related behaviours and weight gain.

Finally, no effect of non-clinical intervention was found on stress, psychological wellbeing and self-perceived general health of pregnant women.

Based on the included studies, it is not possible to recommend one type of non-clinical intervention against another. Some interventions have clear positive effects on health outcomes such as pelvic floor muscle training on urinary incontinence but it is not the case for most non-clinical interventions. While antenatal education seems to increase childbirth self-efficacy and to reduce false labour admissions and women's anxiety, the effect of antenatal education is not demonstrated for other health outcomes. The same contrasting conclusion may be drawn regarding the effect of relaxation on caesarean section rate. When relaxation takes the form of nurse-led applied relaxation training programme, the effect of antenatal education on

caesarean section seems to be positive whereas relaxation techniques associated with training in breathing during natural childbirth preparation does not influence the type of delivery.

Our review has a number of limitations. The most important one is the design of included studies (only reviews and RCTs were considered); moreover, the selection and the data extraction were performed by only one researcher. In addition, we limited our research to health related outcomes. Therefore, we did not search for effects of non-clinical interventions on knowledge, sense of control, infant-care abilities or psychological and social adjustment.

The overall quality of the retrieved reviews varied from high to very low. In addition, independently of the quality of the reviews, the quality of included trials is overall low to very low. This is mainly due to (very) small sample sizes, the mixed nature of the included population (primiparous, multiparous…) and self-reported outcomes. Further, few RCTs reported outcomes related to neonates. Short term outcomes were mainly reported while long term outcomes were not discussed in the retrieved evidence. However, we did not study the possibility of publication bias.

Pooling of findings was impossible because of the huge variations between the content of the interventions and the lack of comparator definition (typically standard care).

4.6. Conclusion

The available literature regarding the effect of non-clinical interventions on health related outcomes is inconclusive. Current evidence is scarce and mainly of low level of quality. Therefore, further high quality researches are needed to test, not only, the effects of non-clinical interventions on health outcomes but also the agreement of birth preparation and parenthood education to the needs of parents and their newborns.

Key messages

- No evidence-based guideline on Birth Preparation and Parenthood Education was found.
- Literature is scarce, the quality of primary studies is mainly low (lack of robust study design) and the content of interventions is very heterogeneous.
- The effect of non-clinical interventions varies widely depending on the outcome studied.
- Positive effects were found on reduction of caesarean section rate, false labour admissions, anxiety, and urinary incontinence and on enhancing childbirth self-efficacy.
- Based on included studies, it is impossible to recommend one type of non-clinical intervention against another. Therefore, the identified interventions must be seen as a tool box to elaborate a tailored program to answer parents' needs.

5. DESCRIPTION OF THE CONSUMPTION OF ANC

5.1. Introduction

To capture the patterns of antenatal care, we analysed data from the AIM/IMA database (Agence Intermutualiste-Intermutualistisch Agentschap). This agency collects data from all seven Belgian sickness funds (organismes assureurs/verzekeringsinstellingen) which reimburse the healthcare benefits as foreseen in the compulsory healthcare insurance. Most of the Belgian residents (i.e. 98.9% of the population)[122] are affiliated to one of the seven sickness funds to cover the majority of their health expenditures within the compulsory insurance. The sickness funds collect administrative and billing data. The AIM/IMA centralises the data from all sickness funds for research purposes. There are three administrative databases containing data at the individual level:

- the population database containing population characteristics
- the health services database containing billing data for all reimbursed drugs delivered by hospital pharmacies and healthcare services
- the reimbursed drugs database containing reimbursed pharmaceuticals from public pharmacies

The health services database contains reimbursement codes of medical procedures, healthcare services, hospital admissions, etc. It also includes among others dates, providers, institutions and costs.

Box 5 – Limits of administrative data to capture consumption of ANC

It should be noted that the AIM/IMA data refers only to persons registered to the compulsory health insurance with a Belgian sickness fund. Therefore, data from private insurances offering extra coverage and uninsured pregnant women are not included in the study. Uninsured pregnant women are European women covered by their national medical coverage, non-European women covered (or not) by their national medical coverage or women without regular affiliation at a sickness fund. Since uninsured persons' health expenses are not registered in a centralised database (i.e. AIM/IMA data), it is very challenging to study the subpopulation of uninsured patients.

Because this study focuses on low-risk pregnancies, we excluded high-risk pregnancies from the analysis by identifying relevant risk factors. Among them, a set of illnesses were identified by medicine reimbursement. However, untreated illnesses or genetic conditions, requiring a strict follow-up cannot be identified with these administrative databases. Addictions (tobacco, alcohol, drugs…), psychological conditions, and non-medical factors such as lack of social support, victims of violence, etc. can also bring risks during pregnancy. Unfortunately, they cannot be captured by the available administrative data.

5.2. Methods

5.2.1. Selection of pregnancies

The selection of pregnancies was based on the deliveries occurring during the study period (from 1 January 2010 to 31 December 2016). Miscarriage, voluntary or medical termination of pregnancy were therefore excluded. Vaginal deliveries and caesarean sections were included in the sample regardless of the healthcare provider who attends the delivery (GP, obstetrician or midwife). The nomenclature codes[oo] used for the selection are presented in Table 46 in Appendix 2.1. For the period under study, 824 405 deliveries were identified. The care consumption is studied during the pregnancy period preceding these deliveries defined as 280 days before the delivery date.

Most of these pregnancies (54.83%) took place in Flanders, 30.96% in Wallonia, and 13.55% in Brussels. Here, and in the rest of the analysis, the region of interest is the region where the pregnant woman resides. When referring to the region where she gives birth, the term 'hospital region' is used. The difference between the two notions can be substantial, especially in Brussels as 17.5% of the women who give birth in Brussels reside in Flanders and 6.9% in Wallonia (data 2016 report CEpiP Brussels).[123]

5.2.2. Selection of low-risk pregnancies

The selection of low-risk pregnancies is based on the exclusion of pregnancies with one or more risk factors that could be identified in the available administrative databases.

The following exclusion criteria were used:

- women younger than 18 or older than 40 (25 303 deliveries, 3.07% of the total deliveries between 2010 and 2016) or for whom age was not recorded (1 154 deliveries, 0.14% of the total deliveries observed between 2010 and 2016);
- women with pre-existing comorbidities defined by the consumption within 21 months before delivery (i.e. a period of one year before conception added to 9 months of pregnancy) of at least one medicine from the list in Table 47 in Appendix 2.2 (122 054 deliveries, 14.81% of the total deliveries observed between 2010 and 2016). The following comorbidities were taken into account: diabetes, hypertension, thrombosis, coagulation disorders, asthma, rheumatoid arthritis, Crohn's disease, ulcerative colitis, HIV, chronic hepatitis B and C, multiple sclerosis, epilepsy, thyroid diseases, immunosuppression after organ transplantation, respiratory disorders, and neurological disorders. We also excluded women with pre-gestational diabetes defined by the presence of diabetes passport/convention, identified by the nomenclature codes listed in Table 48 in Appendix 2.2, within 21 months before delivery (325 deliveries, 0.04% of the total deliveries observed between 2010 and 2016);
- women having had at least one individual midwifery session dedicated to high-risk pregnancy within 280 days before delivery (day of delivery excluded), (see nomenclature codes listed in Table 49 in Appendix 2.2), and women for whom the effective presence of a paediatrician at the delivery due to the high-risk pregnancy was prescribed by an obstetrician or a paediatrician (see nomenclature codes listed in Table 50 in Appendix 2.2, i.e. 26 341 deliveries, 3.20% of the total deliveries observed between 2010 and 2016).

After excluding the identified high-risk pregnancies (19.87% of the initial sample), our final sample counted 660 631 deliveries.

Table 8 shows how the selected deliveries are yearly distributed across the studied period. Here, and for the rest of the analysis, "year" must be understood as "year of delivery". It should be noted that although the number of deliveries is relatively well balanced over the years, the percentage of pregnancies identified as high-risk increases over the years. Two main reasons may explain this increase.

[oo] The nomenclature is the official list of reimbursed healthcare services.

Firstly, the presence of the considered comorbidities raise over time. Secondly, the definition of high-risk pregnancy is more accurate from 2012 onwards thanks to the introduction of new nomenclature codes regarding midwifery sessions dedicated to high-risk pregnancies.

In 2010, the percentage of pregnancies identified as high-risk was higher in Wallonia (20.90%) than in Brussels and Flanders (17.58% and 14.38% respectively). However as shown in Figure 6, although the percentage of pregnancies identified as high-risk increased in all three regions, the increase has been more important in Brussels. In 2016, 26.90% of the pregnancies were identified as high-risk in Brussels, 26.15% in Wallonia and 20.92% in Flanders. Indeed, the presence of comorbidities increased relatively more in Brussels. Also, in Brussels, considerably more pregnancies were identified as high-risk by the use of individual midwifery session dedicated to high-risk pregnancy or the required effective presence of a paediatrician at delivery due to high-risk pregnancy.

For the rest of the analysis, we further excluded pregnancies that showed inconsistent observations: male patients (n=10, 0.001% of the total deliveries observed between 2010 and 2016) and patients with less than 36 weeks between two deliveries (n=1 022, 0.12% of the total deliveries observed between 2010 and 2016). In the remaining parts of this chapter, the reader must keep in mind that when we mention pregnancies (or pregnant women, or even simply women), we refer only to these selected low-risk pregnancies.

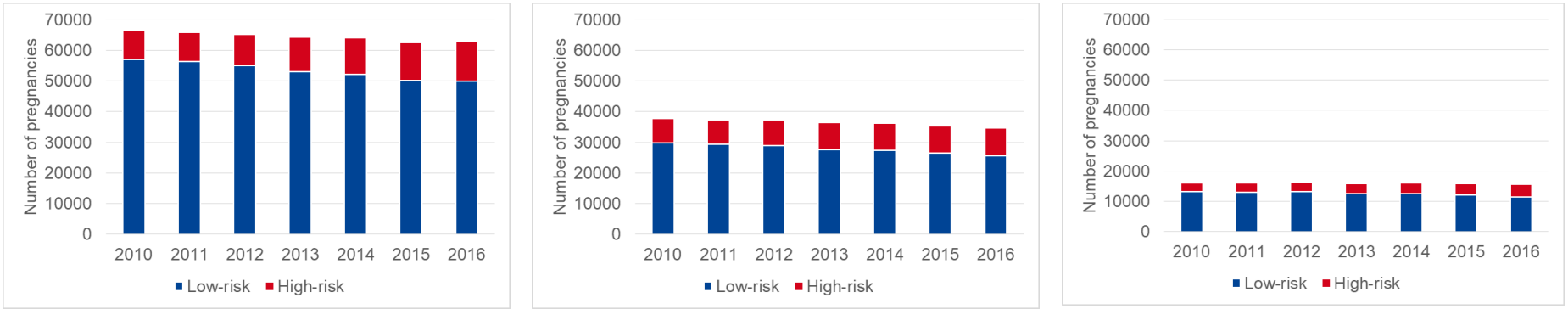
Table 8 – Selection of low-risk pregnancies

Year	Total number of deliveries	High-risk pregnancies (excluded)		Low-risk pregnancies (selected)	Low-risk pregnancies adjusted for inconsistency*
2010	121 163	20 550	(16.96 %)	100 613	100 459
2011	120 229	21 090	(17.41 %)	99 139	98 958
2012	119 752	22 128	(18.26 %)	97 624	97 441
2013	117 508	23 545	(19.43 %)	93 963	93 806
2014	117 139	24 634	(20.33 %)	92 505	92 366
2015	114 466	25 188	(20.79 %)	89 278	89 133
2016	114 148	26 639	(21.99 %)	87 509	87 436
Total	824 405	163 774	(19.87 %)	660 631	659 599

**Note: Inconsistent observations are male patients and patients with less than 36 weeks between two deliveries.*

Figure 6 – Distribution of low- and high-risk pregnancies per region, 2010-2016

(a) Flanders (n=452 030) (b) Wallonia (n=255 228) (c) Brussels (n=111 712)



Note: Region is unknown for 5 435 pregnancies (4 737 low risk and 703 high risk).

5.2.3. Characteristics of pregnant women and maternities

The AIM/IMA administrative databases allow us to characterise the insured women and the maternities based on recorded information by the sickness funds.

The following variables characterise the pregnant women:

Age

Age was defined as the difference between the year of the delivery and the woman's year of birth, so that a slight difference (limited to one year) may exist with the woman's actual age at the date of delivery.

Pregnant women's residence

The pregnant women's residence was classified on the basis of the INS/NIS (Institut National de la Statistique – Nationaal Instituut voor de Statistiek) code. The INS/NIS code is a 5 digit code attributed to each municipality. The first digit expresses the province. The second digit expresses the administrative district of each province and the last three digits vary according to the municipalities of a same district.

Based on the first digit (province), the INS/NIS codes were used to define the region of pregnant women's residence. Afterwards, the INS/NIS codes were used in the AIM / IMA database to categorise the pregnant women's residence to levels of morphological and functional urbanisation. Based on the definition of Mérenne – Schoumaker et al. (1998),[124] the levels of morphological urbanisation were used to cluster the pregnant women's residence in urban, semi-urban and rural. The second digit (administrative district) was used to make the different maps.

Preferred reimbursement

Under certain conditions, some insured persons or families may be entitled to increased reimbursement i.e. a lower out-of-pocket payment for their medical expenses (medical consultations, medicines, hospitals costs, etc.). Up to 2014, two different statuses allowed to access to increased reimbursement:

- Beneficiaries from the increased reimbursement (Rechthebbenden van de verhoogde verzekeringstegenmoetkoming – Bénéficiaires de l'intervention majorée)

  This status was given to insured persons:

  - with a welfare allowance such as people supported by a Public Social Welfare Centre (OCMW – CPAS), people who benefit from a guaranteed income for elderly (Garantie de revenus aux personnes âgées – Inkomensgarantie voor ouderen (GRAPA / IGO)), people who benefit from a replacement or integration income for disabled persons

  or

  - with a specific social status such as widow(er)s, orphans, invalid or disabled persons, people older than 65y, unemployed persons, single-parent families, unaccompanied minors (Mineurs Etrangers Non-Accompagnés, MENA - Niet-Begeleide Minderjarige Vreemdelingen, NBMV), etc.

- The OMNIO status allowed the extension of the increased reimbursement to all persons under a fixed income limit.[125] The levels of income taken into account were defined by law.[pp]

Since 2014, both statuses are integrated into a new status of increased reimbursement.[126]

An insurance code is assigned to each insured person. This code is composed of 3 digits. The first digit gives information regarding the employment status of the insured person (or of the family member who is responsible for social security contributions): salaried person versus self-employed. The second digit refers to the social status of the insured person (0 resident, 1 worker or student, 2 disabled or invalid person, 3 retired person, 4 widowers, 5 orphan). The last digit is 1 if the insured person may benefit from increased reimbursement and 0 if not. Insured persons who are entitled to increased reimbursement can be identified thanks to the third digit of their insurance code and are referred in the text as 'disadvantaged' pregnant women.

Disabled persons

Disabled persons are identified thanks to the second digit of the insurance code (see above).

Employment category

This variable allows the identification of working status of the insured person (salaried person versus self-employed person) or the working status of the family member who is responsible for social security contributions if the insured person does not contribute herself (that is the case if the insured person has no paid activities and no unemployment or retirement benefit).

Unemployment

If the insured person is unemployed at least one day of the year, he (or she) is considered as unemployed.

[pp] Arrêté royal du 1er avril 2007 fixant les conditions d'octroi de l'intervention majorée de l'assurance visée à l'article 37, §§ 1er et 19 de la loi relative à l'assurance obligatoire soins de santé et indemnités, coordonnée le 14 juillet 1994, et instaurant le statut OMNIO (MB. 03.04.2007) / Koninklijk besluit van 1 april 2007 tot vaststelling van de voorwaarden voor de toekenning van de verhoogde verzekeringstegemoetkoming, bedoeld in artikel 37, §§ 1 en 19, van de wet betreffende de verplichte verzekering voor geneeskundige verzorging en uitkeringen, gecoördineerd op 14 juli 1994, en tot invoering van het OMNIO-statuut (BS. 03.04.2007)

The following variables characterise the hospitals

Hospital region

The hospital ID is recorded in the administrative database of AIM/IMA but but remained blinded. Therefore, only the hospital region was used.

Hospital annual number of deliveries

All hospitals were clustered in four groups according to the yearly number of deliveries (source: AIM/IMA Atlas – data 2010-2014)[127]:

- < 500 deliveries
- 500-1499 deliveries
- 1500-2499 deliveries
- ≥ 2500 deliveries

The groups were created on the basis of the distribution of the number of deliveries by hospital observed in the considered year. For 2015 and 2016, the hospital numbers of deliveries of 2014 were used.

Maternity number of beds

All hospitals were also clustered in four other groups but, this time, according to the number of maternity beds (source: SPF SPSCAE/ FOD VVVL – data 2010-2016):

- 1-15 beds
- 16-24 beds
- 25-40 beds
- > 40 beds

The groups were created based on the distribution of the number of maternity beds by hospital observed in the considered year, except for 2011 (no data available) where data from 2010 were used.

Descriptive statistics for the above variables are given in Table 9.

Table 9 – Descriptive statistics of the selected low-risk pregnancies, 2016 (n=87 436)

Factor	Definition	n	%
Age (n = 87 436)	18-29 years old	40 368	46.17%
	30-40 years old	47 068	53.83%
Urbanisation level (n = 86 892)	Urban	56 455	64.97%
	Semi-Urban	19 734	22.71%
	Rural	10 703	12.32%
Preferred reimbursement (n = 87 370)	No	72 162	82.59 %
	Yes	15 208	17.41 %
Disabled (n = 87 422)	No	87 255	99.81 %
	Yes	167	0.19 %
Employment category (n = 83 456)	Salaried	76 580	91.76 %
	Self-employed	6 876	8.24 %
Unemployment (n = 87 422)	No	79 522	90.96 %
	Yes	7 900	9.04 %
Hospital region (n = 86 689)	Brussels	14 930	17.22 %
	Flanders	46 961	54.17 %
	Wallonia	24 798	28.61 %
Hospital annual number of deliveries (n = 86 689)	< 500	3 902	4.50%
	500-1499	37 642	43.42%
	1500-2499	31 190	35.98%
	≥ 2500	13 955	16.10%
Maternity number of beds (n = 86 689)	1-15 beds	5 246	6.05%
	16-24 beds	16 765	19.34%
	25-40 beds	25 218	29.09%
	> 40 beds	39 460	45.52%

5.2.4. Care consumption during the antenatal period

Our definition of care consumption refers to the number of consultation of GPs, midwives, gynaecologists and physiotherapists during the antenatal period i.e. 280 days before the delivery. Imaging, lab tests, vitamin supplements, etc. were not included in the studied care consumption. The INAMI – RIZIV nomenclature codes used are presented in Table 51 to Table **56** in Appendix 2.3 and Appendix 2.4.

For midwifery consultations, a distinction was made between consultations dedicated to the clinical follow-up (Table 51 in Appendix 2.3) of the pregnancy and consultations dedicated to psychological and physical birth preparation (Table 54 in Appendix 2.4). For the purpose of this report, low-use of ANC is defined as a pregnancy follow-up including less than 7 consultations with a health professional during the antenatal period. This threshold corresponds to the number of visits recommended in the KCE guideline for the clinical follow-up of multiparous women.[1] High-use of ANC is defined as more than 10 consultations with a health professional during the antenatal period. This threshold corresponds to the number of visits recommended in the KCE guideline for the clinical follow-up of nulliparous women.[1] These thresholds were chosen because the AIM/IMA databases did not allow us to identify the parity status of the pregnant women.

The consumption of care delivered by physiotherapists for birth preparation may be measured by the RIZIV-INAMI perinatal codes used for the antenatal period. However, it is not excluded that some physiotherapists use more general codes during the antenatal period. Because the purpose of the care provided under these latter codes is unknown, we first performed an analysis with only the perinatal codes. Afterwards, we performed a second analysis including perinatal codes and more general codes to capture all the physiotherapy activities during the pregnancy. All the codes used in the analyses are listed in Table 55 (perinatal codes) and Table 56 (other codes) in Appendix 2.4.

Birth preparation refers to the management of labour (e.g. non-pharmacological pain relief) and delivery. In contrast, parenthood preparation refers to education and information programmes to help the pregnant woman and her partner in the transition to parenthood.

No specific nomenclature code is foreseen for parenthood education. This activity is not financed by INAMI – RIZIV. In practice, health care practitioners provide parenthood education during their birth preparation sessions or in separate sessions, which cannot be identified by nomenclature data. More details on birth preparation and parenthood education may be found in chapter 4.

5.2.5. Pseudonymisation of data

The data recorded in the AIM/IMA databases are subject to a double coding to prevent the identification of insured persons. In addition, data extraction was performed by a data-analyst from AIM/IMA. All statistical analyses were performed by a data-analyst from KCE after approval of the method by controlling doctors and the security advisor of AIM/IMA.

5.2.6. Statistical analyses

Continuous data representing care consumption were described by using frequencies, percentages, or medians with Interquartile Range (IQR) or first and third quartiles (Q1, Q3).

Categorical data representing factors associated to characteristics of pregnant women or hospitals were presented using crude odds ratios (OR) with 95% confidence intervals (95% CI) in the univariate analyses (data 2016). In addition, the backward method was used in logistic regression in order to adjust for confounding factors in the multivariate analyses. When appropriate, adjusted odds ratio and 95% CI are presented.

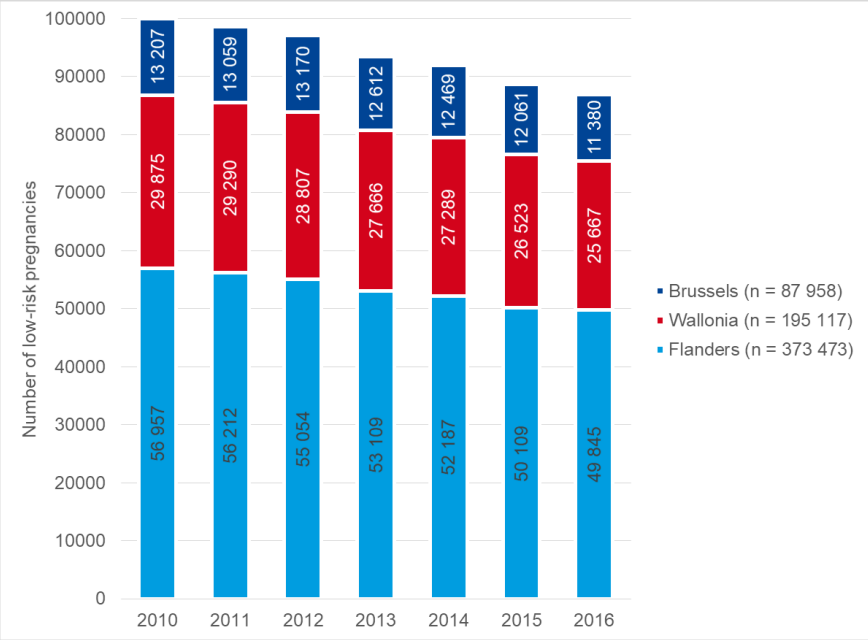
5.3. Results

5.3.1. Description of the sample

The number of low-risk pregnancies follows a decreasing trend between 2010 and 2016 in all three regions. Most of the selected pregnancies (57.01% in 2016) took place in Flanders (see Figure 7). The large majority of the selected women (70.95% in 2016) were aged between 26 and 35. They were on average a bit older in Brussels than in the other regions: in Brussels more than 50% of the selected women were older than 30, while this proportion was 45.07% in Flanders and 42.63% in Wallonia (see Figure 8). This difference is increasing over time, as shown by Figure 9. In 2010, 45.38% of the selected women were older than 30 in Brussels, compared to 40.92% in Flanders and 38.34% in Wallonia.

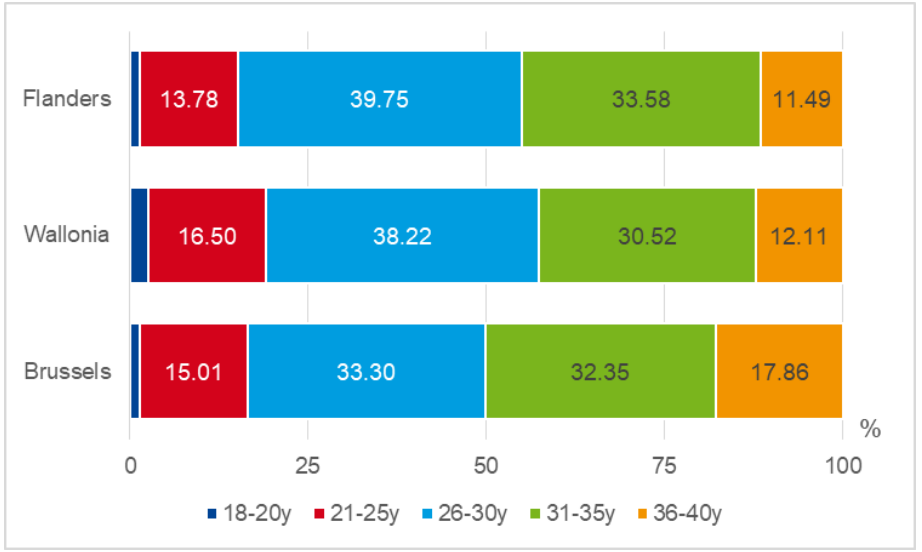
For each low-risk pregnancy, we describe the pattern of antenatal care using information on care services that are billed by healthcare professionals (consultations with gynaecologists, midwives, GPs and physiotherapists). The nomenclature codes used to identify these services are listed in Table 51 to Table 56 in Appendix 2.4. For the midwifery, a distinction was made between the codes used for the clinical follow-up of the pregnancy (see section 5.3.2) and the codes used for birth preparation (see section 5.3.3).

Figure 7 – Number of low-risk pregnancies per region, 2010-2016 (n=656 548)



Note: Region is unknown for 420 pregnancies in 2010 (0.42% of the sample of that year); 397 (0.40%) in 2011; 410 (0.42%) in 2012; 419 (0.45%) in 2013; 421 (0.46%) in 2014; 440 (0.49%) in 2015; and 544 (0.62%) in 2016.

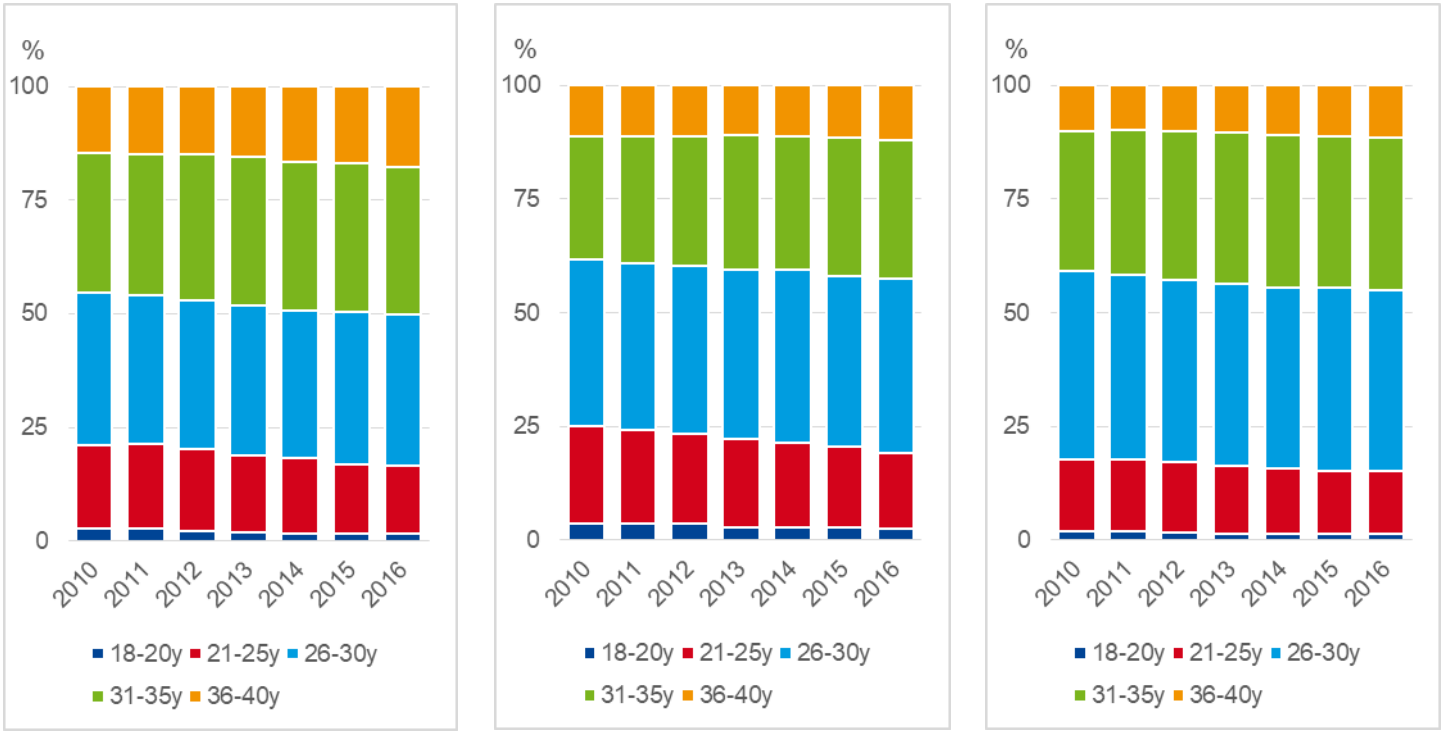
Figure 8 – Distribution of low-risk pregnancies by age categories and regions, 2016 (n=86 892)



Number of included pregnancies: Flanders: 49 845 (57.36%); Wallonia: 25 667 (29.54%); Brussels: 11 380 (13.10%). Region is unknown for 544 pregnancies in 2016.

Figure 9 – Evolution over time of the distribution of low-risk pregnancies by age categories in the three regions, 2010-2016 (n=656 548)

(a) Brussels (n=87 958) (b) Wallonia (n=195 117) (c) Flanders (n=373 473)



Note: Region is unknown for 420 pregnancies in 2010 (0.42% of the sample of that year); 397 (0.40%) in 2011; 410 (0.42%) in 2012; 419 (0.45%) in 2013; 421 (0.46%) in 2014; 440 (0.49%) in 2015; and 544 (0.62%) in 2016.

5.3.2. Clinical follow-up of pregnancy

The clinical follow-up of pregnancy is provided by gynaecologists, by midwives and sometimes by GPs (see definition provided in chapter 0). Pregnant women who gave birth in 2016 have had a median number of 11 antenatal consultations with a gynaecologist (IQR=5), 1 consultation for pregnancy follow-up with a midwife (IQR=2) and 2 consultations with a GP (IQR=4), within the 280 days before delivery, corresponding to a median number of 15 consultations with one of these practitioners (IQR=7). The median number of consultations with a GP stayed stable over the period (in 2010, the median was 2 with IQR=3), while the median number of consultations with a gynaecologist, as well as with a midwife have increased: in 2010 they were 10 for gynaecologists (IQR=6) and zero for midwives (IQR=1). Globally, the median number of consultations was 14 (IQR=6).

The number of antenatal consultations recommended is 7 for multiparous and 10 for nulliparous women regardless of the healthcare practitioner. These recommendations were formulated in the KCE guideline (KCE report 6, 2004)[128] and reiterated in its update (KCE report 248, 2015).[1] In 2016, the proportions of nulliparous women were 42.9%, 45.1% and 41.2% respectively in Wallonia,[129] Flanders[130] and Brussels.[123] We observed that low-risk pregnant women had a median number of 15 consultations (IQR=7) with healthcare professionals (gynaecologist, midwife or GP) within the 280 days before delivery. Excluding GPs (as we cannot be sure that the reason for their consultation is related to the pregnancy), the median number of consultations was 12 (IQR=5).

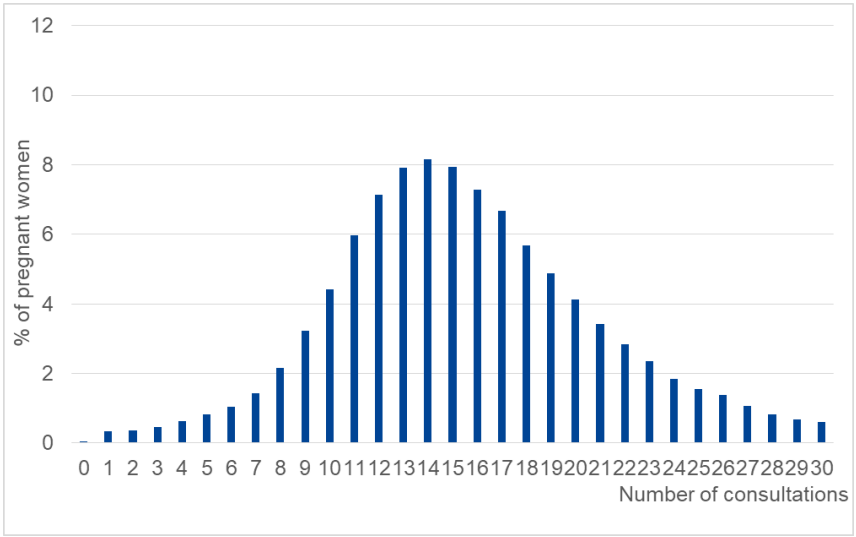
5.3.2.1. Use of care

As shown on the left panel of Figure 10, in 2016, most women had between 11 and 17 consultations (the median is 15) with a gynaecologist, a midwife or a GP during pregnancy. Some women (3.67% in 2016) had less than 7 consultations with these healthcare professionals while the vast majority of them (85.08%) had more than 10 consultations. As shown in Table 10, the pattern is quite similar in the three regions of the country, although pregnant women tend to consult a bit more in Flanders and a bit less in Brussels compared to Wallonia. In Brussels, a larger proportion of women (6%, compared to 3.67% at the national level) had less than 7 antenatal consultations.

Excluding GPs (right panel of Figure 10), the median number of consultations is 12. When considering only consultations with gynaecologists and midwives as antenatal consultations, the pattern of use differs from one region to another, as shown by Figure 11 and Table 10: pregnant women in Flanders had a lower number of consultations compared to the other regions of the country. This may indicate that consultations with GPs during the antenatal period are more common in Flanders than in the other regions.

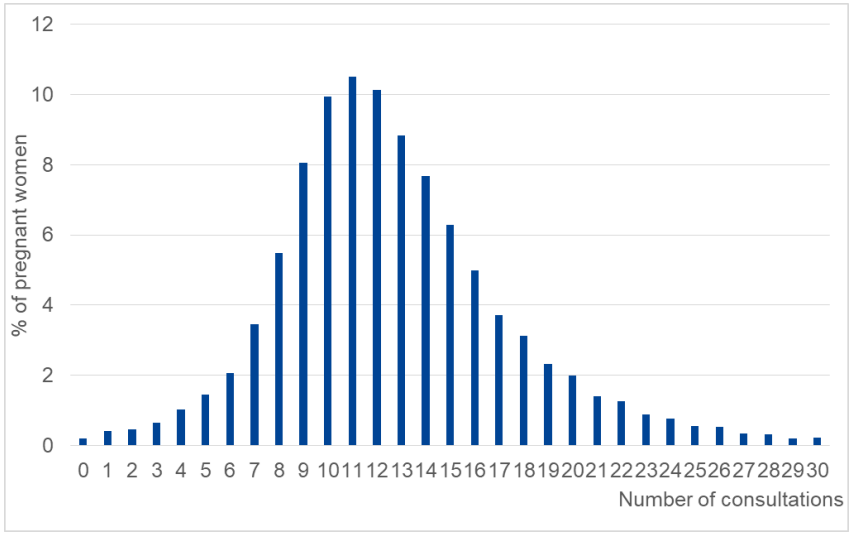
Figure 10 – Number of antenatal consultations, Belgium, 2016 (n=87 161)

(a) consultations with a gynaecologist, a midwife or a GP



Note: Women with more than 30 consultations (2435; 2.79%) are not represented.

(b) consultations with a gynaecologist or a midwife

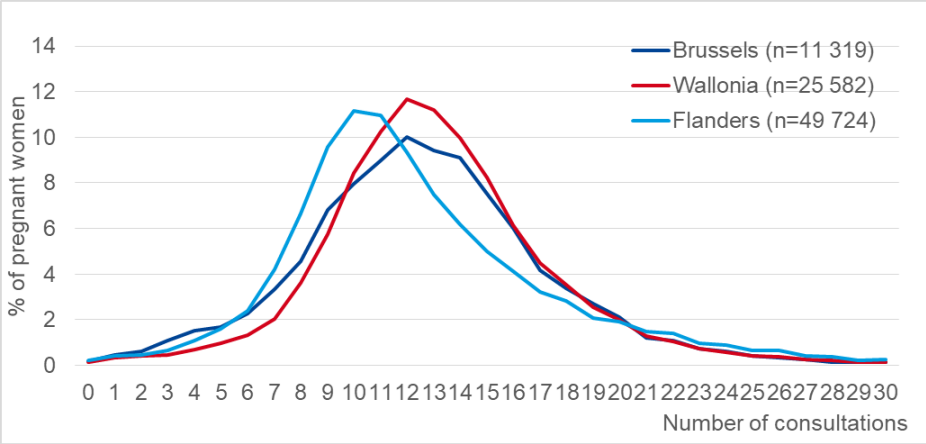


Note: Women with more than 30 consultations (749; 0.86%) are not represented.

Table 10 – Use of antenatal consultations, by region, 2016

	Brussels (n=11 319)	Wallonia (n=25 582)	Flanders (n=49 724)	Belgium (n=87 161)
Median number of consultations (gynaecologist, midwife or GP) during pregnancy [Q1;Q3]	14 [11;18]	15 [12;18]	16 [12;20]	15 [12;19]
% of women with less than 7 consultations (gynaecologist, midwife or GP) during pregnancy	6.00%	3.19%	3.32%	3.67%
% of women with more than 10 consultations (gynaecologist, midwife or GP) during pregnancy	77.78%	86.04%	86.31%	85.08%
Median number of consultations (gynaecologist or midwife) during pregnancy [Q1;Q3]	13 [10;15]	13 [11;15]	12 [9;15]	12 [10;15]
% of women with less than 7 consultations (gynaecologist or midwife) during pregnancy	7.84%	4.36%	6.85%	6.29%
% of women with more than 10 consultations (gynaecologist or midwife) during pregnancy	69.46%	75.78%	61.55%	66.78%

Figure 11 – Number of antenatal consultations with a gynaecologist or a midwife, by region, 2016 (n=86 625)

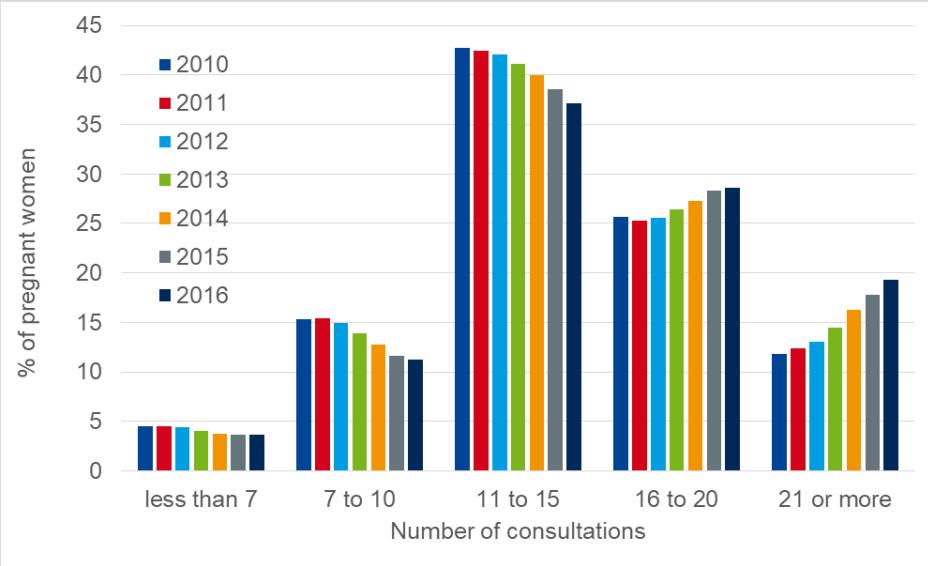


Note: Women with more than 30 consultations (Brussels: 99, 0.89%; Wallonia: 132, 0.51%; Flanders: 515, 1.02%) are not represented.

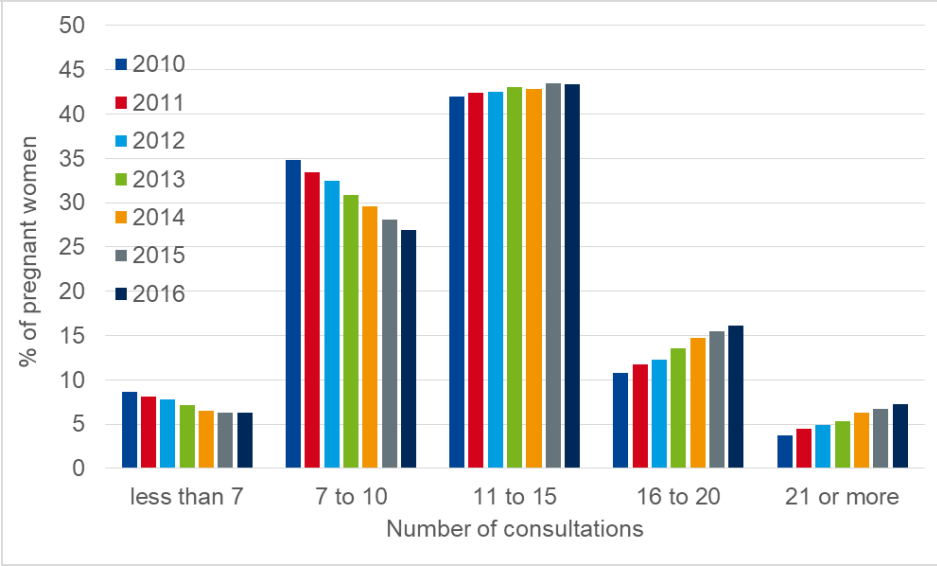
Over time, the number of antenatal consultations per low-risk pregnant woman is increasing. As shown on the left panel of Figure 12, there has been a reduction in the percentage of women having 15 or less consultations (gynaecologist, midwife or GP) during pregnancy and a subsequent increase in the proportion of women having more than 15 consultations. Excluding GP consultations (right panel of Figure 12), the proportion of women with low use (less than 7 consultations) has decreased over time and the proportion of women with high use (more than 10 consultations) has increased, although the proportion of women having 11 to 15 consultations has stayed quite stable.

Figure 12 – Evolution of the number of antenatal consultations in Belgium, 2010-2016 (n=657 005)

(a) consultations with a gynaecologist, a midwife or a GP



(b) consultations with a gynaecologist or a midwife



Note: 2010: n=99 975; 2011: n=98 510; 2012: n=96 999; 2013: n= 93 452; 2014: n=92 080; 2015: n=88 828; 2016: n=87 161.

5.3.2.2. Low use of care

Although the number of antenatal consultations seemed to increase over time, some women still did not reach the threshold of 7 antenatal consultations as recommended by the KCE guidelines.[1, 128] This is particularly true in Brussels, where, in 2016, 6% of the pregnant women did not reach this threshold. When excluding consultations with GPs, 7.84% of the women did not get at least 7 antenatal consultations in Brussels. Average for Belgium was 6.29% (see Table 10). Excluding GPs also increased the percentage of women with less than 7 consultations in Flanders (from 3.32% to 6.85%) but, as already stated, antenatal consultations with GPs seemed to be more common in Flanders. In Wallonia, excluding GPs had a smaller impact (3.19% to 4.36%).

Figure 13 and Figure 14 depict this geographical variation at the district level. The highest proportion of women who did not get 7 antenatal consultations regardless of the healthcare practitioner (gynaecologist, a midwife or a GP, Figure 13) was observed in Brussels (as well as in Arlon and in Antwerpen), while the districts with the highest proportions of women below 7 antenatal consultations when GP consultations were excluded (Figure 14) were located in Flanders (Leuven, Antwerpen, Oostende, Brugge) and in Brussels.

Figure 13 – Proportion of women with less than 7 antenatal consultations (gynaecologist, midwife or GP), by district, 2016

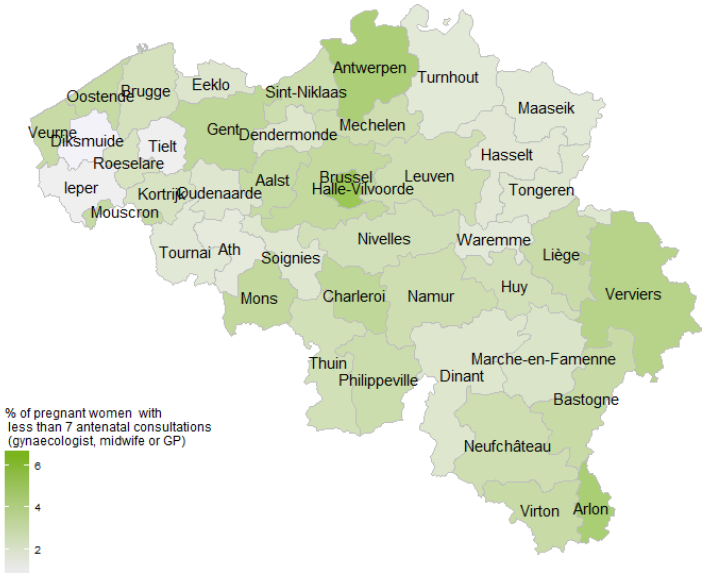
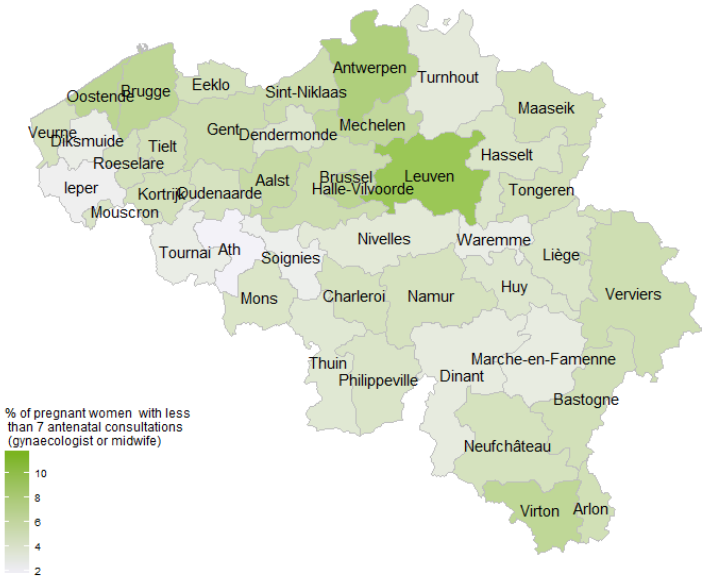


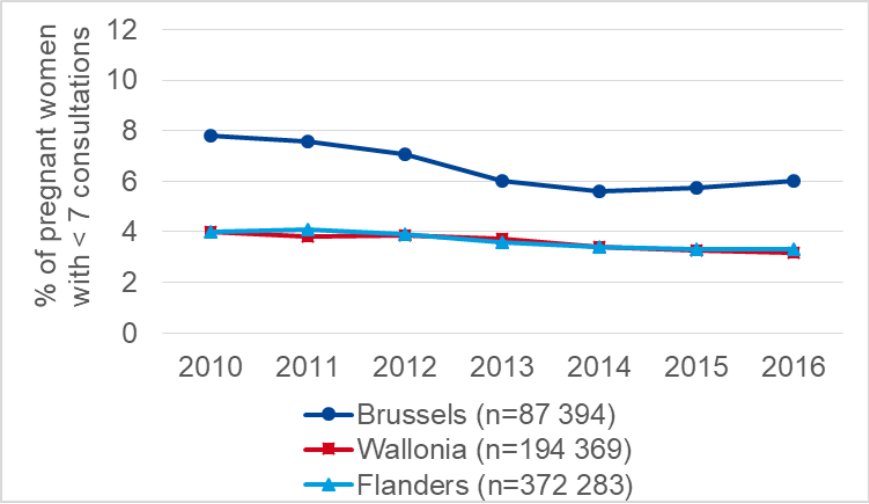
Figure 14 – Proportion of women with less than 7 antenatal consultations (gynaecologist or midwife), by district, 2016



Evolution over time is illustrated in Figure 15. Although the underuse is more salient in Brussels, this region reported a significant decrease in the proportion of women with less than 7 antenatal consultations (from 7.82% in 2010 to 6.00% in 2016 when consultations with GPs were included, from 10.99% to 7.84% when consultations with GPs were excluded). In the other regions, a decrease was observed for the proportion of women with less than 7 consultations by a midwife or a gynaecologist (from 9.73% to 6.85% in Flanders and from 5.42% to 4.38% in Wallonia); when GP consultations were included, the evolution remained more stable over time.

Figure 15 – Evolution of the proportion of women having less than 7 antenatal consultations, by region, 2010-2016 (n=654 046)

(a) consultations with a gynaecologist, a midwife or a GP



(b) consultations with a gynaecologist or a midwife

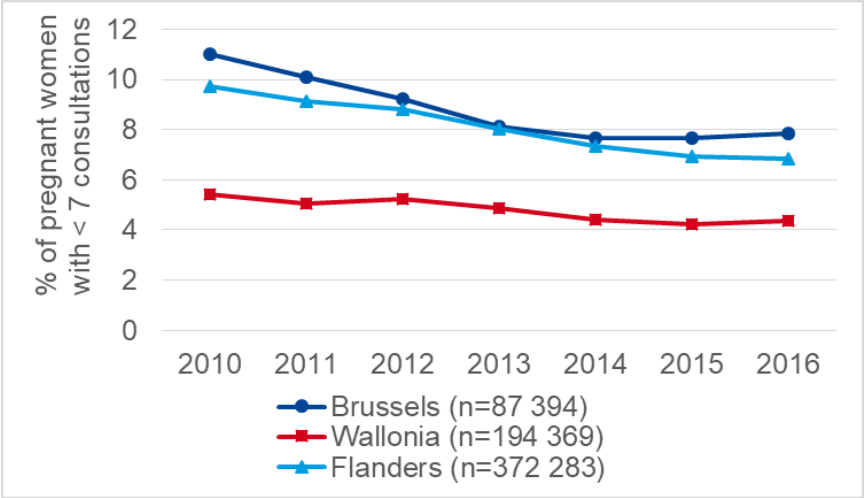


Table 11 presents an analysis of the characteristics of pregnant women who used less than 7 consultations as recommended (for multiparous women) in KCE guideline.[1] Firstly, this analysis focuses on consumption of care provided by gynaecologists, midwives and GPs (Table 11 (a)). Then, the focus is on the consumption of care provided only by maternity specialists, i.e. gynaecologists and midwives (Table 11 (b)). All results are discussed after adjustment for confounding factors.

- Lower risk of ANC under-use in old pregnant women, in women living in non-urban setting and in unemployed women.

The risk of ANC underuse was 1.2 times lower (OR=0.85 – 95%CI [0.79; 0.92]) in older pregnant woman (30/40y) than in younger ones. When GP consultations were excluded, the risk of ANC underuse was 1.1 times lower (OR=0.90 – 95%CI [0.85; 0.96]) in older pregnant women compared to younger ones.

Living outside towns seemed to reduce the risk of ANC underuse. The risk of ANC underuse was 1.7 times lower for women living in rural areas (OR=0.60 – 95%CI [0.52; 0.69]) than for women living in an urban setting. When GP consultations were excluded, the risk of ANC underuse in rural setting is still 1.4 times lower than for women living in urban setting (OR=0.70 – 95%CI [0.63; 0.79]). The same observation holds for women living in semi-urban setting. The risk of a ANC underuse is 1.7 times and 1.3 times lower than in an urban setting, respectively including or excluding GP consultations (OR=0.58 – 95%CI [0.52; 0.65] and OR=0.79 – 95%CI [0.73; 0.85]).

The risk for ANC underuse is 1.5 times lower in unemployed women than in employed women (OR=0.67 – 95%CI [0.57; 0.78]). Excluding GP consultations, the risk of ANC underuse is 1.3 times lower in unemployed women than in active women (OR=0.78 – 95%CI [0.70; 0.87]).

- Higher risk of ANC underuse in disadvantaged and self-employed women

Disadvantaged women were identified through the access to increased reimbursement. This group of pregnant women was at increased risk to consume less ANC than recommended in the guideline.[1] This risk of ANC underuse was 1.8 - 2 times higher in disadvantaged women than in their peers (OR=1.83 – 95%CI [1.67; 2.01] and OR=1.99 – 95%CI [1.85; 2.14]), respectively when GP consultations were included or not.

Self-employed women were also a group at-risk for ANC underuse. Overall, the risk of ANC underuse (< 7 consultations) is 3 times higher in self-employed women in comparison with salaried women (OR=2.88 – 95%CI [2.61; 3.18]) when GP consultations were included in ANC; the risk of ANC underuse is 2 times higher in self-employed women when GP consultations are excluded (OR=2.16 – 95%CI [1.99; 2.35]).

- No different risk of ANC underuse in disabled women

When GP consultations were included, disabled pregnant women did not have a significantly different risk of low ANC consumption than other women. When GP consultations were excluded, univariate analysis showed that the risk of underusing ANC was 1.8 times higher in disabled or invalid women (OR=1.83 – 95%CI [1.13; 2.95]). However, this cannot be confirmed by the multivariate analysis as this factor was removed by the backward elimination procedure. This is not surprising as, among the low-risk pregnant women in 2016, only 167 were considered disabled.

- Regional differences (measured by the region of the hospital where women delivered)

The risk to use less consultations than the recommended threshold[1] is 1.4 higher in Brussels than in Flanders (OR=1.4 – 95%CI [1.26; 1.55]). The risk is slightly higher in Wallonia than in Flanders although this is not significant at the 5% level (OR=1.09 – 95%CI [0.99; 1.21]). In contrast, when focusing on obstetrical and midwifery consultations only, the risk is reversed. The risk is 1.2 and 1.6 times lower, respectively, in Brussels and in Wallonia than in Flanders (OR=0.86 – 95%CI [0.79; 0.94] and OR=0.63 – 95%CI [0.58; 0.68]). This is probably due to the higher consumption of GP consultations in Flanders.

- Unclear impact of hospital size on ANC low consumption

Table 11 also shows the potential impact of the hospital size on ANC underuse. The size of the hospital can be measured either by the annual number of deliveries for each hospital (volume of care) or by the maternity capacity i.e. the number of maternity beds. Relationship between hospital size and low consumption is unclear and is highly dependent of the method used to assess the size of the maternity unit.

Table 11 – Relationship between characteristics of pregnant women and hospital of delivery with the low use of care during the antenatal period, 2016

		(a) low ANC use (<7 consultations) by gynaecologist, midwife or GP				(b) low ANC use (<7 consultations) by gynaecologist or midwife			
Factor		**Crude OR [95% CI]**	**p-value**	**Adjusted OR* [95% CI]**	**p-value**	**Crude OR [95% CI]**	**p-value**	**Adjusted OR* [95% CI]**	**p-value**
Age (n=87 436)	30-40 years old (vs <30 years old)	0.84 [0.78; 0.90]	<0.001	0.85 [0.79; 0.92]	<0.001	0.87 [0.83;0.92]	<0.001	0.90 [0.85; 0.96]	<0.001
Urbanisation level (n=86 892)	Semi-Urban (vs urban)	0.47 [0.43; 0.52]	<0.001	0.58 [0.52; 0.65]	<0.001	0.70 [0.65; 0.75]	<0.001	0.79 [0.73; 0.85]	<0.001
	Rural (vs urban)	0.52 [0.46; 0.59]	<0.001	0.60 [0.52; 0.69]	<0.001	0.52 [0.47; 0.57]	<0.001	0.70 [0.63; 0.79]	<0.001
Preferred reimbursement (n=87 370)**	Yes (vs no)	2.37 [2.20; 2.55]	<0.001	1.83 [1.67; 2.01]	<0.001	2.21 [2.09; 2.31]	<0.001	1.99 [1.85; 2.14]	<0.001
Disabled (n=87 422)	Yes (vs no)	1.38 [0.70; 2.70]	0.350			1.83 [1.13; 2.95]	0.012		
Employment category (n=83 456)	Self-employed (vs salaried)	2.79 [2.53; 3.06]	<0.001	2.88 [2.61; 3.18]	<0.001	2.06 [1.90; 2.24]	<0.001	2.16 [1.99; 2.35]	<0.001
Unemployment (n= 87422)**	Yes (vs no)	0.57 [0.50; 0.67]	<0.001	0.67 [0.57; 0.78]	<0.001	0.72 [0.64; 0.80]	<0.001	0.78 [0.70; 0.87]	<0.001
Hospital region (n=86 689)	Brussels (vs Flanders)	1.71 [1.57; 1.86]	<0.001	1.40 [1.26; 1.55]	<0.001	1.04 [0.97; 1.12]	0.242	0.86 [0.79; 0.94]	<0.001
	Wallonia (vs Flanders)	1.06 [0.98; 1.15]	0.159	1.09 [0.99; 1.21]	0.070	0.66 [0.61;0.70]	<0.001	0.63 [0.58; 0.68]	<0.001
Hospital annual number of deliveries (n=86 689)* **	< 500 deliveries (vs ≥ 2500 deliveries)	0.71 [0.59; 0.84]	<0.001	1.19 [1.04; 1.37]	0.014	0.69 [0.60; 0.80]	<0.001	1.23 [1.07; 1.42]	<0.001
	500-1499 deliveries (vs ≥ 2500 deliveries)	0.54 [0.50; 0.59]	<0.001	0.88 [0.82; 0.95]	<0.001	0.67 [0.63; 0.72]	<0.001	0.99 [0.93; 1.06]	0.756
	1500-2499 deliveries (vs ≥ 2500 deliveries)	0.70 [0.64; 0.76]	<0.001	0.88 [0.82; 0.95]	<0.001	0.71 [0.66; 0.77]	<0.001	0.83 [0.78; 0.89]	<0.001

Maternity number of beds (n=86 689)* **	1-15 beds (vs > 40 beds)	0.78 [0.67; 0.91]	0.001		0.81 [0.71; 0.91]	<0.001	0.91 [0.81; 1.03]	0.122
	16-24 beds (vs > 40 beds)	0.63 [0.57; 0.70]	<0.001		0.67 [0.62; 0.72]	<0.001	0.83 [0.78; 0.89]	<0.001
	25-40 beds (vs > 40 beds)	0.86 [0.79; 0.93]	<0.001		0.93 [0.87; 0.99]	0.019	1.18 [1.10; 1.25]	<0.001

*P-values correspond to Wald χ^2 test. *Adjusted odd-ratios are estimated with a logistic regression including an intercept and the variables presented in the table (due to missing observations for some variables, n=82 199). ** the correlation between these two variables (r=0.04) reveals no multicollinearity issue between these two explanatory variables. *** the correlation between these two variables (r=0.69) reveals no multicollinearity issue between these two explanatory variables. (a) 'disabled' and 'maternity number of beds' have been eliminated by the backward selection procedure. (b) 'disabled' has been eliminated by the backward selection procedure*

In addition, although the proportion is small, some women still did not have any clinical follow-up during pregnancy (including no consultation with a GP). As shown in Table 12, in 2016, the proportion was 0.05%, corresponding to 44 women in our selection. Nevertheless, this information needs to be interpreted with caution. Indeed, the database used for this analysis only includes women who are registered to the compulsory health insurance from a Belgian sickness fund. It is likely that the proportion of women with no clinical follow-up during pregnancy was higher among uninsured women. Considering gynaecologists and midwives only, in 2016, 0.21% of the insured women residing in Belgium (183 women of our selection) had no clinical follow-up of pregnancy with such professionals. Interestingly, the proportion of insured women having no contact with health professionals at all was higher in Brussels (0.08% compared to 0.05% nationally) but the proportion of women with no contact with either gynaecologist or midwife was lower in Brussels (0.19% compared to 0.21% nationally). Again, the restricted inclusion of pregnant women to insured persons as well as the small number of concerned women imply that these numbers must be interpreted with caution. Although the analysis is less reliable for so small proportions, if anything, the proportions of women with no clinical follow-up during pregnancy (globally or for gynaecologist and midwife only) are decreasing over time in the three regions of the country.

Table 12 – Proportion of pregnant women with no clinical follow-up, 2016

Percentage of low-risk pregnancies	Brussels (n=11 319)	Wallonia (n=25 582)	Flanders (n=49 724)	Belgium (n=87 161)
With no clinical follow-up during pregnancy	0.08%	0.04%	0.04%	0.05%
With no clinical follow-up by gynaecologist or midwife during pregnancy	0.19%	0.14%	0.24%	0.21%
With no clinical follow-up during the first 20 weeks of pregnancy	5.55%	2.86%	2.47%	3.05%
With no clinical follow-up by gynaecologist or midwife during the first 20 weeks of pregnancy	6.66%	3.79%	3.80%	4.24%

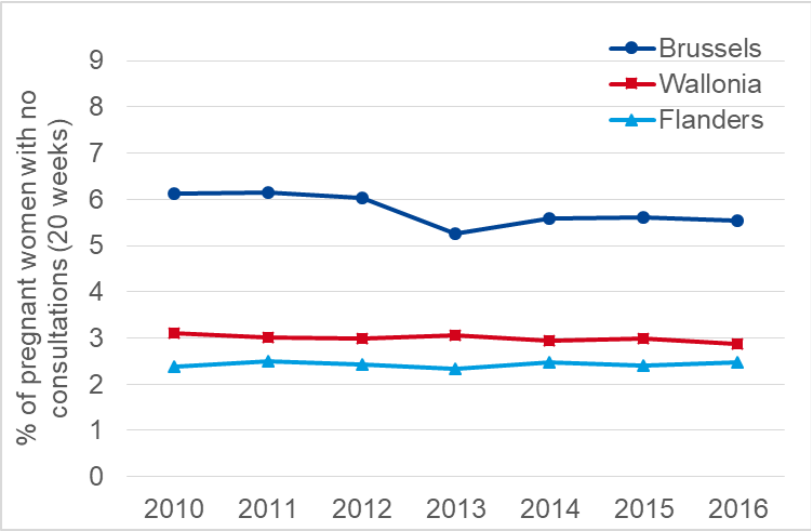
Note: No clinical follow-up must be interpreted as no consultation with a GP, no consultation with a gynaecologist and no consultation with a midwife for pregnancy follow-up. No clinical follow-up by gynaecologist or midwife must be interpreted as no consultation with a gynaecologist and no consultation with a midwife for pregnancy follow-up. Pregnancy is defined by the 280 days before delivery. The first 20 weeks of pregnancy are defined by the period starting 280 days before delivery and ending 140 days before delivery.

Considering clinical follow-up during the first half of pregnancy (defined as between 280 and 140 days before the delivery), in Belgium in 2016, 3.05% of the selected women had no follow-up at all during this period and 4.24% had no consultation with a gynaecologist or a midwife (see Table 12). This issue is more pronounced in Brussels (5.55% of women have no antenatal consultation during the first 20 weeks of pregnancy).

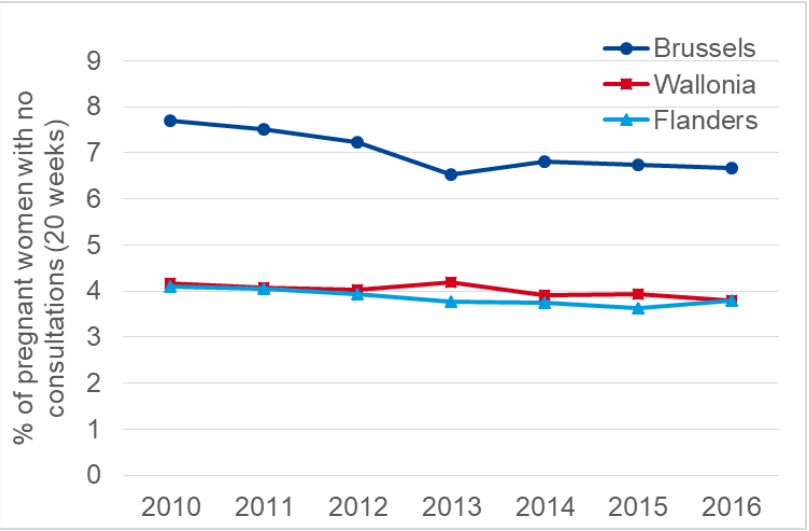
As illustrated by Figure 16, these proportions were quite stable over time in Flanders and Wallonia and decreasing in Brussels (especially when GP consultations were excluded from ANC). Once again, as only insured women were included in our sample, these numbers must be interpreted with caution, since it is highly plausible that the number of pregnant women with no follow-up was actually underestimated.

Figure 16 – Evolution of the proportion of women with no follow-up during the first 20 weeks of pregnancy, 2010-2016

(a) no consultations with a gynaecologist, a midwife or a GP



(b) no consultations with a gynaecologist or a midwife



Note: first 20 weeks of pregnancy are defined as the period starting 280 days before delivery and ending 140 days before delivery.

Table 13 presents an analysis of the characteristics of pregnant women with no clinical follow-up during pregnancy. Firstly, this analysis focuses on clinical follow-up provided by gynaecologists, midwives and GPs (Table 13 (a)). Then, it is focused on the clinical follow-up provided only by maternity specialists i.e. gynaecologists and midwives (Table 13 (b)). After adjustment for confounding factors, results showed that self-employed women had a significantly higher risk of having no clinical follow-up during pregnancy than their salaried counterparts (OR=6.58 – 95%CI [3.40; 12.72] when GP

consultations are counted as ANC, OR=2.79 – 95%CI [1.88; 4.14] when GPs are not included in ANC). Nevertheless, due to the very small number of women without clinical follow-up, the magnitude of the effect must be interpreted with caution (when GP consultations are included, only 44 women had no clinical follow-up, among them 14 were self-employed, 28 were salaried and the employment category was unknown for 2 of them).

When GP consultations were excluded from ANC, women giving birth in Flanders had a higher risk of no clinical follow-up (OR=0.59 – 95%CI [0.36; 0.96] for Brussels and OR=0.66 – 95%CI [0.45; 0.98] for Wallonia. Again this certainly reflects a higher consumption of GP consultations in Flanders. No significant impact of the other factors was found. This may also be due to the very small number of women who had no clinical follow-up.

Table 13 – Relationship between characteristics of pregnant women and hospital of delivery with the absence of pregnancy follow-up, 2016

		(a) absence of follow-up (gynaecologist, midwife or GP)				(b) absence of follow-up (gynaecologist or midwife)			
Factor		**Crude OR [95% CI]**	**p-value**	**Adjusted OR* [95% CI]**	**p-value**	**Crude OR [95% CI]**	**p-value**	**Adjusted OR* [95% CI]**	**p-value**
Age (n=87 161)	30-40 years old (vs <30 years old)	1.84 [0.97; 3.47]	0.056			1.01 [0.76; 1.35]	0.943		
Urbanisation level (n=86 625)	Semi-Urban (vs urban)	0.69 [0.30; 1.57]	0.374			1.00 [0.70; 1.43]	0.995		
	Rural (vs urban)	0.91 [0.35; 2.35]	0.842			0.81 [0.49; 1.33]	0.405		
Preferred reimbursement (n=87 097)**	Yes (vs no)	0.36 [0.11; 1.15]	0.071			1.01 [0.69; 1.48]	0.947		
Employment category (n=83 223)	Self-employed (vs salaried)	5.63 [2.96; 10.7]	<0.001	6.58 [3.40;12.72]	<0.001	2.61 [1.76; 3.85]	<0.001	2.79 [1.88; 4.14]	<0.001
Unemployment (n=87 147)**	Yes (vs no)	0.23 [0.03; 1.70]	0.117			0.70 [0.39; 1.26]	0.238		
Hospital region (n=86 416)	Brussels (vs Flanders)	0.73 [0.35; 1.53]	0.404			0.61 [0.39; 0.96]	0.031	0.59 [0.36; 0.96]	0.034
	Wallonia (vs Flanders)	0.91 [0.44; 1.86]	0.790			0.67 [0.47; 0.96]	0.028	0.66 [0.45; 0.98]	0.038
Hospital annual number of deliveries* (n=86 416)**	< 500 deliveries (vs ≥ 2500 deliveries)	0.59 [0.13; 2.66]	0.491			1.72 [0.89; 3.34]	0.104		
	500-1499 deliveries (vs ≥ 2500 deliveries)	0.52 [0.25; 1.10]	0.081			1.21 [0.78; 1.86]	0.394		

	1500-2499 deliveries (vs ≥ 2500 deliveries)	0.48 [0.22; 1.06]	0.064		0.91 [0.57; 1.44]	0.686	
Maternity number of beds* (n=86 416)**	1-15 beds (vs > 40 beds)	1.03 [0.31; 3.43]	0.968		1.44 [0.81; 2.56]	0.207	
	16-24 beds (vs > 40 beds)	0.75 [0.32; 1.75]	0.503		1.48 [1.03; 2.15]	0.035	
	25-40 beds (vs > 40 beds)	0.85 [0.42; 1.72]	0.658		1.07 [0.75; 1.54]	0.707	

*P-values correspond to Wald χ^2 test. The impact of the factor 'disabled' cannot be assessed as none of the pregnancies without clinical follow-up were categorised as 'disabled'. * (a) Adjusted odd-ratios are estimated with a logistic regression including an intercept and the variable 'employment category'. Other variables have been eliminated by the backward selection procedure. (b) Adjusted odd-ratios are estimated with a logistic regression including an intercept and the variables 'employment category' and 'hospital region'. Other variables have been eliminated by the backward selection procedure. Due to missing observations for some variables, n=81 977. ** the correlation between these two variables (r=0.04) reveals no multicollinearity issue between these two explanatory variables. *** the correlation between these two variables (r=0.69) reveals no multicollinearity issue between these two explanatory variables.*

Table 14 presents an analysis of the characteristics of pregnant women with no clinical follow-up during the first 20 weeks of pregnancy. Firstly, this analysis focuses on clinical follow-up provided by gynaecologists, midwives and GPs (Table 14 (a)). Then, it is focused on the clinical follow-up provided only by maternity specialists i.e. gynaecologists, midwives (Table 14 (b)). All results are discussed after adjustment for confounding factors.

- Lower risk of late follow-up in older pregnant women, in women living in non-urban settings and in unemployed women

The risk of late follow-up was 1.5 times lower (OR=0.66 – 95%CI [0.60; 0.72]) in older pregnant women (30-40y) than in younger ones (< 30y). When GP consultations are not considered, the risk of late follow-up was 1.4 times lower (OR=0.71 – 95%CI [0.66; 0.77]) in older pregnant women.

Living outside towns seemed to reduce the risk of late follow-up, that was 1.6 times lower for women living in semi-urban or rural setting (OR=0.62 – 95%CI [0.54; 0.71] and OR=0.61 – 95%CI [0.51; 0.72]) than women living in an urban setting. When GP consultations are excluded, the risk in semi-urban or rural setting was still 1.4 times lower than for women living in urban settings (OR=0.70 – 95%CI [0.63; 0.78] and OR=0.68 – 95%CI [0.59; 0.79]).

The risk of late follow-up was 1.5 times lower in unemployed women than in employed women (OR=0.66 – 95%CI [0.55; 0.79]). When GP consultations are not considered, the risk was 1.4 times lower in unemployed women than in active women (OR=0.73 – 95%CI [0.63; 0.84]).

- Higher risk of late follow-up in disadvantaged, disabled and self-employed women

Disadvantaged women were identified through the access to increased reimbursement, i.e. BIM/RVV and OMNIO statuses. This group of pregnant women had an increased risk of having no clinical follow-up during the first 20 weeks of pregnancy. This risk was approximately 2 times higher than in non-disadvantaged women (OR=1.92 – 95%CI [1.73; 2.14] and OR=2.06 – 95%CI [1.89; 2.26]), respectively, GP consultations being or not considered in ANC).

Disabled women had a 1.7 times higher risk of late follow-up by maternity specialists (gynaecologist or midwife) than other women (OR=1.70 – 95%CI [1.01; 2.86]). When GP consultations are counted in ANC, univariate analysis also showed an increased risk of late follow-up for disabled women, however this cannot be confirmed by the multivariate analysis, as the factor has been removed by the backward selection procedure.

Self-employed women are also a group at risk for late follow-up. Overall, self-employed women had approximately a 2-3 times higher risk of no clinical follow-up during the first 20 weeks of their pregnancy in comparison with salaried women (OR=2.75 – 95%CI [2.45; 3.09] when GP consultations are counted as ANC, OR=2.19 – 95%CI [1.97; 2.44] when GPs are not included in ANC).

- Regional difference (measured by the region of the hospital where the women delivers)

The risk of late follow-up was 1.6 times higher in Brussels than in Flanders (OR=1.62 – 95%CI [1.44; 1.83]). The risk was also 1.2 times higher in Wallonia than in Flanders (OR=1.23 – 95%CI [1.10; 1.38]). When focusing on obstetrical and midwifery consultations only, the risk of late follow-up was still 1.2 times higher in Brussels than in Flanders (OR=1.24 – 95%CI [1.11; 1.38]), while no significant difference was observed between Wallonia and Flanders.

- Small impact of hospital size on late follow-up

The potential impact of the hospital size on late follow-up was measured using the annual volume of deliveries for each hospital or the maternity capacity i.e. the number of maternity beds. A small significant difference was found between hospitals with 1 500-2 499 deliveries per year and higher hospital volumes (>2 500 deliveries), the former presenting a lower risk of late follow-up (OR=0.89 – 95%CI [0.83; 0.96] when GP consultations are not counted as ANC).

Table 14 – Relationship between characteristics of pregnant women and hospital of delivery with late use of pregnancy follow-up, 2016

		(a) absence of follow-up during the first 20 weeks (gynaecologist, midwife or GP)				(b) absence of follow-up during the first 20 weeks (gynaecologist or midwife)			
Factor		Crude OR [95% CI]	p-value	Adjusted OR* [95% CI]	p-value	Crude OR [95% CI]	p-value	Adjusted OR* [95% CI]	p-value
Age (n=87 161)	30-40 years old (vs <30 years old)	0.65 [0.60; 0.70]	<0.001	0.66 [0.60; 0.72]	<0.001	0.69 [0.65; 0.74]	<0.001	0.71 [0.66; 0.77]	<0.001
Urbanisation level (n=86 625)	Semi-Urban (vs urban)	0.45 [0.40; 0.51]	<0.001	0.62 [0.54; 0.71]	<0.001	0.55 [0.50; 0.60]	<0.001	0.70 [0.63; 0.78]	<0.001
	Rural (vs urban)	0.49 [0.43; 0.57]	<0.001	0.61 [0.51; 0.72]	<0.001	0.55 [0.49; 0.62]	<0.001	0.68 [0.59; 0.79]	<0.001
Preferred reimbursement (n=87 097)**	Yes (vs no)	2.91 [2.68; 3.15]	<0.001	1.92 [1.73; 2.14]	<0.001	2.98 [2.78; 3.19]	<0.001	2.06 [1.89; 2.26]	<0.001
Disabled (n=87 147)	Yes (vs no)	2.25 [1.22; 4.14]	<0.001			2.40 [1.43; 4.03]	<0.001	1.70 [1.01; 2.86]	0.048
Employment category (n=83 223)	Self-employed (vs salaried)	2.60 [2.32; 2.91]	<0.001	2.75 [2.45; 3.09]	<0.001	2.05 [1.84; 2.27]	<0.001	2.19 [1.97; 2.44]	<0.001
Unemployment (n=87 147)**	Yes (vs no)	0.55 [0.46; 0.65]	<0.001	0.66 [0.55; 0.79]	<0.001	0.64 [0.56; 0.73]	<0.001	0.73 [0.63; 0.84]	<0.001
Hospital region (n=86 416)	Brussels (vs Flanders)	2.01 [1.83; 2.21]	<0.001	1.62 [1.44; 1.83]	<0.001	1.56 [1.43; 1.69]	<0.001	1.24 [1.11; 1.38]	<0.001
	Wallonia (vs Flanders)	1.20 [1.09; 1.32]	<0.001	1.23 [1.10; 1.38]	<0.001	1.02 [0.94; 1.11]	0.608	1.00 [0.91; 1.10]	0.975
Hospital annual number of deliveries* (n=86 416)**	< 500 deliveries (vs ≥ 2500 deliveries)	0.52 [0.42; 0.55]	<0.001	0.97 [0.81; 1.16]	0.720	0.62 [0.52; 0.74]	<0.001	1.04 [0.91; 1.20]	0.549
	500-1499 deliveries (vs ≥ 2500 deliveries)	0.50 [0.45; 0.55]	<0.001	0.94 [0.86; 1.02]	0.152	0.56 [0.52; 0.62]	<0.001	0.94 [0.88; 1.01]	0.104

	1500-2499 deliveries (vs ≥ 2500 deliveries)	0.65 [0.59; 0.72]	<0.001	0.92 [0.84; 1.00]	0.054	0.66 [0.60; 0.72]	<0.001	0.89 [0.83; 0.96]	0.003
Maternity number of beds* (n=86 416)**	1-15 beds (vs > 40 beds)	0.60 [0.49; 0.72]	<0.001			0.76 [0.66; 0.89]	<0.001		
	16-24 beds (vs > 40 beds)	0.60 [0.53; 0.67]	<0.001			0.69 [0.63; 0.76]	<0.001		
	25-40 beds (vs > 40 beds)	0.77 [0.70; 0.84]	<0.001			0.78 [0.72; 0.84]	<0.001		

*P-values correspond to Wald χ^2 test. *Adjusted odd-ratios are estimated with a logistic regression including an intercept and the variables presented in the table (due to missing observations for some variables, n=81 977). ** the correlation between these two variables (r=0.04) reveals no multicollinearity issue between these two explanatory variables. *** the correlation between these two variables (r=0.69) reveals no multicollinearity issue between these two explanatory variables. (a) 'disabled' and 'maternity number of beds' have been eliminated by the backward selection procedure. (b) 'maternity number of beds' has been eliminated by the backward selection procedure.*

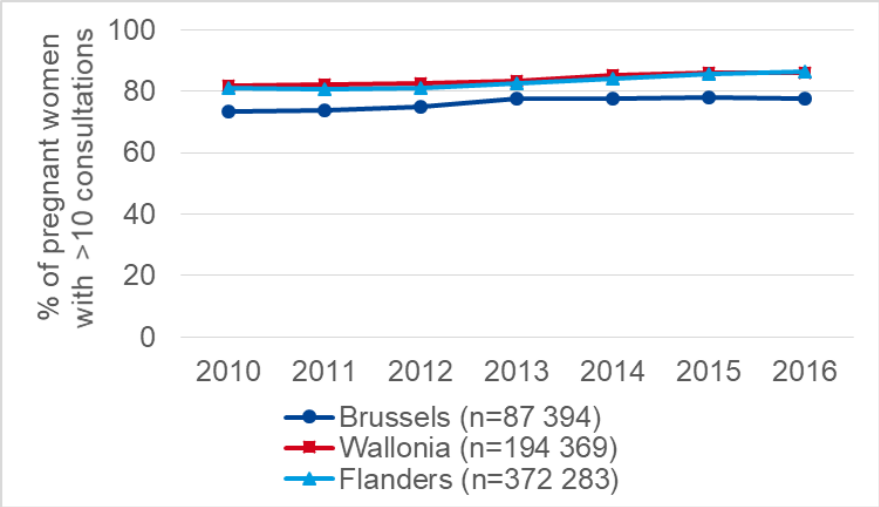
5.3.2.3. High use of care

Although some women had very few antenatal consultations, an important number of women used more than 10 antenatal consultations, which was recommended by the KCE guidelines for nulliparous women.[1, 128] In 2016, 66.78% of women had more than 10 antenatal consultations with a gynaecologist or a midwife. When including GP consultations, the proportion was 85.06% (see also Table 10). The link between high use of gynaecologist or midwife care and GP consultations is further investigated at the end of section 5.3.2.4 (according to Figure 31, it seems that there is no difference in GP use between high users of gynaecologist or midwife care and "regular" users).

Globally the proportion of women using more than 10 antenatal consultations was slightly increasing over time, in the three regions of the country (see Figure 17). It was particularly the case in Flanders, where, in 2010, less than 50% of women had more than 10 consultations with a midwife or a gynaecologist. This proportion increased to 61.55% in 2016. In Brussels and Wallonia, these proportions increased from 63.91% to 69.45% and from 67.69% to 75.80% respectively.

Figure 17 – Proportion of women having more than 10 antenatal consultations: Evolution by region, 2010-2016

(a) consultations with a gynaecologist, a midwife or a GP



(b) consultations with a gynaecologist or a midwife

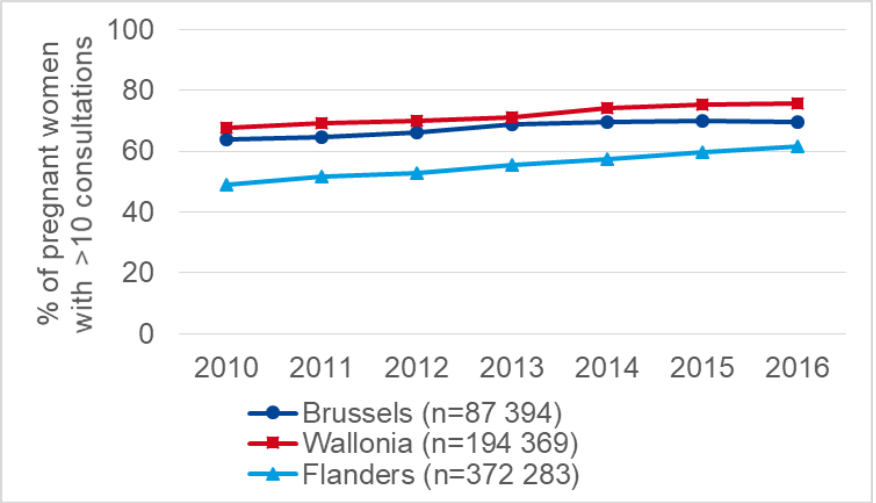


Figure 18 illustrates the geographical distribution of the proportions of women with more than 10 antenatal consultations. Globally, there is no important variation across the country, except the very Southern part of the country and Verviers district that reported a lower proportion of high-users.

Excluding GP consultations, Figure 19 reveals a different picture with a lower proportion of high-users in most Flemish districts. Once again, this is certainly a consequence of the different pattern of use of GP consultations in the Northern part of the country.

Figure 18 – Proportion of women with more than 10 antenatal consultations (gynaecologist, midwife or GP), by district, 2016

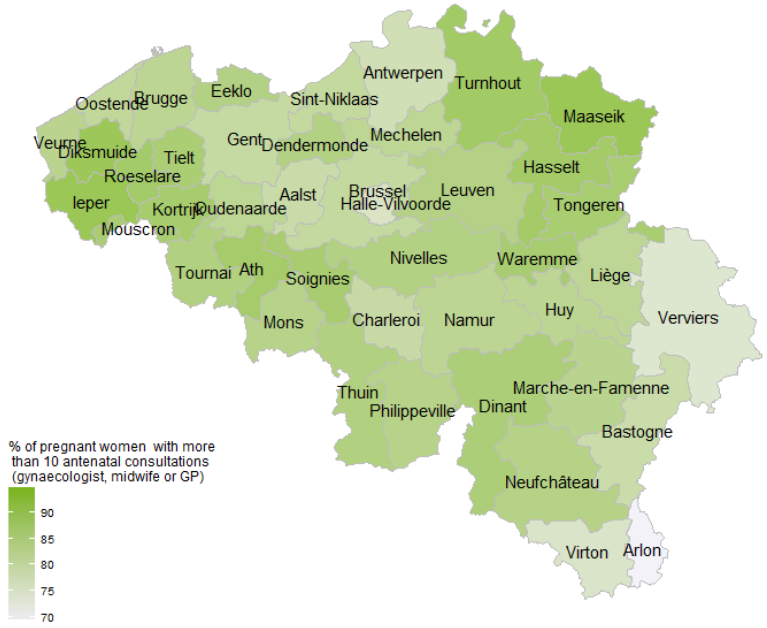


Figure 19 – Proportion of women with more than 10 antenatal consultations (gynaecologist or midwife), by district, 2016

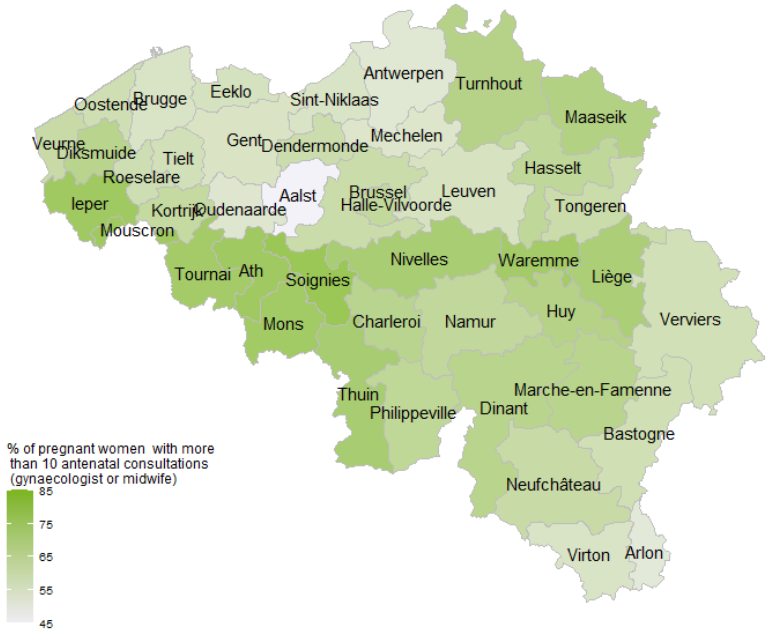


Table 15 presents an analysis of the characteristics of pregnant women who used more than 10 ANC consultations. Firstly, this analysis focuses on consumption of care provided by gynaecologists, midwives and GPs (Table 15 (a)). Then, it focuses on the consumption of care provided only by maternity specialists, i.e. gynaecologists and midwives (Table 15 (b)). All results are discussed after adjustment for confounding factors.

- Higher risk of using more than 10 ANC consultations in older pregnant women, in women living in non-urban settings and in unemployed women.

The risk of having more than 10 consultations was a bit higher (OR=1.06 – 95%CI [1.01; 1.10]) in older pregnant women (30-40y) than in younger ones (< 30y), although the effect was not significant when GP consultations were excluded from ANC.

Living outside towns seemed to increase the risk of consuming more than 10 consultations. Women living in semi-urban setting have a 1.6 times higher risk (OR=1.65 – 95%CI [1.55; 1.74]) than women living in an urban setting. When GP consultations were excluded, the risk in semi-urban setting was still 1.2 times higher than for women living in urban settings (OR=1.22 – 95%CI [1.17; 1.27]). The same conclusion holds for women living in rural settings. The risk was 1.4 times and 1.1 times higher than in urban settings, respectively when GP consultations are included or not (OR=1.41 – 95%CI [1.31; 1.51] and OR=1.13 – 95%CI [1.07; 1.19]).

The risk of having more than 10 consultations is 1.1 times higher in unemployed women than in employed women (OR=1.14 – 95%CI [1.07; 1.23]) when GP consultations are included in ANC; OR=1.10 – 95%CI [1.05; 1.16] when they are not).

- Lower risk of using more than 10 ANC consultations in disadvantaged and self-employed women

Disadvantaged women are identified through the access to a preferred reimbursement of care, i.e. BIM/RVV and OMNIO statuses. This group of pregnant women has a decreased risk to consume more ANC than recommended in the guideline.[1] This risk is 1.9 times lower than in non-disadvantaged women (OR=0.52 – 95%CI [0.50; 0.55] and OR=0.61 – 95%CI [0.58; 0.63], respectively when GP consultations are included or not in ANC).

Self-employed women also have a lower risk of consuming more than 10 ANC consultations. When GP consultations are counted as ANC, this risk for self-employed women was 2.2 times lower in comparison with salaried women (OR=0.45 – 95%CI [0.43; 0.48]). Focusing on consultations with gynaecologists and midwives only, their risk was still 1.5 times lower compared to salaried women (OR=0.68 – 95%CI [0.64; 0.71]).

- No different risk of using more than 10 ANC consultations in disabled women

When GP consultations are excluded, disabled women do not have a significantly different risk of low consumption than other women. When GP consultations are included, univariate analysis shows that disabled women have a 1.7 times lower risk to consult more than 10 times during their pregnancy in comparison with other women (OR=0.59 – 95%CI [0.41; 0.84]). However, this cannot be confirmed by the multivariate analysis as this factor was removed by the backward elimination procedure. This result is not surprising since only 167 women were disabled among low-risk pregnant women in 2016.

- Regional difference (measured by the region of the hospital where the woman delivers)

The risk to use more consultations than recommended was 1.2 times lower in Brussels than in Flanders (OR=0.79 – 95%CI [0.75; 0.84]). No significant difference was found between Wallonia and Flanders. In contrast, when focusing on obstetrical and midwifery consultations only, the risk was reversed. The risk was twice higher, in Brussels and in Wallonia than in Flanders (OR=1.92 – 95%CI [1.83; 2.02] and OR=2.13 – 95%CI [2.05; 2.22] respectively). This is probably due to the higher consumption of GP consultations in Flanders.

- Unclear impact of hospital size

Table 15 also shows the potential impact of the hospital size on consumption of more than 10 consultations during the antenatal period. The size of the hospital can be measured either by the annual number of deliveries for each hospital or by the maternity capacity i.e. the number of maternity beds. The relationship between hospital size and high consumption is unclear and highly depends on the method used to assess the size of the maternity unit.

Table 15 – Relationship between characteristics of pregnant women and hospital of delivery with the high use of ANC consultations, 2016

		(a) high ANC use (>10 consultations) by gynaecologist, midwife or GP				(b) high ANC use (>10 consultations) by gynaecologist or midwife			
Factor		**Crude OR [95% CI]**	**p-value**	**Adjusted OR* [95% CI]**	**p-value**	**Crude OR [95% CI]**	**p-value**	**Adjusted OR* [95% CI]**	**p-value**
Age (n=87 436)	30-40 years old (vs <30 years old)	1.08 [1.04; 1.12]	<0.001	1.06 [1.01; 1.10]	0.008	1.02 [0.99; 1.05]	0.184		
Urbanisation level (n=86 892)	Semi-Urban (vs urban)	1.98 [1.88; 2.09]	<0.001	1.65 [1.55; 1.74]	<0.001	1.13 [1.09; 1.17]	<0.001	1.22 [1.17; 1.27]	<0.001
	Rural (vs urban)	1.63 [1.53; 1.74]	<0.001	1.41 [1.31; 1.51]	<0.001	1.50 [1.43; 1.57]	<0.001	1.13 [1.07; 1.19]	<0.001
Preferred reimbursement ** (n=87 370)	Yes (vs no)	0.45 [0.43; 0.46]	<0.001	0.52 [0.50; 0.55]	<0.001	0.29 [0.29; 0.30]	<0.001	0.61 [0.58; 0.63]	<0.001
Disabled (n=87 422)	Yes (vs no)	0.59 [0.41; 0.84]	0.003			0.81 [0.59; 1.10]	0.180		
Employment category (n=83 456)	Self-employed (vs salaried)	0.48 [0.45; 0.51]	<0.001	0.45 [0.43; 0.48]	<0.001	0.70 [0.67; 0.74]	<0.001	0.68 [0.64; 0.71]	<0.001
Unemployment ** (n=87 422)	Yes (vs no)	1.22 [1.14; 1.31]	<0.001	1.14 [1.07; 1.23]	<0.001	1.18 [1.12; 1.24]	<0.001	1.10 [1.05; 1.16]	<0.001
Hospital region (n=86 689)	Brussels (vs Flanders)	0.61 [0.58; 0.64]	<0.001	0.79 [0.75; 0.84]	<0.001	1.58 [1.51; 1.64]	<0.001	1.92 [1.83; 2.02]	<0.001
	Wallonia (vs Flanders)	0.92 [0.88; 0.96]	<0.001	0.97 [0.92; 1.02]	0.276	1.96 [1.90; 2.03]	<0.001	2.13 [2.05; 2.22]	<0.001
Hospital annual number of deliveries* (n=86 689)**	< 500 (vs ≥ 2500)	1.14 [1.04; 1.25]	0.004	0.68 [0.62; 0.75]	<0.001	0.95 [0.88; 1.02]	0.184	0.81 [0.76; 0.87]	<0.001
	500-1499 (vs ≥ 2500)	1.75 [1.66; 1.84]	<0.001	1.18 [1.13; 1.24]	<0.001	1.11 [1.07; 1.16]	<0.001	1.10 [1.06; 1.14]	<0.001
	1500-2499 (vs ≥ 2500)	1.29 [1.22; 1.35]	<0.001	1.18 [1.13; 1.24]	<0.001	1.14 [1.09; 1.19]	<0.001	1.09 [1.05; 1.13]	<0.001
Maternity number of beds* (n=86 689)**	1-15 (vs > 40)	1.20 [1.10; 1.30]	<0.001	1.02 [0.94; 1.11]	0.667	0.86 [0.81; 0.91]	<0.001	0.95 [0.90; 1.01]	0.078
	16-24 (vs > 40)	1.72 [1.63; 1.82]	<0.001	1.21 [1.15; 1.27]	<0.001	1.23 [1.18; 1.28]	<0.001	1.20 [1.16; 1.24]	<0.001
	25-40 (vs > 40)	1.13 [1.09; 1.18]	<0.001	0.91 [0.87; 0.95]	<0.001	0.96 [0.93; 0.99]	0.015	0.86 [0.83; 0.88]	<0.001

*P-values correspond to Wald χ^2 test. *Adjusted odd-ratios are estimated with a logistic regression including an intercept and the variables presented in the table (due to missing observations for some variables, n=82 199). ** the correlation between these two variables (r=0.04) reveals no multicollinearity issue between these two explanatory variables. *** the correlation between these two variables (r=0.69) reveals no multicollinearity issue between these two explanatory variables. (a) 'disabled' has been eliminated by the backward selection procedure. (b) 'age' and 'disabled' have been eliminated by the backward selection procedure.*

5.3.2.4. Antenatal care providers

Pregnancy follow-up by midwives

Globally, the use of pregnancy follow-up care by midwives increased over the study period. The percentage of pregnant women who have had at least one antenatal midwifery consultation increased from 30.71% in 2010 to 55.39% in 2016. This occurred in all three regions of the country, although the increase was more spectacular in Flanders and Wallonia (see Figure 20). Historically, the percentage of women who had at least one antenatal consultation with a midwife was the highest in Brussels (43.20% in 2010 compared to 26.39% in Flanders and 32.82% in Wallonia). Yet, currently, the proportions of women who had at least one antenatal consultation with a midwife were very close in all regions (in 2016, 53.08% in Flanders, 54.95% in Brussels and 60.07% in Wallonia). Geographical distribution by district is shown on Figure 21 and does not seem to be related to the density of gynaecologist workforce.[131]

Figure 20 – Proportion of pregnant women with at least one antenatal midwifery consultation, 2010-2016 (n=654 046)

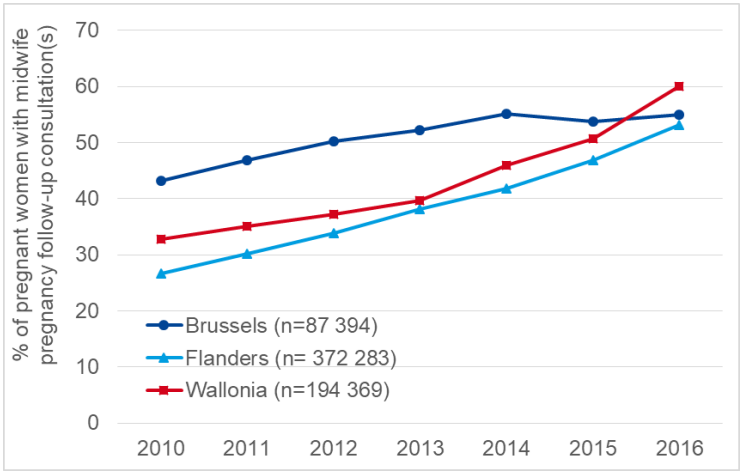
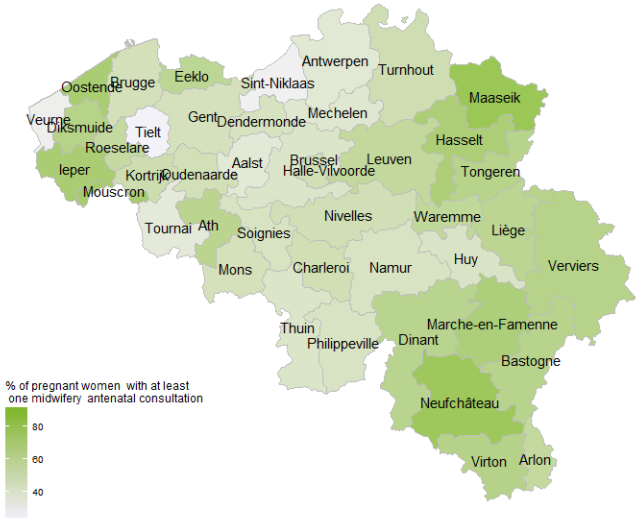


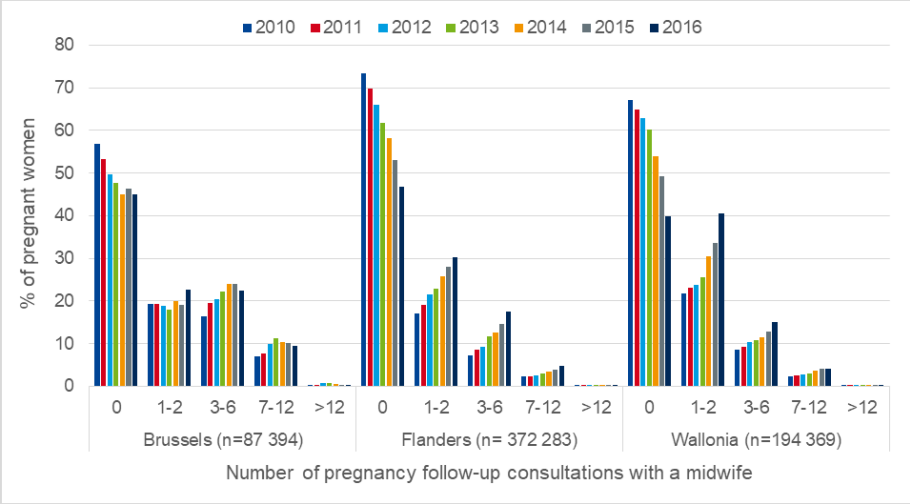
Figure 21 – Proportion of women with at least one antenatal midwifery consultation, by district, 2016



As it may be seen on Figure 22, there has been a switch from no antenatal midwifery consultation to 1-2 consultations during the whole pregnancy (and to a smaller extent to 3-6 consultations) both in Flanders and Wallonia. In 2010, 73.31% of the pregnant women in Flanders and 67.19% in Wallonia had no pregnancy follow-up consultations with a midwife. In 2016, these proportions decreased to 46.91% and 39.93% respectively. Already in 2010, the proportion of women without any pregnancy follow-up was lower in Brussels (56.81%) and it decreased since then, but not as much as in the other regions (45.04% in 2016). In 2010, only 17.07% of the pregnant women in Flanders and 21.84% in Wallonia had 1 or 2 consultations with a midwife.

These proportions have almost doubled since then (in 2016, 30.28% in Flanders and 40.6% in Wallonia). In Brussels, although the median number of antenatal midwifery consultations was the same as in the rest of the country (1 consultation), a higher proportion of women used 3-6 consultations with midwives (22.55% in 2016, compared to 17.60% in Flanders and 15.10% in Wallonia). Very few pregnant women, in the three regions, have had more than 12 consultations with midwives.

Figure 22 – Evolution of the use of antenatal midwifery consultations, by region, 2010-2016 (n=654 046)

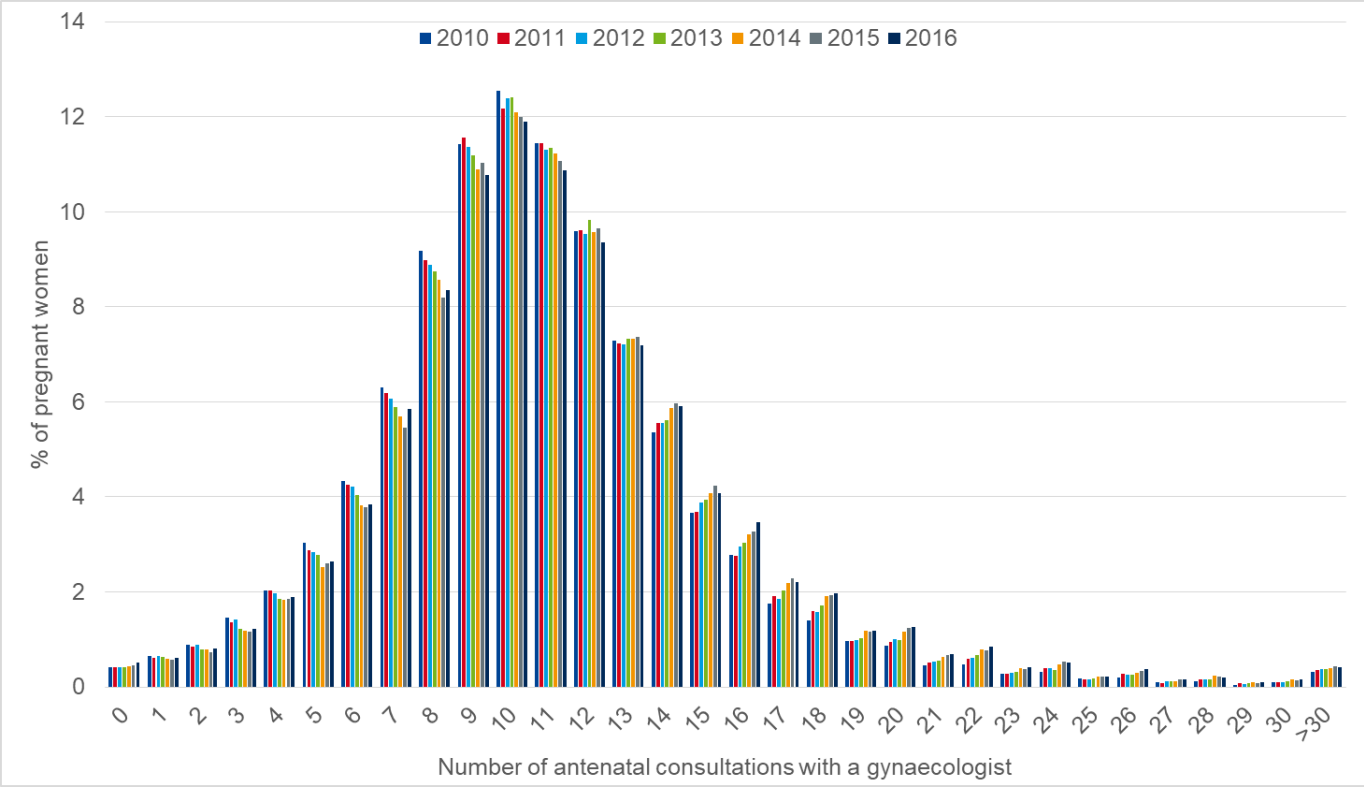


The average number of pregnancy follow-up consultations with a midwife is 2.13 (standard deviation (sd) is 2.85) in Brussels, 1.59 (sd=2.34) in Flanders and 1.52 (sd=2.13) in Wallonia. Focusing only on women who consult a midwife at least once, the average number of consultations among the users raises to 3.88 (sd=3.33) in Brussels, 3.00 (sd=2.84) in Flanders and 2.54 (sd=2.45) in Wallonia.

Pregnancy follow-up by gynaecologists

Although the number of antenatal midwifery consultations increased over time, this was not compensated by a decrease in the use of pregnancy follow-up care by gynaecologists. On the contrary, the number of gynaecologist consultations tended to slightly increase, as reported in Figure 23. Most of the low-risk pregnancies (99.56%) had at least one follow-up consultation with a gynaecologist in 2010, and it was still the case in 2016 (99.48%), but the proportion of women with more than 10 consultations with a gynaecologist increased from 47.72% to 51.58% (see Figure 24, right panel). This proportion was the highest in Wallonia (59.68% in 2010, compared to 41.35% in Flanders and 48.29% in Brussels) but stayed quite stable over time (61.51% in 2016). On the other hand, the proportion of pregnant women with more than 10 gynaecologist consultations increased substantially in Flanders (47.04% in 2016). Simultaneously, the proportion of women with less than 7 consultations with a gynaecologist decreased from 12.82% to 11.56% (see Figure 24, left panel).

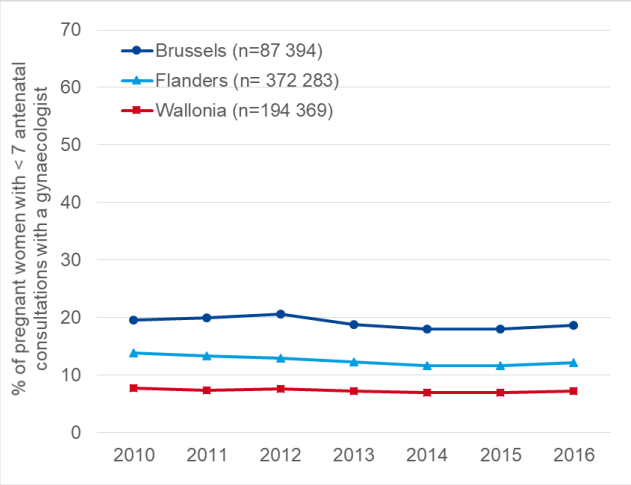
Figure 23 – Evolution of the use of antenatal gynaecologist consultations in Belgium, 2010-2016 (n= 657 005)



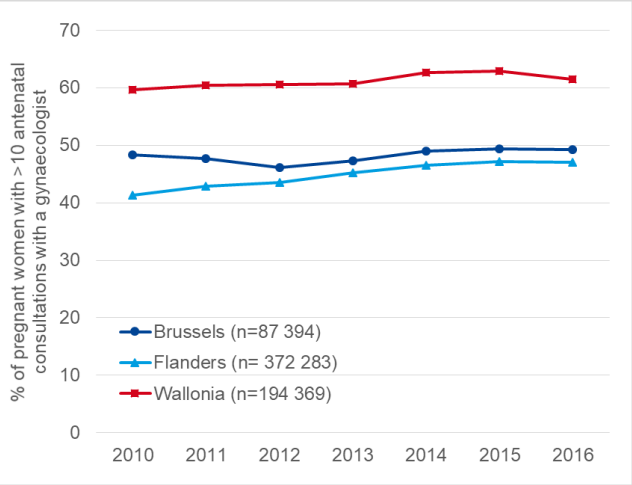
Note: 2010: n=99 975; 2011: n=98 510; 2012: n=96 999; 2013: n= 93 452; 2014: n=92 080; 2015: n=88 828; 2016: n=87 161.

Figure 24 – Evolution of the proportion of women having <7 or > 10 antenatal gynaecologist consultations, 2010-2016 (n=654 046)

(a) less than 7 antenatal gynaecologist consultations



(b) more than 10 antenatal gynaecologist consultations



As shown on Figure 23, there has been a reduction in the proportion of women having less than 12 consultations with a gynaecologist (especially those having 5-11 consultations) during their pregnancy and an important increase in the proportion of women seeing a gynaecologist more than 13 times during their pregnancy. This proportion has increased from 2010 to 2016, from 24.94% to 27.45% in Wallonia, from 15.73% to 22.40% in Flanders and from 22.70% to 24.74% in Brussels. Globally, in 2016 in Belgium, a quarter (24.18%) of the women have more than 13 consultations with a gynaecologist during their pregnancy.

Do midwifery antenatal consultations replace gynaecologist consultations?

One may wonder whether the increased use of midwives' consultations partly replaced gynaecologists' consultations. If this is the case, an increase in the number of midwifery consultations would lead to a decrease in the number of gynaecologist consultations. Figure 25 shows the occurrence of such a relationship. For each woman in 2016, the number of antenatal midwifery consultations is reported on the horizontal axis while the number of antenatal gynaecologist consultations on the vertical axis. Women who used more midwifery consultations (points located more on the right side of the figure) tended to use less gynaecologist consultations. Consuming one additional midwifery consultation is associated with a decrease of 0.15 consultations with a gynaecologist. This corresponds to 6.67 additional midwifery consultations associated with a decrease of one in the number of gynaecologist consultations. Although the effect is significantly different from zero, it is still small (see Table 16). Moreover this only indicates that there is a (negative) correlation between the number of midwifery consultations and the number of gynaecologist consultations.

The analysis does not allow to draw any conclusion regarding causality. In addition, this analysis does not adjust for potential confounding factors.

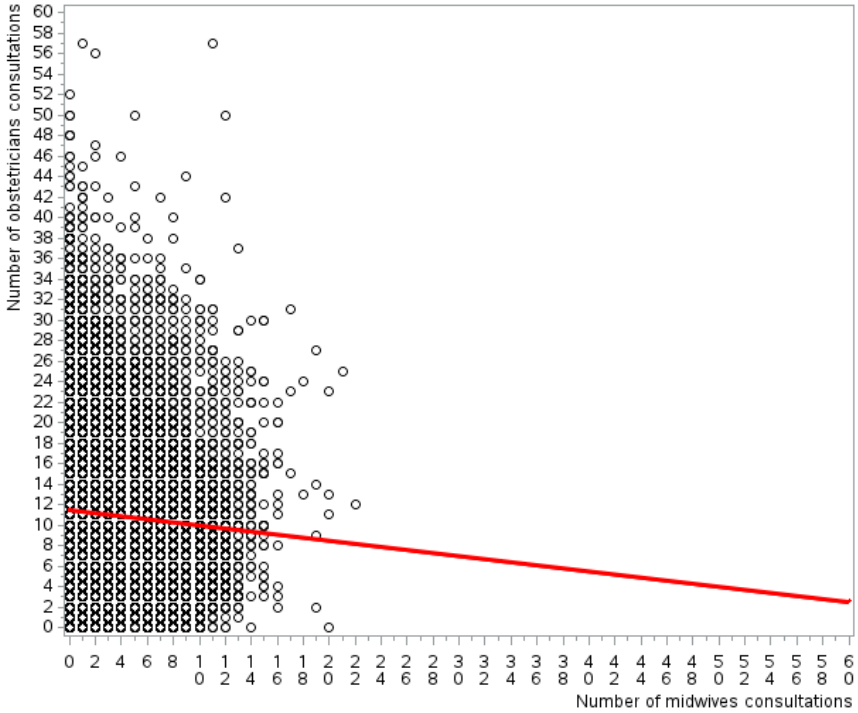
Although these results must be interpreted with caution, it is interesting to note that a regional difference exists (see Figure 26). While in Wallonia, the correlation is close to the Belgian level, no significant effect is found in Flanders (i.e. there is no significant relationship between the number of midwifery consultations and the number of gynaecologist consultations). In Brussels, the (negative) correlation seems to be much stronger. There, an additional midwifery consultation is associated with a decrease of 0.53 gynaecologist consultations; that is 1.89 additional midwifery consultations for one gynaecologist consultation less. Over time, this effect tends to become stronger in Brussels (the coefficient increased from 0.42 in 2010 to 0.53 in 2016) but to weaken in Flanders (the coefficient decreased from 0.26 in 2010 to non-significantly different from 0 in 2016) and to a smaller extent in Wallonia (the coefficient decreased from 0.22 in 2010 to 0.15 in 2016).

Table 16 – Linear regressions of the number of gynaecologist consultations depending on the number of midwife consultations, 2016

	Coefficient (number midwife consultations)	Standard error	p-value	R^2
Belgium (n=87 161)	-0.15	0.001	<0.001	0.005
Brussels (n=11 319)	-0.53	0.016	<0.001	0.086
Wallonia (n=25 582)	-0.19	0.012	<0.001	0.009
Flanders (n=49 724)	0.01	0.009	0.214	0.000

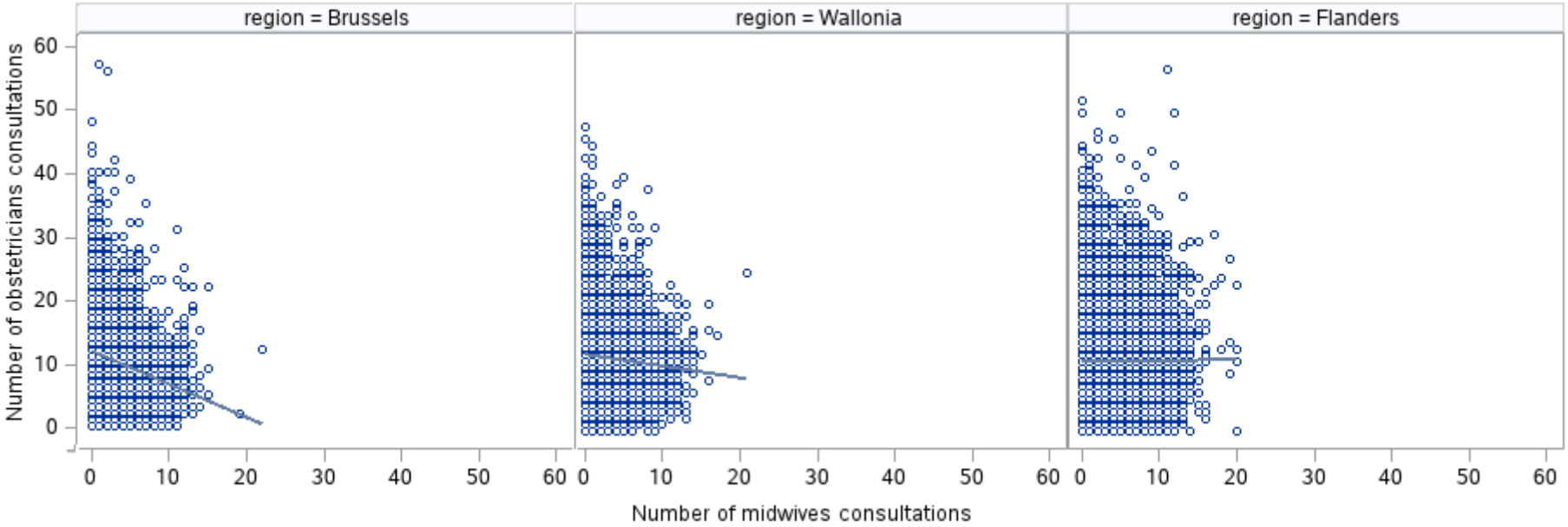
Coefficients are the estimated effect of the number midwife consultations on the number of gynaecologist consultations in a linear regression with an intercept.

Figure 25 – Linear correlation between midwifery and gynaecologist antenatal consultations, Belgium, 2016 (n= 87 161)



Note. Coefficient of the regression equations is given in Table 16.

Figure 26 – Linear correlation between midwife and gynaecologist antenatal consultations, by region, 2016



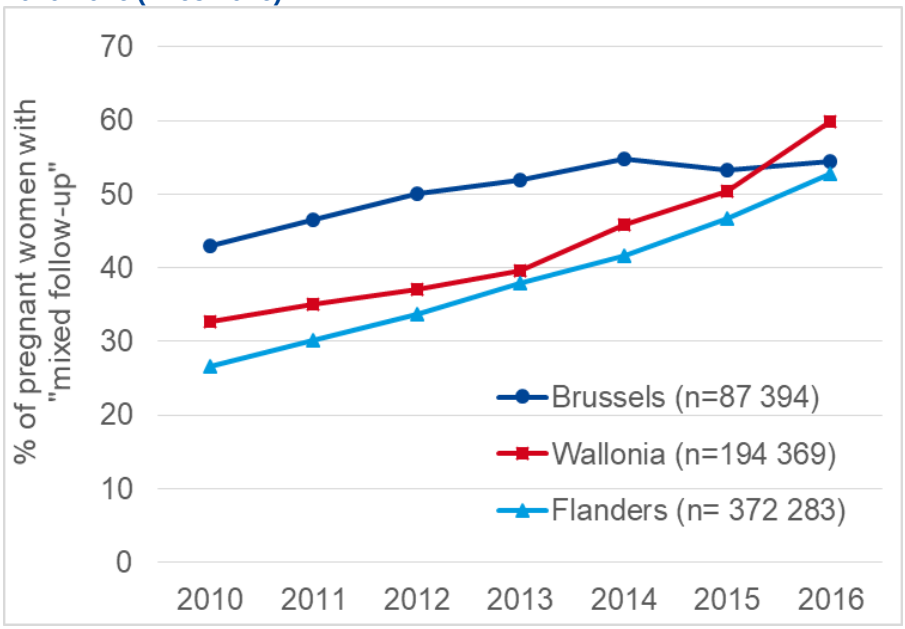
Note. Brussels: n=11 319; Wallonia: n=25 582; Flanders: n=49 724. Coefficients of the regressions equations are given in Table 16.

Increasingly, pregnant women consult both a gynaecologist and a midwife

As the previous analysis suggested, pregnant women had more and more clinical follow-up of pregnancy ensured by both a midwife and a gynaecologist. Indeed, the proportion of women who had at least one consultation with each of these providers was increasing over time, as depicted on Figure 27.

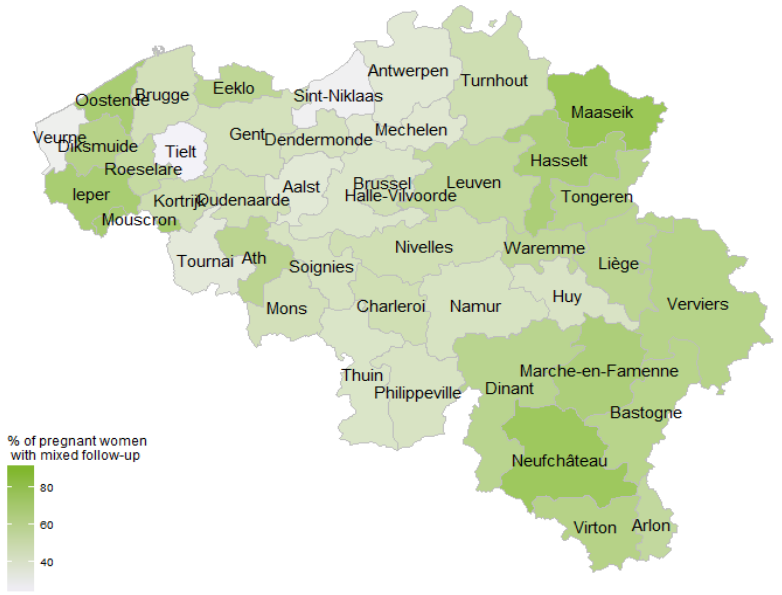
In Belgium in 2010, only 30.57% of the pregnant women had contacts with both types of professionals, while this proportion increased up to 55.08% in 2016. Historically, Brussels had a higher proportion of "mixed follow-up" (43.04% in 2010) but Flanders caught up since then (in 2016, the proportions were 52.79% in Flanders and 54.40% in Brussels) while Wallonia had outgrown them (59.88% in 2016). Nevertheless, these regional proportions hide an important disparity, even within regions, as illustrated on Figure 28, that does not seem to be related to the density of gynaecologist workforce.[131]

Figure 27 – Proportion of women with "mixed pregnancy follow-up", 2010-2016 (n=654 046)



Note: Mixed pregnancy follow-up is defined has having at least one consultation with a gynaecologist during the 280 days before delivery and at least one consultation for pregnancy follow-up with a midwife on the same period. Information is missing for 259 pregnancies.

Figure 28 – Proportion of women with "mixed pregnancy follow-up", by district, 2016



Note: Mixed pregnancy follow-up is defined has having at least one consultation with a gynaecologist during the 280 days before delivery and at least one consultation for pregnancy follow-up with a midwife on the same period.

Table 17 presents an analysis of the characteristics of pregnant women who had a “mixed pregnancy follow-up”, defined as having had at least one pregnancy follow-up consultation with a midwife and at least one with a gynaecologist. All results are discussed after adjustment for confounding factors.

- Higher risk of mixed follow-up for young women, for women living in a non-urban setting, for salaried women, and for unemployed women

The risk of using mixed follow-up was 1.2 times lower (OR=0.85 – 95%CI [0.82; 0.87]) in older pregnant women (30-40y) than in younger ones (< 30y). Living outside towns increased by 1.2 times the risk of mixed follow-up for women living in a semi-urban setting (OR=1.24 – 95%CI [1.19; 1.28]) and by 1.4 times for women living in a rural setting (OR=1.37 – 95%CI [1.30; 1.43]). The risk of consulting both midwife and gynaecologist was 1.2 times lower for self-employed women compared to salaried ones (OR=0.82 – 95%CI [0.78; 0.86]). Unemployed women have slightly higher risks of having a mixed follow-up compared to employed ones (OR=1.08 – 95%CI [1.02; 1.13]).

- No difference in the risk of mixed follow-up for disadvantaged women and for disabled women

No significant difference was found in disadvantaged women (identified by the access to a preferred reimbursement of care) nor for women recognised as disabled.

- Lower risks of mixed follow-up for women who delivered in Flanders

The chances of seeing both a gynaecologist and a midwife during pregnancy were 1.3 times higher for women who delivered in a hospital in Wallonia compared to Flanders (OR=1.34 – 95%CI [1.29; 1.38]) and 1.4 times higher for women who delivered in a hospital in Brussels compared to Flanders (OR=1.42 – 95%CI [1.36; 1.49]).

- Unclear impact of hospital size

The size of the hospital can be measured either by the annual number of deliveries for each hospital or by the maternity capacity i.e. the number of maternity beds. The relationship between hospital size and mixed follow-up is unclear and is highly dependent of the method used to assess the size of the maternity unit.

Table 17 – Relationship between characteristics of pregnant women and hospital of delivery with the use of "mixed pregnancy follow-up", 2016

		Mixed pregnancy follow-up			
Factor		Crude OR [95% CI]	p-value	Adjusted OR* [95% CI]	p-value
Age (n=87 161)	30-40 years old (vs <30 years old)	0.85 [0.82; 0.87]	<0.001	0.85 [0.82; 0.87]	<0.001
Urbanisation level (n=86 625)	Semi-urban (vs urban)	1.27 [1.23;1.32]	<0.001	1.24 [1.19; 1.28]	<0.001
	Rural (vs urban)	1.49 [1.43; 1.55]	<0.001	1.37 [1.30; 1.43]	<0.001
Preferred reimbursement (n=87 097)**	Yes (vs no)	0.98 [0.95; 1.01]	0.238		
Disabled (n=87 147)	Yes (vs no)	0.95 [0.70; 1.29]	0.757		
Employment category (n=83 223)	Self-employed (vs salaried)	0.79 [0.76;0.83]	<0.001	0.82 [0.78;0.86]	<0.001
Unemployment (n=87 147)**	Yes (vs no)	1.13 [1.08;1.18]	<0.001	1.08 [1.02; 1.13]	0.003
Hospital region (n=86 416)	Brussels (vs Flanders)	1.07 [1.03; 1.11]	<0.001	1.42 [1.36; 1.49]	<0.001
	Wallonia (vs Flanders)	1.32 [1.28;1.36]	<0.001	1.34 [1.29; 1.38]	<0.001
Hospital annual number of deliveries* (n=86 416)**	< 500 deliveries (vs ≥ 2500 deliveries)	0.75 [0.70; 0.80]	<0.001	0.42 [0.39; 0.45]	<0.001
	500-1499 deliveries (vs ≥ 2500 deliveries)	1.66 [1.60; 1.73]	<0.001	1.80 [1.74; 1.86]	<0.001
	1500-2499 deliveries (vs ≥ 2500 deliveries)	1.35 [1.29; 1.40]	<0.001	1.40 [1.35; 1.45]	<0.001
Maternity number of beds* (n=86 416)**	1-15 beds (vs > 40 beds)	1.31 [1.24; 1.49]	<0.001	1.78 [1.67; 1.88]	<0.001
	16-24 beds (vs > 40 beds)	1.30 [1.25; 1.35]	<0.001	0.93 [0.90; 0.96]	<0.001
	25-40 beds (vs > 40 beds)	0.93 [0.90; 0.96]	<0.001	0.64 [0.62; 0.66]	<0.001

*Notes. P-values correspond to Wald χ^2 test. *Adjusted odd-ratios are estimated with a logistic regression including an intercept and the variables presented in the table (due to missing observations for some variables, n=81 977). ** the correlation between these two variables (r=0.04) reveals no multicollinearity issue between these two explanatory variables. *** the correlation between these two variables (r=0.69) reveals no multicollinearity issue between these two explanatory variables. 'Preferred reimbursement' and 'disabled' have been eliminated by the backward selection procedure.*

In 2016, while 0.31% (269 / 87 261) of pregnant women had an exclusive pregnancy follow-up performed by midwives (and possibly by GPs, but not by gynaecologists), 44.40% (38 699 / 87 261) of pregnant women had an exclusive pregnancy follow-up performed by gynaecologists (and possibly by GPs, but no midwife). Note that 0.16% (139 / 87 261) have only consulted their GP (no midwife and no gynaecologist) during their pregnancy and 0.05% did not have any antenatal consultation (no GP, no midwife, no gynaecologist).

GPs and pregnancy

Finally, pregnancy follow-up can also be ensured by a GP. However, in the AIM/IMA database it is not possible to distinguish a consultation with a GP for pregnancy follow-up from a consultation for another reason during the pregnancy. Therefore, we illustrate the consultations with GPs during pregnancy, but the reader must keep in mind that these consultations may have another purpose than clinical pregnancy follow-up. Although these results should be considered as illustrative, one may note on Figure 29 that the pattern of use is completely different depending on the region.

On the one hand, in Brussels and Wallonia, most women (in 2016, 76.12% and 65.44% respectively) consulted a GP less than three times during pregnancy, or never (47.41% and 28.66%).

In Flanders on the other hand, most women (63.00% in 2016) consult a GP three times or more during pregnancy.

Over time, an increase in the number of consultations with GP during pregnancy was observed in Flanders but not in the other regions.

Figure 29 – Number of GP consultations during pregnancy, by region and by year, 2010-2016 (n=654 046)

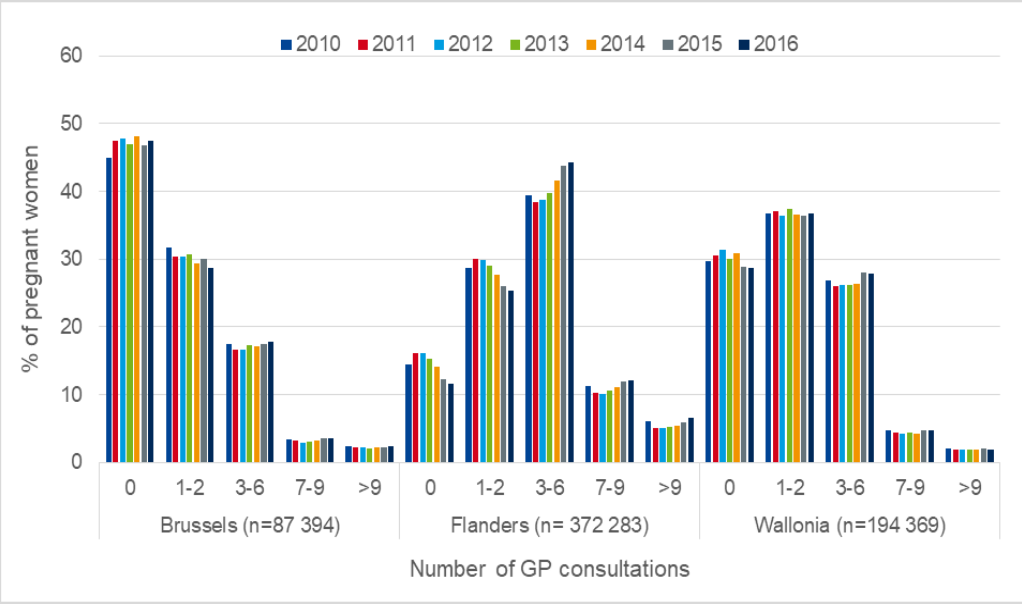
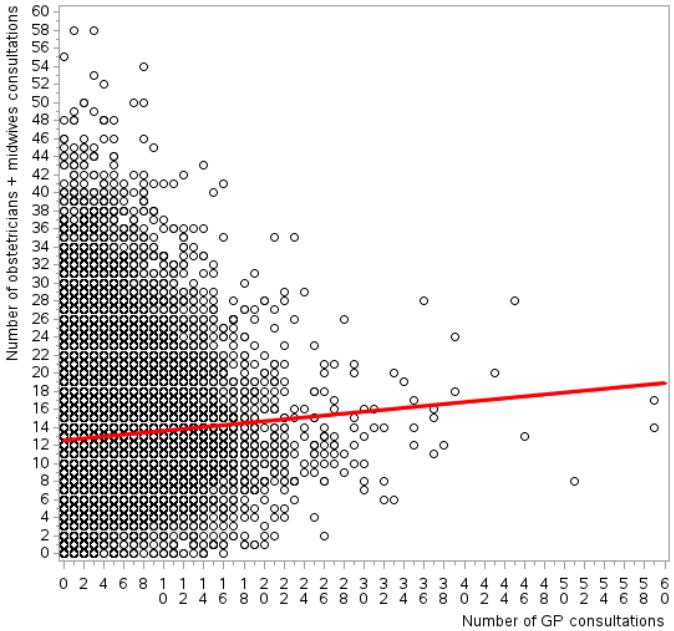


Figure 30 – Linear correlation between GP and gynaecologist or midwife antenatal consultations, Belgium, 2016 (n=87 161)

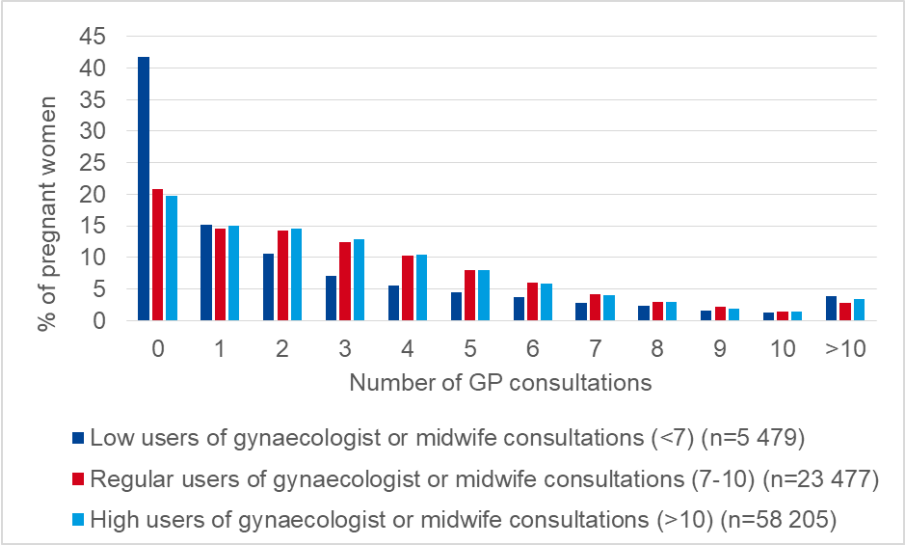


Note. Regression equation: y=12.52+0.11x. R^2=0.005. Standard error for the coefficient associated with GP consultations: 0.005, p-value<0.001.

One may wonder if these GP consultations may replace some midwifery or gynaecologist consultations. According to Figure 30 it does not seem to be the case. On the contrary, women who consulted more frequently their GP during pregnancy also tended to consult more frequently gynaecologists and midwives. This is true in all three regions of the country. Note that this analysis only shows a correlation between these numbers of consultations and is not adjusted for confounding factors. It is likely that some exogenous factors affect both GP consultations and maternity specialist consultations in a same way.

One may also wonder if women with particularly low use of midwifery and gynaecologist antenatal consultations compensate by more GP consultations. Again, it does not seem to be true. Among women who never consulted a midwife or a gynaecologist (183 in 2016), almost a quarter did not consult a GP either. Among those who did, the median number of consultations was 2 which is still far below the KCE recommendations. If we categorise women in three groups according to their use of midwifery and gynaecologist antenatal consultations (low users with less than 7 consultations, regular users with 7 to 10 consultations and high users with more than 10 consultations, see Figure 31), we see that the pattern of use of GP consultations is not different between regular and high users. However, low users of gynaecologist and midwifery antenatal consultations also tend to use few GP consultations.

Figure 31 – Number of GP consultations depending on the use of gynaecologist or midwifery consultations, Belgium, 2016 (n=87 161)



5.3.3. Birth preparation

Increased use of birth preparation (by physiotherapists and midwives)

Midwives provide birth preparation through individual as well as group sessions. These sessions are reimbursed for birth preparation but, in practice, midwives may provide parenthood education during their birth preparation sessions or in separate sessions, which cannot be identified by nomenclature data.

Physiotherapists on the other hand provide mainly birth preparation. Dedicated nomenclature codes are reported in the INAMI – RIZIV nomenclature for the perinatal activities in physiotherapy. Nevertheless, more general codes are also used during pregnancy. The purpose of the care provided under the general codes is unknown but may include birth preparation by physiotherapists.

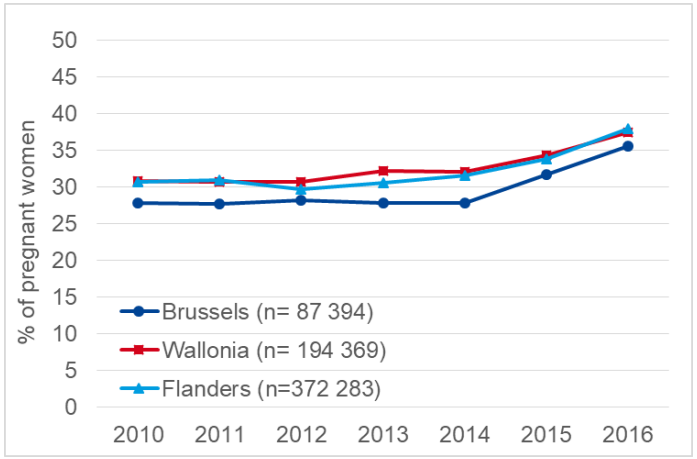
Therefore, in the following analyses, the 'narrow definition' refers to birth preparation by physiotherapists and midwives when midwifery codes and perinatal codes are used (see Table 55 in Appendix 2.4) and the 'broad definition' is used when midwifery codes, perinatal codes and general codes (Table 56 in Appendix 2.4) are used.

In addition, it should be pointed out that some hospitals in the three regions offer group sessions provided by physiotherapists. These sessions are not covered by the INAMI – RIZIV. Therefore, the activities of physiotherapists are probably underestimated and the number of pregnant women having no preparation is probably slightly overestimated.

Globally, the use of birth preparation, whatever the type of provider (physiotherapist or midwife), increased over time, in the three regions of the country, as shown on Figure 32. It is quite similar in Flanders and Wallonia, and slightly lower in Brussels. In 2016, 37.92% of the pregnant women benefited from such a preparation in Flanders, 37.47% in Wallonia, and 35.62% in Brussels (narrow definition). Using the broad definition for birth preparation provided by physiotherapists, the percentages increased up to 45.82%, 41.81% and 39.00% respectively. Nevertheless, the proportion of women who had such a preparation tended to increase a bit more rapidly in Brussels, especially since 2014, so that the gap with the other regions is reduced (in 2010, only 14.31% of the pregnant women had such a preparation, compared to 19.89% in Flanders and 18.69% in Wallonia, using the narrow definition). However, important intraregional disparities are depicted by Figure 33. In some districts, birth preparation is very uncommon (less than 25% of the women had such preparation in Ieper, Mouscron, Veurne and Arlon using the narrow definition) while it is much more frequent in others (more than 50% of the women in Nivelles and Leuven using the narrow definition).

Figure 32 – Proportion of women with at least one consultation with a midwife and/or a physiotherapist for birth preparation, 2010-2016 (n=654 046)

(a) narrow definition



(b) broad definition

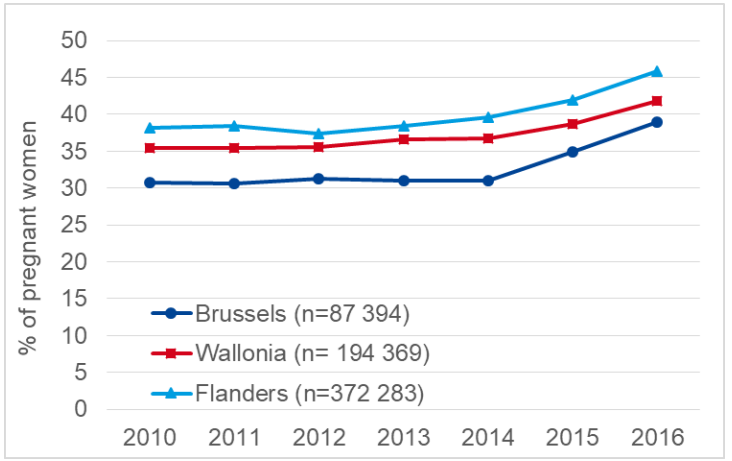
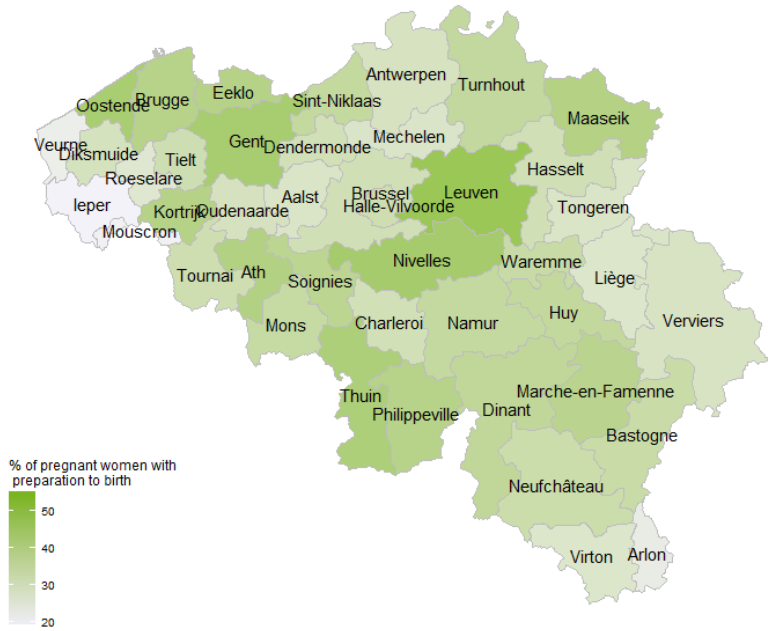


Figure 33 – Proportion of women who had at least one birth preparation session (by a midwife or physiotherapist), by district, 2016

(a) narrow definition



(b) broad definition

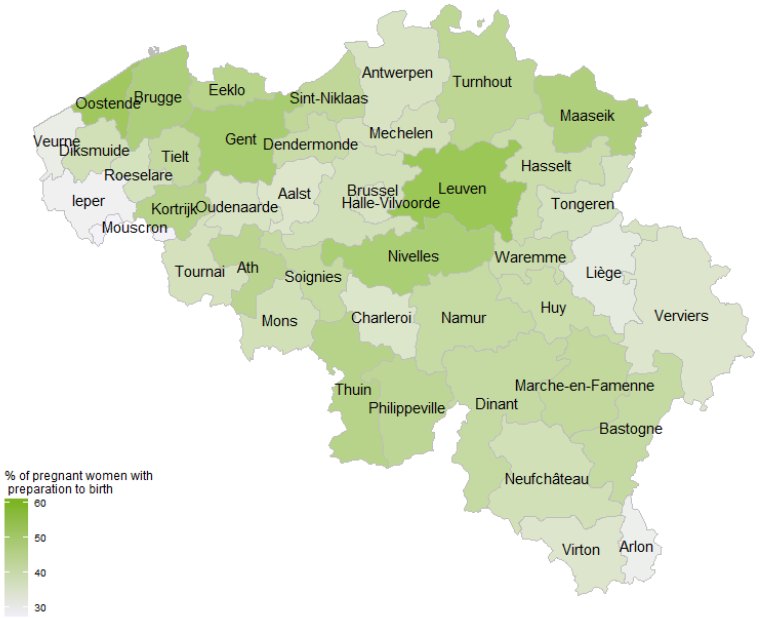


Table 18 presents an analysis of the characteristics of pregnant women who did not follow any birth preparation, neither with a midwife nor with a physiotherapist. All results are discussed after adjustment for confounding factors.

- Higher risk of having no preparation in older pregnant women, disadvantaged women, self-employed women, and unemployed women

The risk of having no preparation is 1.1 times higher (OR=1.09 – 95%CI [1.06; 1.12] when narrow definition is used) in older pregnant women (30-40y) than in younger ones (< 30y). Disadvantaged women are identified through the access to a preferred reimbursement of care. This group of pregnant women had an increased risk to have no preparation. This risk is approximately 2.6 times higher than in non-disadvantaged women (OR=2.64 – 95%CI [2.52; 2.77] and OR=2.62 – 95%CI [2.50; 2.74] depending on the definition used).

Self-employed women are also a group at risk for the absence of preparation. Overall, self-employed women had a risk 1.2 times higher to have no preparation at all, in comparison with salaried women (OR=1.18 – 95%CI [1.12; 1.24] and OR=1.15 – 95%CI [1.09; 1.21] depending on the definition used). Unemployed women also had a similar increased risk of no preparation than the self-employed women (OR=1.19 – 95%CI [1.13; 1.25] and OR=1.19 – 95%CI [1.14; 1.25] depending on the definition used).

- Lower risk of having no preparation for women living in a non-urban setting

Living outside towns lowered by 1.2 times the risk of having no preparation (OR=0.86 – 95%CI [0.82; 0.89] and OR=0.82 – 95%CI [0.80; 0.85] depending on the definition used for women living in a semi-urban setting and OR=0.83 – 95%CI [0.80; 0.87] and OR=0.81 – 95%CI [0.77; 0.84] depending on the definition used for women living in a rural setting, compared to those living in an urban setting).

- Unclear impact of disability

Although the univariate analysis showed that women recognised as disabled had a double risk of having no preparation (OR=2.19 – 95%CI [1.51; 3.16] and OR=2.33 – 95%CI [1.64; 3.31] depending on the definition used), this cannot be confirmed by the multivariate analysis as this factor has been removed by the backward elimination procedure.

- Impact of region of delivery depends on the definition used

With the narrow definition, the risk of having no preparation is higher for women who delivered in Flanders. However, with the broad definition, the reverse situation is observed, having no preparation being more frequently observed in Wallonia and Brussels.[qq] This may indicate that the prescription habits for antenatal physiotherapy sessions are different according to the region, physicians in Flanders using more frequently general codes during the pregnancy than those in other regions.

- Unclear impact of hospital size

The size of the hospital can be measured either by the annual number of deliveries for each hospital or by the maternity capacity i.e. the number of maternity beds. Relationship between hospital size and mixed follow-up is unclear and is highly dependent of the method used to assess the size of the maternity unit.

[qq] narrow definition OR=0.91 [95%CI 0.87; 0.96] for Brussels compared to Flanders and OR=0.92 [95%CI 0.89; 0.96] for Wallonia compared to Flanders / Broad definition OR=1.08 [95%CI 1.03; 1.13] for Brussels compared to Flanders and OR=1.08 [95%CI 1.04; 1.12] for Wallonia compared to Flanders

Table 18 – Relationship between characteristics of pregnant women and hospital of delivery with the absence of preparation, 2016

		Absence of preparation (narrow definition)				Absence of preparation (broad definition)			
Factor		**Crude OR [95% CI]**	**p-value**	**Adjusted OR* [95% CI]**	**p-value**	**Crude OR [95% CI]**	**p-value**	**Adjusted OR* [95% CI]**	**p-value**
Age (n=87 161)	30-40 years old (<30 years old)	1.00 [0.97; 1.03]	0.984	1.09 [1.06; 1.12]	<0.001	0.93 [0.91; 0.96]	<0.001		
Urbanisation level (n=86 625)	Semi-Urban (vs urban)	0.78 [0.75; 0.81]	<0.001	0.86 [0.82; 0.89]	<0.001	0.72 [0.70; 0.75]	<0.001	0.82 [0.80; 0.85]	<0.001
	Rural (vs urban)	0.75 [0.72; 0.79]	<0.001	0.83 [0.80; 0.87]	<0.001	0.76 [0.73; 0.79]	<0.001	0.81 [0.77; 0.84]	<0.001
Preferred reimbursement (n=87 097)**	Yes (vs no)	2.73 [2.61; 2.84]	<0.001	2.64 [2.52; 2.77]	<0.001	2.85 [2.74; 2.96]	<0.001	2.62 [2.50; 2.74]	<0.001
Disabled (n=87 147)	Yes (vs no)	2.19 [1.51; 3.16]	<0.001			2.33 [1.64; 3.31]	<0.001		
Employment category (n=83 223)	Self-employed (vs salaried)	1.08 [1.03; 1.14]	0.003	1.18 [1.12; 1.24]	<0.001	1.04 [0.99; 1.10]	0.093	1.15 [1.09; 1.21]	<0.001
Unemployment (n=87 147)**	Yes (vs no)	1.20 [1.14; 1.26]	<0.001	1.19 [1.13; 1.25]	<0.001	1.23 [1.17; 1.29]	<0.001	1.19 [1.14; 1.25]	<0.001
Hospital region (n=86 416)	Brussels (vs Flanders)	1.03 [1.00; 1.07]	0.084	0.91 [0.87; 0.96]	<0.001	1.23 [1.18; 1.27]	<0.001	1.08 [1.03; 1.13]	<0.001
	Wallonia (vs Flanders)	1.02 [0.99; 1.05]	0.226	0.92 [0.89; 0.96]	<0.001	1.19 [1.15; 1.22]	<0.001	1.08 [1.04; 1.12]	<0.001
Hospital annual number of deliveries* (n=86 416)**	< 500 deliveries (vs ≥ 2500 deliveries)	1.02 [0.95; 1.10]	0.541	1.40 [1.31; 1.50]	0.367	0.96 [0.89; 1.03]	0.228	1.29 [1.21; 1.38]	<0.001
	500-1499 deliveries (vs ≥ 2500 deliveries)	0.86 [0.82; 0.89]	<0.001	0.99 [0.95; 1.02]	<0.001	0.82 [0.79; 0.85]	<0.001	0.99 [0.96; 1.02]	0.583
	1500-2499 deliveries (vs ≥ 2500 deliveries)	0.84 [0.80; 0.88]	<0.001	0.84 [0.81; 0.87]	<0.001	0.83 [0.80; 0.87]	<0.001	0.86 [0.84; 0.89]	<0.001

Maternity number of beds* (n=86 416)**	1-15 beds (vs > 40 beds)	0.84 [0.80; 0.90]	<0.001	0.82 [0.78; 0.87]	<0.001	0.83 [0.79; 0.88]	<0.001	0.87 [0.83; 0.92]	<0.001
	16-24 beds (vs > 40 beds)	0.91 [0.88; 0.95]	<0.001	1.01 [0.97; 1.04]	0.743	0.88 [0.85; 0.91]	<0.001	1.00 [0.97; 1.03]	0.953
	25-40 beds (vs > 40 beds)	0.92 [0.89; 0.95]	<0.001	1.04 [1.01; 1.07]	0.013	0.92 [0.89; 0.95]	<0.001	1.02 [0.99; 1.05]	0.159

*Notes. P-values correspond to Wald χ^2 test. *Adjusted odd-ratios are estimated with a logistic regression including an intercept and the variables presented in the table (due to missing observations for some variables, (a) n= 81 977, (b) n=82 199). ** the correlation between these two variables (r=0.04) reveals no multicollinearity issue between these two explanatory variables. *** the correlation between these two variables (r=0.69) reveals no multicollinearity issue between these two explanatory variables. 'Disabled' has been eliminated by the backward selection procedure.*

Birth preparation is increasingly led by midwives

In 2016, 31.01% of the pregnant women had at least one consultation for birth preparation with a midwife and 11.81% had at least one consultation for birth preparation with a physiotherapist (22.13% if a broader definition is used). As depicted on Figure 34 and Figure 36, the proportion of pregnant women following preparation with a midwife is increasing over time while the proportion following this preparation with a physiotherapist is decreasing (except in Flanders when broad definition is used).

In Brussels, a higher proportion of pregnant women pursued birth preparation with a physiotherapist (narrow definition) than in the other regions, and a lower proportion pursued birth preparation with a midwife, compared to the other regions. When general codes, not related to pregnancy, are also taken into account (broad definition) then Flanders had a higher proportion of pregnant women following birth preparation with a physiotherapist. This may indicate that the prescription habits for antenatal physiotherapy sessions are different according the region, physicians in Flanders using more frequently general codes during the pregnancy than those in other regions.

Figure 34 – Proportion of women with at least one contact with a midwife for birth preparation, 2010-2016 (n=654 046)

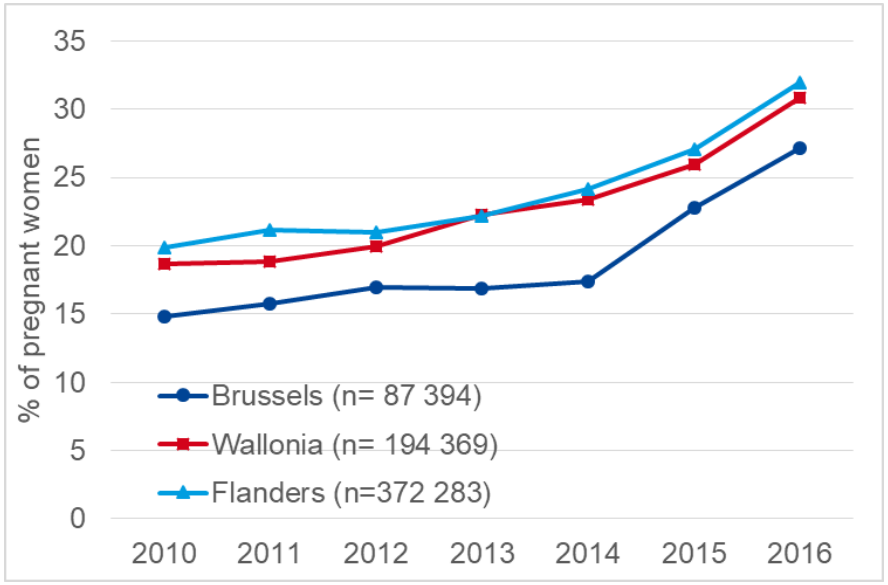
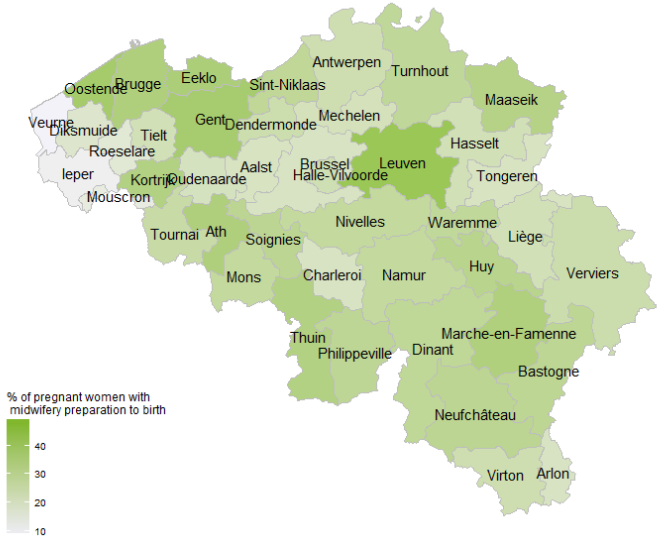


Figure 35 – Proportion of women who had at least one birth preparation session with a midwife, by district, 2016

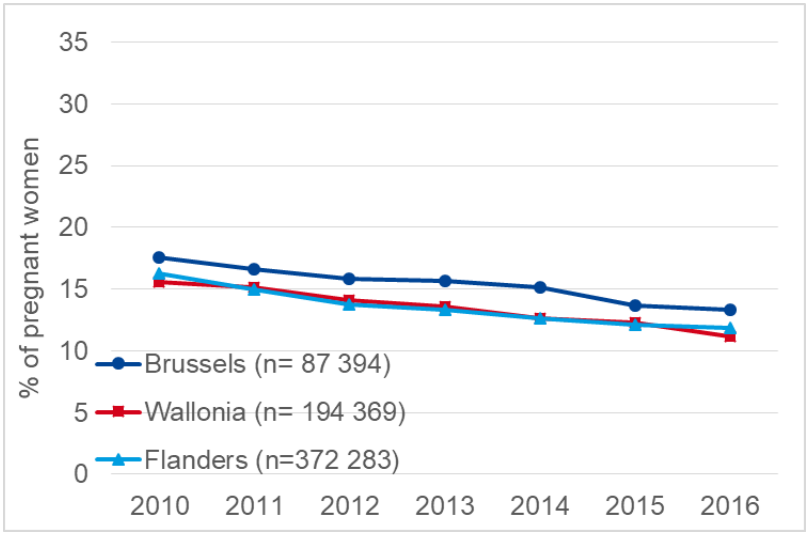


Geographical distribution is presented in Figure 35 for preparation by midwives and in Figure 37 for preparation by physiotherapists. Birth preparation by midwives was much less used in the North-West part of country (less than 20% of the women in Veurne, Roeselare, Ieper and Mouscron) compared to other districts. In Leuven, almost 50% of women had such a preparation.

On the opposite, birth preparation by physiotherapists was very uncommon in the South part of the country (using the narrow definition), less than 5% of the women in Arlon, Bastogne, Marche, Neufchâteau and Virton, this was also the case in Verviers). In Nivelles on the contrary, more than 25% of the women had birth preparation with a physiotherapist (narrow definition). Using broad definition, the percentage of women with physiotherapist preparation increased, but geographical disparities were marginally impacted.

Figure 36 – Proportion of women with at least one contact with a physiotherapist for birth preparation, 2010-2016 (n=654 046)

(a) narrow definition



(b) broad definition

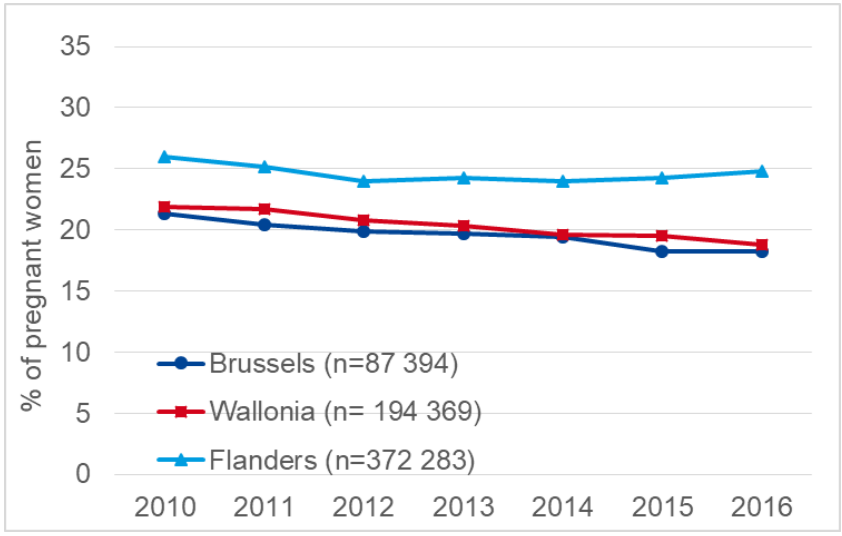
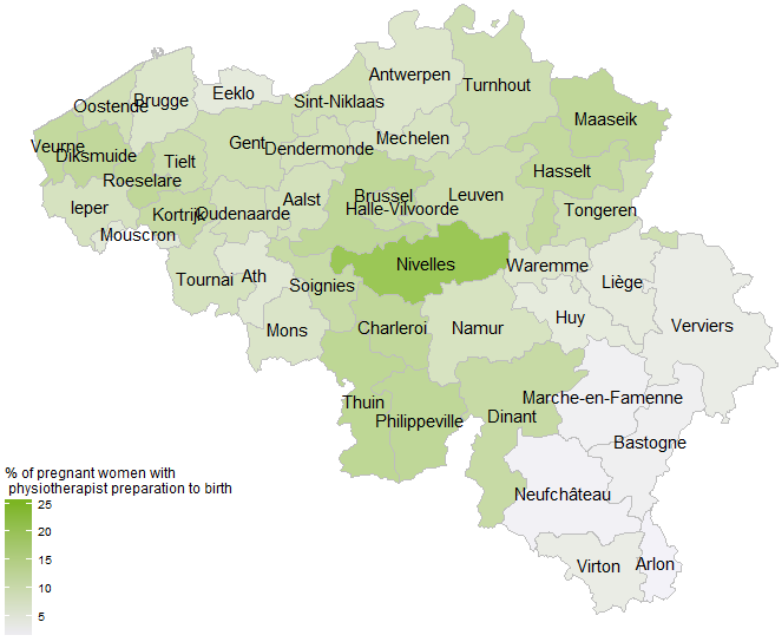
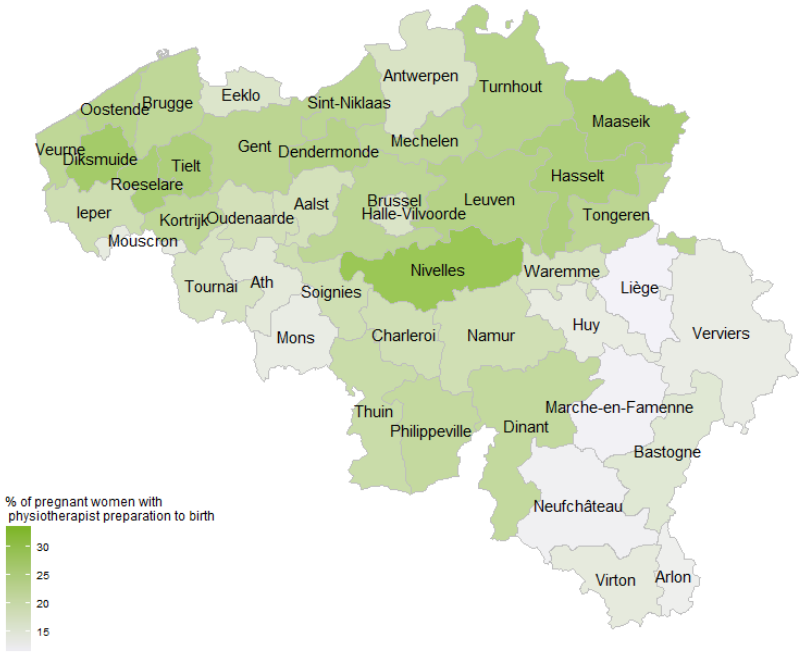


Figure 37 – Proportion of women who had at least one birth preparation session with a physiotherapist, by district, 2016

(a) narrow definition



(b) broad definition



Birth preparation is mostly done by only one type of provider

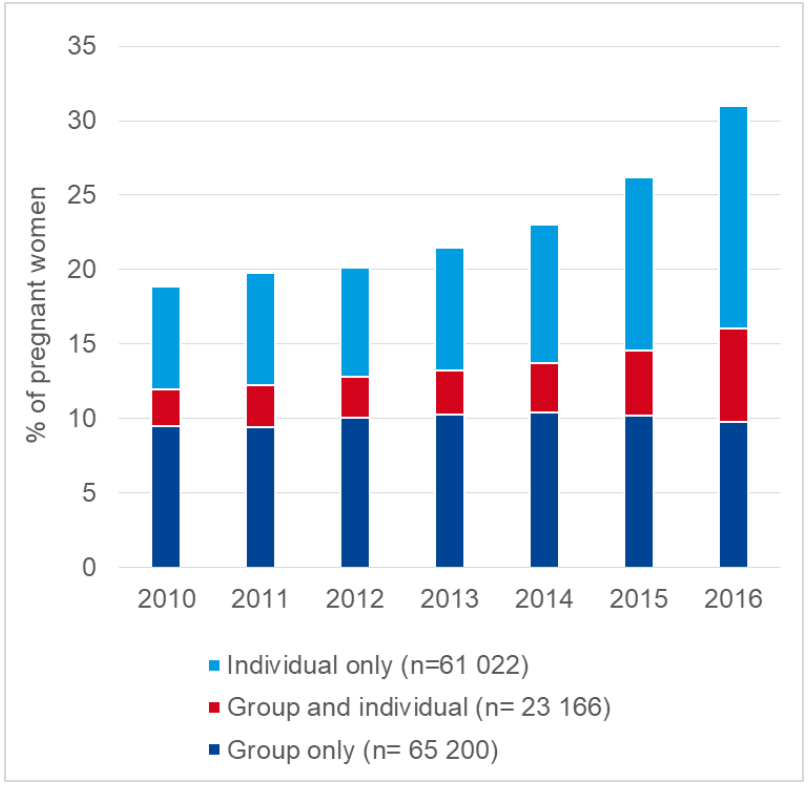
Most of the women having had a birth preparation (85.85% in 2016) have pursued this preparation with only one type of provider (either midwife or physiotherapist, using narrow definition for physiotherapist preparation). Only 14.15% of them (i.e. 5.31% of the pregnant women) had at least one consultation for birth preparation with each type of providers. These percentages are not changing much over time and are quite similar in the three regions of the country. If anything, “mixed preparation” is more frequent in Flanders (in 2016, 15.46% of the women having had a preparation to the delivery had at least one consultation with each type of provider) than in Brussels (13.57%) and in Wallonia (11.98%). Using broad definition for preparation provided by physiotherapist did not impact the results.

Use of group sessions

Midwives may offer reimbursed sessions either individually or in group. These group sessions usually include the sessions covering general information about administrative issues (hospital stay, costs, maternity and paternity leave, etc.), breastfeeding issues, the progress of a delivery, maternity ward visit, or other parenthood education issues. In 2016 in Belgium, 16.05% of the pregnant women have followed at least one group session for birth preparation. For 9.79% of the pregnant women, group sessions were the only kind of preparation by midwives they received, while the remaining 6.26% also had individual preparation with a midwife. As depicted on Figure 38, the proportion of pregnant women following only group sessions remained quite stable over time. However, an increasing percentage of women had both group and individual preparation with a midwife (from 2.49% in 2010 to 6.26% in 2016). Nevertheless, the more spectacular increase lies in the proportion of women with individual sessions only (from 6.89% in 2010 to 14.96% in 2016).

The proportion of women who benefited from group sessions provided by physiotherapists is unknown because they are not covered by the INAMI – RIZIV. Therefore, no figures are available.

Figure 38 – Proportion of women participating to individual or group sessions organised by midwives regarding preparation to the delivery, 2010-2016 (n= 657 005)



Preparation and clinical follow-up are correlated

According to Table 19 and Table 20 women who had more preparation sessions also tended to consult more their gynaecologist or midwife for pregnancy follow-up. This is true in all three regions of the country, and this is true whoever the practitioner (physiotherapist or midwife) who provided the preparation sessions, although the effect was stronger for preparation provided by midwives. Globally, an additional preparation session with a midwife was associated with 0.52 additional consultations for pregnancy follow-up (provided by gynaecologist, midwife or GP), while an additional preparation session with a physiotherapist (narrow definition) was associated with 0.31 additional consultations for pregnancy follow-up. As expected, when the broad definition is used for preparation sessions provided by physiotherapists, the effect was smaller (coefficient for Belgium, is 0.21, p<0.001). Note that this analysis only shows a correlation between preparation and pregnancy follow-up and is not adjusted for confounding factors. It is likely that some exogenous factors affect both the number of preparation sessions and the number of consultations for pregnancy follow-up.

Table 19 – Linear regressions of the number of pregnancy follow-up consultations (gynaecologist, midwife or GP) depending on the number of preparation sessions with a midwife, 2016

	Coefficient (number of midwife preparation session)	Standard error	p-value	R^2
Belgium (n=87 161)	0.52	0.010	<0.001	0.033
Brussels (n=11 319)	0.60	0.029	<0.001	0.038
Wallonia (n=25 582)	0.41	0.012	<0.001	0.042
Flanders (n=49 724)	0.64	0.015	<0.001	0.034

Note. Coefficients are the estimated effect of the number preparation sessions with a midwife on the number of pregnancy follow-up consultations in a linear regression with an intercept.

Table 20 – Linear regressions of the number of pregnancy follow-up consultations (gynaecologist, midwife or GP) depending on the number of preparation sessions with a physiotherapist (narrow definition), 2016

	Coefficient (number of physiotherapist preparation session)	Standard error	p-value	R^2
Belgium (n=87 161)	0.31	0.013	<0.001	0.007
Brussels (n=11 319)	0.27	0.033	<0.001	0.006
Wallonia (n=25 582)	0.23	0.020	<0.001	0.005
Flanders (n=49 724)	0.35	0.017	<0.001	0.008

Note. Coefficients are the estimated effect of the number preparation sessions with a physiotherapist on the number of pregnancy follow-up consultations in a linear regression with an intercept.

5.4. Discussion

5.4.1. Limitations with administrative data

Although the analysis of AIM/IMA database is very informative, the reader must keep in mind limitations inherent to the use of administrative data and the capture of specific parameters using proxies:

- **The annual number of deliveries**

  The annual number of deliveries is calculated based on delivery codes recorded in the AIM/IMA database. However, there are discrepancies between the number of deliveries reported in the AIM/IMA database and the number of deliveries reported by hospitals in the CEpiP / SPE databases. An explanation may be found in the number of persons not covered by a Belgian sickness fund, therefore not included in the AIM/IMA database. According to the 2016 MZG-RHM data, 2.2% of women who delivered in Flanders and 2.4% in Wallonia were not covered by a Belgian sickness fund. This proportion was as high as 9.2% in Brussels. Four main reasons explain the non-coverage by a Belgian sickness fund:

  - Socio-economical vulnerability of the subject leading to a CPAS/ OCMW coverage (0.7% of the deliveries occurring in Flanders, 0.5% in Wallonia and 2.6% in Brussels);
  - Uninsured women without any other coverage (0.2% of the deliveries occurring in Flanders, 0.5% in Wallonia and 1.2% in Brussels);
  - The (direct or indirect) coverage of healthcare costs by a foreign health insurance (0.6% of the deliveries occurring in Flanders, 0.4% in Wallonia and 3.5% in Brussels);
  - A category 'other' is used for specific situations, e.g. women that did not fit with other categories because error in coding in the RHM/MZG or other institutions cover the costs such as FEDASIL for undocumented women, Ministry of justice for women in prison, etc. (0.7% of the deliveries occurring in Flanders, 1.0% in Wallonia and 2.0% in Brussels).

  This means that, in 2016, 1.6%, 2.0% and 5.8% of the women delivering respectively in Flanders, Wallonia and Brussels may be considered as vulnerable women who cannot be captured in the AIM/IMA databases. In addition, recent research[32] shows that, between 2005 and 2010, 25% of children were born into a household under the poverty threshold in Brussels. The authors found a classic social gradient in perinatal outcomes but only for mothers born in Belgium or in another EU country. Among non-European immigrants (from North Africa and Sub-Saharan Africa), the classic social gradient was not found. The relationship between socioeconomic status and perinatal outcomes is more complex. These findings may help to support specific policies dedicated to vulnerable pregnant women.

- **The definition of the antenatal period**

  The antenatal period is defined as 280 days before the date of delivery. High use of ANC is defined by more than 10 consultations provided by GP, midwives or gynaecologists during the antenatal period. Low use of ANC is defined by less than 7 consultations provided by GP, midwives or gynaecologists during the same period. Therefore, a low use may be slightly overestimated in case of preterm birth and a high use may be overestimated in case of post-term birth (> 40 weeks). According to the CEpiP, in 2016, 13% (n= 3 010) of the deliveries occurring in Brussels and 7.6% (n=2 613) of those occurring in Wallonia were post-term births.[123, 129] The figures are unknown in Flanders because the SPE globally reports all pregnancies above 37 weeks, making no distinction between pregnancies above 40 weeks and those between 37 and 40 weeks, precluding the identification of post-term births. The proportion of pre-term births (gestational age < 37 weeks) is estimated to be at 8.4% (n=1 784) in Brussels[123], 8.1% (n=2 849) in Wallonia[129] and 7.7% (n=4 918) in Flanders.[130] Care consumption during the first 20 weeks of pregnancy may also be over- or underestimated for the same reasons.

- **Number of previous pregnancies**

  The last KCE guideline recommended 7 ANC consultations for a multiparous woman and 10 ANC consultations for a nulliparous

woman.[1] However, the nulliparous and the multiparous status of the pregnant women cannot be captured in the AIM/IMA database. Because the low use of ANC is defined as a pregnancy follow-up that counts less than 7 consultations, the nulliparous women with less than 10 consultations but with more than 7 consultations are wrongly excluded from the low-users group. Hence, the proportion of low-users is probably underestimated. Similarly, the proportion of high-users is probably underestimated because multiparous women having less than 10 consultations but more than 7 consultations are wrongly excluded from the high-users group. The magnitude of these errors is unknown.

- **Multiple pregnancies**

  Because there is no specific code for the delivery in case of multiple pregnancies, the AIM/IMA database does not allow to identify multiple pregnancies. As multiple pregnancies require a higher frequency of consultations, the multiple pregnancies may be erroneously classified in high users of ANC. In 2016, the proportion of multiple pregnancies was 1.6%, 2.0% and 1.7%, respectively in Wallonia, in Brussels and in Flanders.[123, 129, 130] Some of these multiple pregnancies may have been excluded because classified in high-risk pregnancies according to our set of criteria (e.g. required presence of a paediatrician at delivery due to high-risk pregnancy).

- **Healthcare consumption**

  In the present study, only consultations performed by gynaecologists, midwives, GPs and physiotherapists were taken into account in antenatal care consumption. Other healthcare interventions such as lab tests, imaging, genetic testing, vitamin supplementation, etc. were not analysed. Some over- and underuse of these interventions could not be investigated. Hence, the guideline adherence cannot be studied and is out-of-scope of this report. In addition, part of antenatal care is difficult to capture accurately. The INAMI – RIZIV codes do not allow to know the reason behind GP consultations. For the purpose of this study, they are all considered in the antenatal care consumption, probably overestimating the GP antenatal activities. It is also the case when general codes are used for birth preparation provided by physiotherapists. Moreover, some hospitals offer group sessions for birth preparation provided by physiotherapists. These sessions are not covered by INAMI – RIZIV. Therefore, the physiotherapists' activities are probably underestimated. The magnitude of the underestimation is unknown because no figures are available.

- **Pregnant women's characteristics**

  Some characteristics are attributed to the insurance holder (gerechtigde / titulaire) and some others to the insurance recipient (rechthebbende / bénéficiaire). In many cases, holder and insurance recipient are the same person. However, if a pregnant woman has no labour income or no replacement income (unemployment benefit or welfare allowance), she may benefit from the insurance of a family member (likely her partner). In this case, the employment status (salaried versus self-employed) of this holder is also assigned to her.

  When results are discussed at the country level, all pregnant women who gave birth in Belgium were included but when results are discussed on a regional basis only pregnant women who reside in Belgium were included. This can explain slight differences in the total number of pregnant women according to the level of the analysis.

- **Definition of low-risk pregnancies**

  The definition of low-risk pregnancies is based on the exclusion of pregnancies presenting at least one risk factor identified in KCE guideline[1] or presenting specific nomenclature codes for the management of high-risk pregnancies. The following exclusion criteria were used:

  - Age

    Only women aged from 18 to 40 year old were included in low-risk pregnancy group. Because age was defined as the difference between the year of the delivery and the woman's year of birth, the woman's actual age at the date of delivery may be slightly different (maximum 1 year difference). Consequently, some pregnant women aged 18 or 40 may be wrongly included or excluded from the low-risk pregnancies' group.

- Comorbidities

  The distinction between high- and low-risk pregnancies in the selection process was based on ad-hoc definitions using medicine consumption for a set of conditions (see section 5.2). The list of included comorbidities affecting pregnancy is not exhaustive but encompasses the main pathologies. Other risk factors such as gynaecological history (e.g. previous caesarean section, previous miscarriage…) could not be included using administrative data. It is thus possible that pregnancies that could medically be defined as high-risk pregnancies have been included in our final sample. Also note that we did not capture non-medical factors such as lack of social support, victims of violence or addictions to define high-risk pregnancies.

- Presence of specific codes for the management of high-risk pregnancy

  The nomenclature codes that are specific for high-risk pregnancy allowed us to refine our selection of low-risk pregnancies. In particular, the codes related to individual midwifery session dedicated to high-risk pregnancy were introduced in 2012 while the codes relating to the presence of a paediatrician during the delivery for high-risk pregnancy were introduced in 1985). Therefore the exclusion of high-risk pregnancies is more accurate from 2012 onwards. This may partially explain the observed increase in the proportion of pregnancies recognised as high-risk pregnancies.

Due to these limitations, results must be interpreted with caution. Nevertheless, by excluding the most important comorbidities, excluding the youngest and oldest age categories, and excluding high-risk pregnancies identified by midwifery sessions or the required presence of a paediatrician at delivery due to high-risk pregnancy, we may be confident that our final sample excludes most of the high-risk cases.

5.4.2. Providers of ANC

Whereas midwives seem to be more and more involved in the clinical follow-up of pregnant women, the gynaecologists remain the main providers for ANC. GPs seem to have a limited involvement in the antenatal follow-up. However, pregnant women living in Flanders consult more often a GP in comparison with pregnant women from other regions. Compared to the overall population of Flemish women, a higher proportion of Flemish pregnant women consult their GP. Although, pregnant Flemish women did not consult their GP more often than non-pregnant Flemish women, but more often than pregnant women from the two other regions. In 2015, the proportion of women aged from 25 to 44 years who consulted at least once their GP during a year was 85% in Flanders, 80% in Wallonia and 67% in Brussels (for the age range 15 to 24, the proportions were 84%, 77% and 67% respectively).[127] In comparison, among the low-risk pregnant women in our study sample (aged 18 to 40), 88.4% consulted their GP at least once during the antenatal period in Flanders, 71.3% in Wallonia and 52.6% in Brussels. Although the numbers are not directly comparable, one may note that in Wallonia and Brussels, less pregnant women seem to consult their GP than their non-pregnant counterparts while the opposite is true in Flanders. According to the Health Interview Survey performed by Sciensano (WIV – ISP)[132] in 2013, women aged 18 to 40 years consulted the GP, in average, 3.5 (95%CI 2.9-4.1), 3.1 (95%CI 2.3-3.8) and 2.2 (95%CI 1.8-2.7) times a year, respectively in Flanders, Wallonia and Brussels. In comparison, pregnant women consulted their GP, 4.03 (95%CI 4.02-4.05), 2.26 (95%CI 2.23-2.29) and 1.74 (1.69-1.79) times a year, respectively in Flanders, Wallonia and Brussels. The exact role of GPs in ANC in unclear, especially in Flanders. Therefore, further research is needed to explore this issue.

At the Belgian level, there was a negative correlation between the number of consultations with gynaecologists and the number of consultations by midwives, but important differences appeared across regions. While in Brussels and, to a lesser extent in Wallonia, an increase in midwifery consultations was associated with a decrease in gynaecologist consultations, no significant correlation between midwifery and gynaecologist consultations was observed in Flanders.

Birth preparation may be offered by midwives or physiotherapists. Our results suggest that birth preparation is mostly led by only one type of provider. In 2016, more than one out of ten pregnant women benefited from at least one session for birth preparation with a physiotherapist while three out of ten received at least one midwifery session for birth preparation. Among the women that followed birth preparation provided by midwives, 16.05% have followed at least 1 group session. It should be noted, however, that only midwives may provide reimbursed group sessions. The nomenclature does not allow physiotherapists to provide reimbursed group sessions. If physiotherapists provide group sessions for birth preparation, these sessions cannot be captured in the AIM/IMA database because pregnant women are not entitled to a reimbursement by the INAMI – RIZIV. The proportion of women without birth preparation may therefore be overestimated. In addition, individual sessions provided by physiotherapists are limited to 9 sessions for both pre- and post-natal period while the limitation of midwifery sessions for birth preparation varies from 12 to 24 sessions according to whether the session is individual or in large group (6 to 10 pregnant women). Geographical distribution of pregnant women who followed birth preparation shows that midwifery preparation is much less used in the North-West part of the country while birth preparation by physiotherapists is very uncommon in the South part of the country (except in Nivelles). An explanation may be found in the high density of physiotherapists in Nivelles but this assumption must be verified. The relationship between density of active physiotherapists[133] and use of antenatal sessions provided by physiotherapists is not observed in all other districts, especially in the South-East of the country (provinces of Liège and Luxembourg). All these results remain unchanged whatever the definition used, i.e. the narrow (specific perinatal codes) or the broad definition (specific perinatal codes and general codes).

5.4.3. Low and high use of ANC

Financially disadvantaged women have a higher risk to be insufficiently followed during their pregnancy compared to other women. Their risk not to be followed during the 20 first weeks of pregnancy or to benefit from less than 7 consultations with gynaecologists or midwives is approximately 2 times higher than in other women. The same conclusion can be drawn when self-employed women are compared to salaried women or disabled women are compared to other women. In addition, self-employed women present a 3 times higher risk not to be followed by a gynaecologist or a midwife during the pregnancy compared to salaried women.

The impact of the region on the ANC consumption is unclear, notably because consumption of GP care seems higher in Flanders. When GP consultations are considered in the ANC, the risk of low use (less than 7 consultations) and the risk of no use during the first 20 weeks are higher in Brussels than in Flanders. The risk of no use is also higher in Wallonia than in Flanders. On the other hand, when GP consultations are excluded from the ANC, women delivering in Flanders have a higher risk of low use, and of absence of follow-up compared to the two other regions. The risk of no follow-up during the first 20 weeks, however, is higher in Brussels than in the two other regions.

Living in non-urban setting or being unemployed increase the risk of high consumption (> 10 consultations by a gynaecologist or a midwife) in comparison to other (future) mothers. This observation must be interpreted with caution because numerous reasons may justify to deviate from the recommended number of ANC consultations such as:

- Post-term pregnancies requiring intensive follow-up before delivery;
- Multiple pregnancies requiring a more intense clinical follow-up;
- Non-identified risks requiring additional consultation(s);
- Unclear imaging requiring additional echography to confirm previous results;
- Warning signs requiring additional consultation(s) (e.g. bleeding, no more baby's movement, preterm uterine contractions, hard belly, etc.);
- Various accidents at home or at work requiring additional diagnostic consultation(s).

5.5. Conclusions

The results of this chapter have to be interpreted with caution due to a set of limitations (definition of low-risk pregnancy including the use of proxies to identify the presence of a comorbidity, non-capture of uninsured pregnant women, difficulty to identify clinical pregnancy follow-up by GPs, etc.). However, they show a trend in the care consumption that may support recommendations regarding an optimal organisation of ANC.

Clinical follow-up

- **Antenatal care consultations for low-risk pregnant women are mainly provided by gynaecologists and midwives. The number of antenatal consultations per low-risk pregnant woman with these healthcare practitioners is increasing over time.**
- **Few insured pregnant women (between 3.7% and 6.3% in 2016 depending if GP consultations are counted in ANC or not) use less than 7 antenatal consultations. Additionally, a similar proportion (between 3% and 4.2% in 2016) shows no contact with a healthcare professional during the 20 first weeks of pregnancy. The proportion of women with a low ANC use or late follow-up is higher in Brussels than in the other regions.**
- **Absence of follow-up is uncommon (0.05% of pregnant women in 2016). However, no data are available regarding uninsured or undocumented pregnant women (asylum seekers, non-official residents, indigent persons without mandatory health insurance…).**
- **Financially disadvantaged, disabled or invalid and self-employed pregnant women are groups at risk for insufficient antenatal follow-up (i.e. no follow-up during the whole antenatal period, or during the first half, incomplete follow-up with less than 7 consultations with a healthcare professional).**
- **The majority of the women (from 67% to 85% in 2016 depending if GP consultations are counted in ANC or not) use more than 10 antenatal consultations. Women living in non-urban setting and unemployed women seem to have a higher risk to consult a midwife or a gynaecologist more than 10 times during the pregnancy. A variety of reasons can explain this higher use that would not be revealed by administrative data. Further analyses are needed to explore this higher level of consumption, above what is recommended by the evidence-based guideline.**
- **The involvement of GPs during the pregnancy remains limited. However, the pattern of GP use is different according to the regions. The GPs are more often consulted by pregnant women in Flanders than in the other regions. The GP does not replace the gynaecologist nor the midwife. Their role would rather be complementary. Very few pregnant women (0.16%) only consulted their GP. However, it is impossible to determine whether a pregnant woman consults the general practitioner for the follow-up of the pregnancy or for a health problem occurring during pregnancy.**
- **Increasingly, pregnant women combine antenatal consultations provided both by gynaecologists and midwives. Very few pregnancies (0.3%) are exclusively followed-up by midwives (and possibly by GPs, but not by gynaecologists), while 44% had an exclusive pregnancy follow-up performed by gynaecologists (and possibly by GPs, but without midwife's intervention).**
- **Consultations with gynaecologists and midwives are negatively correlated at the country level, but important regional disparities exist. While in Brussels, an additional midwife consultation is associated with a decrease of 0.5 gynaecologist consultation, the effect is lower in Wallonia (a decrease of 0.2 gynaecologist consultation) and not significant in Flanders.**

Birth preparation

- **The use of birth preparation is slightly increasing over time (from 30.4% in 2010 to 37.5% in 2016 [narrow definition] or from 36.3% in 2010 to 43.7% in 2016 [broad definition]).**
- **There is a positive correlation between the number of consultations with a gynaecologist or a midwife and the number of preparation sessions followed by pregnant women: the more ANC consultations women use, the more preparation sessions they follow.**
- **Both midwives and physiotherapists are involved in birth preparation. Birth preparation is more often provided by midwives (31% of the pregnancies in 2016) in comparison with physiotherapists (between 12% [narrow definition] and 22% [broad definition] of the pregnancies in 2016). This gap increases over time.**
- **Preparation with midwives is either offered in individual sessions (15% of the pregnant women) or in group sessions (10% of pregnant women followed); 6% follow both individual preparation with midwives and group sessions.**
- **Only group sessions provided by midwives can be reimbursed. The nomenclature of clinical procedures does not allow physiotherapists to ask for a reimbursement for group sessions. However, some hospitals offer group sessions provided by physiotherapists (entirely paid by the pregnant women). Therefore, this activity may not be captured in the administrative database. In addition, the number of reimbursed individual sessions provided by physiotherapists for both pre- and post-natal period is smaller than the number of reimbursed individual sessions provided by midwives only for the antenatal period. Nevertheless, the medical doctors prescribing physiotherapist sessions to pregnant women sometimes use general nomenclature codes (other than perinatal ones). For this reason, consumption of antenatal physiotherapist care cannot be precisely estimated, but can be approached around a range (between a narrow and a broad definition).**

6. PERSPECTIVES OF NEWBORN'S PARENTS

6.1. Introduction

This chapter is dedicated to understand parents' perspectives regarding the current ANC practice in Belgium. The objective is to find the barriers and facilitators in the current organisation of ANC.

6.2. Methodology

6.2.1. Design

To retrieve the parents' perspectives regarding the ANC, a qualitative approach was used. In-depth face-to-face semi-structured interviews have been carried out by a native French speaking researcher (NB) and a native Dutch speaking researcher (WC).

6.2.2. Sampling and recruitement

Recruitment of parents was done via healthcare professionals. The researchers approached gynaecologists and midwives to obtain contact details from their patients (pregnant women or newly mothers). The objective was to invite women and their partners to participate in the study in a short timeframe after childbirth.

Identification of healthcare professionals

- Random recruitment through databases

Gynaecologists were randomly selected from the SPF SPSCAE / FOD VVVL website. This database records all professionals entitled to perform a healthcare profession. To check if they were actually practising, the INAMI – RIZIV website was used.

Midwives were randomly selected from the websites of professional organisations (VBOV/UpSfb). These websites also provide information on the services each midwife provides, which allowed us to select only those midwives active in ANC.

For each Belgian province one gynaecologist and one midwife were selected and subsequently contacted by e-mail or by phone. If the healthcare professional did not agree to participate, a new random selection was performed. In case of agreement to participate, the healthcare professional received an information letter that provided additional information related to the study protocol (see Appendix 3.1.2).

Since the selection of healthcare providers did not result in enough healthcare professionals, nor enough mothers or couples within the time window of two months, recruitement through researcher's network and snowballing was adopted as additional strategies.

- Additional recruitment through researchers' network and snowballing

Researchers invited healthcare professionals (gynaecologists and midwives) from their own professional and private network to participate in the study and recruit one or more mothers or couples. Healthcare providers were also asked who else could be interested in the study. These additional healthcare professionals were also addressed (snowballing).

Healthcare providers received all documents needed: informed consent forms and information regarding the aim of the research project and what participation entails.

Identification and selection of parents

The healthcare providers who were willing to participate, identified one or more pregnant women within their practice which fulfilled predefined selection criteria (see Table 21). The healthcare professionals explained to pregnant women the aim of the study and invited them to participate. In case they agreed to participate, they consented to share their contact details with the researchers, who subsequently contacted them to make an appointment for the interview. The women or couples willing to participate, received a letter explaining once again the purpose of the study, the interview procedure and the informed consent (see Appendix 3.1.1).

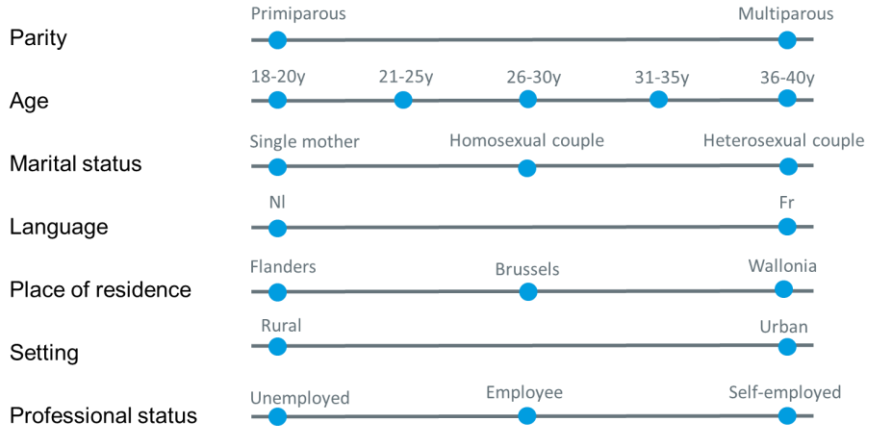
The women and their partner were interviewed 4 to 12 weeks after delivery, at home or in a place of their choice. Four weeks was chosen in order not to disturb mothers in the early weeks of the postpartum and 12 weeks to limit recall bias. Inclusion and exclusion criteria are presented in Table 21.

Table 21 – Inclusion and exclusion criteria

	Criteria
Inclusion	18 y < mother's age < 40y
	4 weeks < delivery date < 12 weeks
	Uncomplicated pregnancy and birth
	Singleton pregnancy
	Primiparous or multiparous mother
	Place of residence in Belgium
Exclusion	Mother's age < 18y or > 40y
	Delivery date < 4 weeks or > 12 weeks
	High risk pregnancy as defined in the KCE guideline[1]
	High risk delivery
	Multiple pregnancy
	ANC fully performed outside of Belgium

The aim of the sampling is to capture the variation in the parents' experiences according their demographic characteristics such as place of residence, age, marital status or parity (see Figure 39). The initial target for place of residence was at least one couple by province mixing rural and urban settings and two in Brussels.

Figure 39 – Selection matrix for parents



6.2.3. Data collection tools

Interview guide

The researchers developed a questionnaire with open questions and probing suggestions to guide the interviews (see Appendix 3.1.3). In the course of the interview round, the interviewers had a weekly meeting to exchange experiences and adapt the interview guide where necessary.

Informed consent

At the start of each interview the interviewers explained the informed consent form to the interviewee(s). In the informed consent it is stated that the interview is recorded and will be transcribed. Participants were guaranteed that the tapes with the interviews would be destroyed after the research project was finalised. In addition participants were guaranteed that the transcripts would only serve the data analysis within this research project. If quotes would be used in the final report, these would be anonymised in order not to disclose the identity of the participants, nor the healthcare professionals or institutions they mentioned. Also the analysis and reporting are done in a way guaranteeing anonymity of the individuals. Parents were asked to sign the consent form (which is also signed by the researcher), and were informed about the possibility to stop participation at any time without any disadvantages.

6.2.4. Data analysis

Data extraction

The interviews were audio recorded. After the interview, the audio files have been verbatim transcribed by a subcontractor. These transcripts were used as data source and were loaded in NVIVO® software (version 11) to facilitate coding and analysis of the data. This has been carried out by the same KCE researchers who did the interviewing.

Data analysis

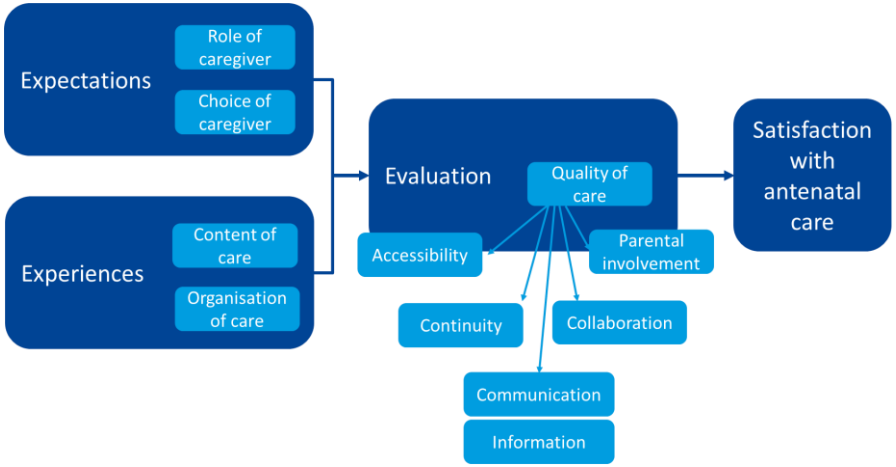
An inductive approach was used to generate results using coding of the verbatim transcripts. Further, codes were clustered into categories that were then grouped in themes. Details on codes, categories and themes can be found in Appendix 3.2.

The description of findings is built around parents' expectations, parents' experiences and their evaluation of their antenatal care trajectory. These three variables are presented in Figure 40. This logic corresponds with the literature on satisfaction with childbirth[134, 135] and satisfaction with antenatal care.[136] Satisfaction results from an evaluation made by comparing childbirth experiences with expectations. More than satisfaction with childbirth as such we are mostly interested in satisfaction with antenatal care.

Several authors[134, 135, 137] found that the more childbirth expectations are met, the more mothers are satisfied. These results are in line with satisfaction theories such as the value-expectancy model,[138] the discrepancy theory[139] and the fulfilment theory.[140] Nevertheless, in relation to the quality of care the association between expectations and satisfaction is complicated. Quality of care potentially moderates the association between expectations and satisfaction. For example, Bond and Thomas[141] pointed out that rising quality of care brings about rising expectations. As a consequence, high quality care may still result in low satisfaction. The other way round Williams[142] stated that satisfaction does not necessarily reflect

good quality of care, but rather means that nothing extremely bad happened. In addition to the satisfaction outcome, others[143, 144] pointed to an increased risk for postpartum distress in cases where expectations were not met, since the imbalance between expectations and reality generates fear.[145] The significance of childbirth expectations for satisfaction and distress illustrates that it is important to study the match between childbirth expectations and the experience of pregnancy and childbirth.

Figure 40 – Structure of the chapter



Box 6 – How to interpret qualitative research findings

In the following paragraphs we present the findings resulting from the analysis of the interview data. Note that qualitative research findings do not present numbers. The aim is to present patterns in the data, not to quantify these. We identified hypotheses or tendencies, which could in a next step be tested by means of a quantitative research design. The latter is however beyond the scope of this research project.

6.3. Participants' characteristics

A total of 26 interviews, 11 in Dutch, one in English and 14 in French were performed. The selection matrix was fullfiled except for the younger age category (18-20 y) for which no participant was found (see Figure 41). All participants' charateristics are displayed in Table 22.

Most interviews were with the mother only, but especially the French speaking mothers were often accompanied by their partner (Dutch: n=2; French: n=8).

Figure 41 – Fullfilment of the selection matrix for parents

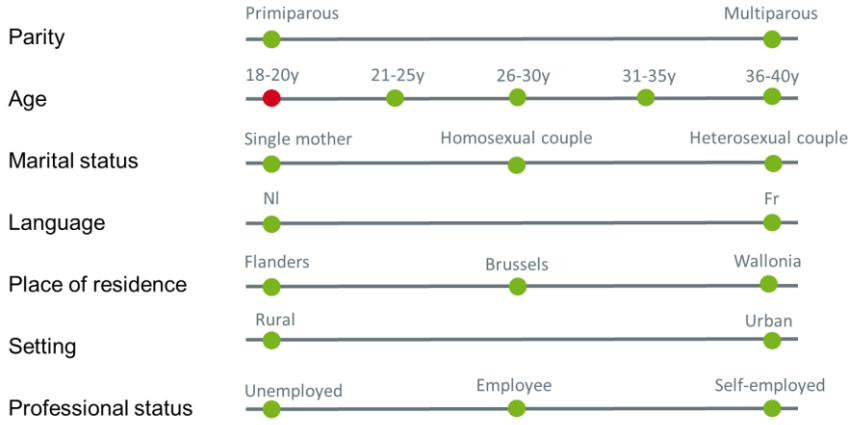
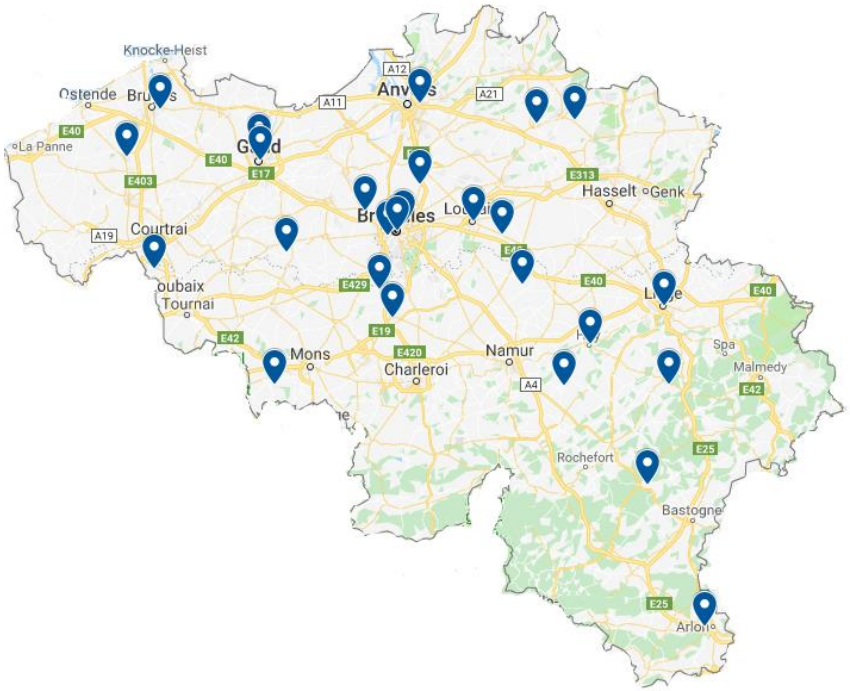


Figure 42 shows that respondents were scattered over Belgium. However three regions were not represented in the sample: Province of Limburg, the Southern part of Hainaut and part of West Flanders between the French boarder and Torhout.

Table 22 – Participants' characteristics

Criterion		n	n	n
Parity	Flanders	Primiparous: 4	Multiparous:8	
	BXL/Wallonia	Primiparous: 8	Multiparous:4	
Degree of urbanisation	Flanders	Rural:8	Urban:4	
	BXL/Wallonia	Rural:7	Urban:7	
Age	Flanders	<31: 3	31-35: 8	>36: 1
	BXL/Wallonia	<31: 7	31-35: 3	>36: 4
Marital status	Flanders	In relationship:11	Single:1	
	BXL/Wallonia	In relationship:12	Single:3	
Region of residence	Flanders	Flanders:12		
	BXL/Wallonia		Brussels:3	Wallonia:11
Recruited by	Flanders	Midwife: 8	Gynaecologist: 4	
	BXL/Wallonia	Midwife: 10	Gynaecologist: 4	

Figure 42 – Geographical mapping of the respondents' place of residence



6.4. Parents' perceptions of the roles of antenatal care providers

6.4.1. Perceptions of the role of antenatal care providers in general

We listed what parents expected or appreciated from their antenatal care providers in general, without differentiation between professions.

First of all, **parents are searching for reassurance** in antenatal care. This theme was omnipresent in our interview data. All parents, both primi- and multiparous, expressed the need to be reassured about the health of their unborn child. However, we noted that parents who experienced stillbirth, were particularly anxious, to such an extent that one couple in our sample bought a Doppler foetal monitor to be able to listen to the foetus' heart beat every day.

A second theme was the parents search for reassurance to **parents' questions** and the time healthcare professionals took to answer these. Parents greatly appreciated healthcare professionals who took time to answer parents' questions. Spending time answering questions was clearly an important criterion for parents in their evaluation of healthcare professionals. Parents who described consultation time as being (too) short, told us about all kinds of strategies to squeeze their questions into the limited time window of a consultation (e.g. list them beforehand, asking them at the start of a consultation).

Third, in line with the previous theme, parents expected healthcare professionals to be empathic and **sensitive to their needs and preferences**. They appreciated professionals' efforts to reflect together with parents, looking for the solution that fits best their expectations or needs, without imposing their own or standard solutions.

Fourth, **neutrality** was highly valued, not pushing in any direction, but informing about all options.

Fifth, parents expected healthcare professionals to provide them with objective information and to **create realistic expectations**.

Sixth, parents wanted to be **involved** in antenatal care and make conscious and informed decisions. Often (future) parents felt unsure or anxious. They had the feeling that they were not the experts and therefore depended on healthcare professionals to know whether their unborn child is doing fine. They appreciated healthcare professionals who **empower** them in their new role and make them feel more comfortable and self-assured.

Seventh, parents expected health professionals **to be available**, especially in case of problems or worries. Problems or worries refer to parents' perception. In other words, even if healthcare providers do not perceive or identify a problem, parents might still do.

Finally, parents appreciated healthcare providers who are **attentive to other than medical aspects** of pregnancy, e.g. workload, practical organisation of the postpartum.

Table 23 – Parents' expectations

What parents expected from healthcare professionals	
1. Reassurance	
• Reassure them	*"Mama: De verwachting was toen vooral zo: Stel mij gerust dat het oké is, want de vorige was dan fout gelopen." (Multipara)* *"Papa: C'est comme vous dites, je pense que dans ces moments-là, c'est plus quelque chose de psychologique dont on a besoin. On a besoin d'être rassuré, on a besoin de se sentir bien parce que quand la femme n'est pas bien avec sa grossesse et qu'elle se sent…qu'elle est parfois mal et qu'elle ne se sent pas bien, on aimerait savoir si ça va, si le bébé va bien. Nous aussi, nous avons ce manque d'assurance, de se dire qu'elle n'est pas bien ça fait qu'on n'est pas bien non-plus." (Multipara)*
2. **Answers to their questions**	
• Answer their questions	*"Mama: Dus ik vond het alleszins, waar dat dat ook doorgaat, tussen aanhalingstekens het kan me niet schelen, maar als ik dan naar aanleiding van die monitoring of naar aanleiding van het feit dat je op het einde van uw zwangerschap met een vraag komt, is het voor mij aangenaam dat die vraag op dat moment op die plaats beantwoord kan worden." (Multipara)*
• Anticipate questions	*"Maman : Elle parle beaucoup, mais dans le bon sens. Elle explique beaucoup de choses, donc on n'avait même pas besoin de lui poser la plupart des questions parce qu'elle avait déjà répondu de toute manière en nous expliquant les choses." (Primipara)*
• Take time to answer questions	*"Mama: Ik weet dat er ook altijd heel expliciet tijd werd gemaakt, bij elke consultatie trouwens, om te vragen of ik zelf nog vragen had daarover. Bij de gynaecoloog daarna trouwens ook hoor, daar moest je wat meer voor uitgaan natuurlijk. Dat was dan het verschil, bij de vroedvrouw had je het gevoel dat die wat meer tijd voor u kon maken, maar ook bij de gynaecoloog had ik het gevoel dat die wel echt tijd nam om te polsen van is het oké met u, heb je nog vragen, ... Het was zo niet het evidente van: ah ja, het is een derde kind, dus je weet al alles." (Multipara)* *"Interviewer: En had je het gevoel dat je met vragen terecht kon?* *Mama: Ja, dat wel. Maar je moet wel voorbereid zijn. Allé, als je echt een vraag hebt moet je ze wel opschrijven of gewoon zeggen van hé, ik moet nog dit of dit of dit vragen want als je niet [Respondent lacht] op uw hoede bent, dan sta je al weer buiten."(Primipara)*

	"Maman : Et la gynécologue, même en dehors du rendez-vous, elle a des heures de consultation durant la journée où on peut lui téléphoner. Elle a une ou deux heures par jour où on peut lui téléphoner où elle répond ou pas mais on peut lui laisser un message et elle répond dans la journée. Donc, ça c'était bien et la sage-femme aussi." (Primipara)
3. A neutral stance	
• Think together with the parents, without interfering	*"Mama: Ik heb zo'n job waarbij de stress nogal wisselend is met periodes en dan zocht de vroedvrouw bijvoorbeeld wel samen met mij naar kijk, zijn er manieren om dat beter te kunnen dragen of... Het is wel dan soms fijn dat iemand die u echt goed begrijpt daar mee kan in nadenken, zonder zich te moeien in dingetjes, want dat is natuurlijk nog iets anders he." (Multipara)*
• Respectful and open to parents' preferences	*"Mama: Ik vond dat wel fijn, dat die openheid er was, dat je niet zo direct raar bekeken werd doordat je dat misschien liever thuis wou of niet." (Multipara)*
• Is neutral and does not push in any direction	*"Mama: Want dat is eigenlijk van bij het eerste kindje al heel erg geapprecieerd heb is dat onze vroedvrouw dan vooral die ons dan vooral heeft opgevolgd, dat die nooit gepushed heeft in een bepaalde richting of die heeft ook altijd met heel veel respect gesproken over het ziekenhuis, over de zorg die ik daar kreeg, ook al merkte ik nadien hoe ze mij daarin begeleid hebben dat ze niet altijd dezelfde visie deelden als de mensen in het ziekenhuis." (Multipara)*
• Make suggestions	*"Mama: Ik weet dat ze dan ook bijvoorbeeld met dingetjes afkwam van kijk, zwangerschapsyoga, is dat niets voor u en dan was dat maar een idee, ik ben daar ook niet altijd op ingegaan, maar het is wel fijn om zo een aantal dingen, suggesties te krijgen." (Multipara)*
4. **Sensitivity and empathy**	
• Search for what parents need, instead of imposing own solutions	*"Mama: Ook omdat, ik denk dat het voordeel van iemand die u persoonlijk opvolgt, als ik dat nu vergelijk is dat zij mee zoeken van wie zijt gij, wie hebt gij nodig en wat heeft uw kindje nadien nodig, maar ik had toen het gevoel dat die vroedvrouwen zeiden: ja, maar ik vind dat je dat zo moet doen, ik vind dat je dat zo moet doen, en ik vind dat beetje een ouderwetse manier van kijken, allee, het is misschien beroepsmatig, ik ben ook met onderwijs en kinderen bezig, dus misschien daardoor, maar ja. Ik denk dat het meer nut heeft om te leren, om te voelen van wat heeft die persoon nodig en hoe kan ik die dan helpen dan uw eigen mening op te dringen omdat ge al ergens gezien hebt dat dat werkt en dat gevoel had ik meer bij de opvolging die ik gehad heb in het ziekenhuis." (Multipara)*
• Are empathic	*"Mama: Ja een super lieve arts, heel empathisch ook. Emotioneel ook erg goed betrokken en om de 14 dagen mochten wij dan voor een controle-echo gaan, zeker in het begin van de zwangerschap." (Primipara)*
• Are sensitive for a previous miscarriage	*"Mama: Omdat zij ook da eerste moment zo klaarstond na dat miskraam en al wat dat ik meegemaakt heb […]. Ik dacht gewoon dat dat niet meer bestond, dat begrip. Achter wat ik meegemaakt [had]. En dan was er wel 1 persoon, dus da was dan zij, en zij was dan voor mij de hele wereld. Ik had zo iets van: jij begrijpt dat hier nu echt wel wat wij hier meegemaakt hebben." (Primipara)*
5. Realistic expectations	
• Create realistic expectations	*"Mama: zij zei: Alles wat ik nu kan zien is oké op dit moment. Binnen drie weken komt je nog eens terug en dan doen we dat een keer opnieuw, dus dat was eigenlijk correct denk ik van haar om niet bij wijze van spreken al vuurwerk af te steken en te zeggen: Joepie jee, ge zijt er hier hé. Ik zie een hartje kloppen. Oké, maar dat is nog heel klein en dat is heel pril, dus daar was zij eigenlijk heel correct in dat niet groter te maken dan dat het is. Dat klinkt zo slecht, maar... Ja in het begin kan heel veel misgaan hé, dus*

	dat wist zij natuurlijk ook wel, dus ik zocht daar denk ik gewoon bevestiging van het is nog allemaal oké en ze heeft dat gegeven zonder daarin te overdrijven." (Multipara) *"Mama: Ze zijn hier ook op huisbezoek geweest met een paar om te kijken van, ja, hoe zie je dat, waar wil je bevallen en hoe gaan we dat aanpakken zonder al heel erg u daarop te moeten vastpinnen, want dat is iets wat mijn gynaecologe altijd zei en dat vond ik heel waardevol. Ze zei: ge moogt u nooit op voorhand al voorstellen of inbeelden hoe dat die bevalling gaat zijn, want eigenlijk weet je dat nooit op voorhand." (Multipara)*
6. **Empowerment and involvement**	
• Empowers parents	*"Mama: Dat was echt een angstbeeld voor mij, maar ja, door bij [Naam van vroedvrouw] te gaan en daar veel over te lezen, heb ik zo wel wat meer vertrouwen gekregen en ook door die yogalessen dan te doen, is dat eigenlijk compleet veranderd."(Multipara)*
• Involve the partner	*"Mama: Ik heb het gevoel dat we heel goede hulpverleners gehad hebben, mensen die ons opgevolgd hebben, want onze gynaecoloog, die heeft ook echt veel aandacht besteed aan hem, terwijl we bij vrienden soms horen dat de gynaecoloog bijvoorbeeld enkel tegen de vrouw haar uitleg doet en de man staat daar dan bij, maar meer ervaring hebben we helemaal niet. Dat is fijn en ook heel belangrijk vind ik." (Multipara)* - *"Papa : Oui, celle-là, ben, c'est même lui qui disait plus : « ben venez monsieur », quoi. Je veux dire, il n'y a pas de souci. Et même quand il parle, en général, je veux dire, il n'est pas… Il me regarde aussi quand il explique, il n'est pas sur ma femme à… Voilà. Quand je me sens à côté, il…* - *Interviewer: Il vous intégrait bien dans la discussion ?* - *Papa : Oui, moi, je n'ai pas senti de gêne, question de ça." (Multipara)*
7. **Availability (in case of problems)**	
• To rely on and fall back on	*"Mama: Op een bepaald moment was er eigenlijk iets vreemds te zien op de echo en dan zijn we nog verder onderzoek moeten gaan laten doen in Gasthuisberg. Dat bleek uiteindelijk niets te zijn, maar het is wel fijn dat ge direct iemand hebt waar ge op kunt terugvallen of iemand die dat mee voor u opvolgt en die dat dan kan kaderen bijvoorbeeld.* *- Interviewer: Ja, en wie was dat dan?* *- Mama: Dat was... In eerste instantie was dat natuurlijk de gynaecologe. Dat was zij die het gezien had op de echo, maar ik kon ook terugvallen op de... de... vroedvrouw, sorry, die dat dan zo meer kon kaderen." (Multipara)* *"Maman : C'est vrai qu'elle m'avait donné son numéro et elle m'avait dit : « s'il y a le moindre souci, il ne faut pas hésiter ». Franchement oui, elle nous répétait souvent que s'il y avait la moindre hésitation, il ne fallait pas hésiter à passer un coup de fil et elle nous intercalerait, elle nous verrait s'il y avait le moindre souci, mais on n'a pas eu besoin de le faire."* (Primipara)
8. **Attention for other than medical aspects of pregnancy and parenthood**	
• Be attentive to workload and the practical organisation of postpartum care	*"Ik vond het ook altijd fijn dat er gepolst werd naar kijk, hoe zit het in combinatie met uw werk. Is die balans een beetje oké?" (Multipara)*

6.4.2. Parents' perception of the role and services of midwives

On top of the general expectations outlined in the previous paragraph, parents talked about how they perceived the role of midwives and which services they got or expected from a midwife. More than from a physician, parents expect midwives to take **time** for them. Midwives are perceived as **highly accessible and available**, meaning that parents can call or sms at any time. They perceive midwives as complementary to gynaecologists in the sense that midwives are occupied with all non-medical aspects of pregnancy, more specifically how parents experience pregnancy, their thoughts, doubts, emotions, and worries. This implies that midwives provide individualised tailored care. Parents describe it as a **holistic**, more human approach, as opposite to a more technical, medical approach. This approach also includes that midwives treat the family as a whole, rather than focus on the pregnant woman. Hence, partners are involved to the same degree and treated as a unity. Midwives are called affectionate and with reference to labour, they were characterised as indispensable, extremely supportive and the best painkiller.

Table 24 – Parents' expectations regarding the role of midwives

What parents expect from midwives	
A lot of time and a non-medical approach	*"Respondent: Ja en ik ben daar toen echt wel heel lang geweest, anderhalf uur, dat ging ook heel breed. Enerzijds over het medische, maar ook over brede anamnese. Ik heb daar ook mijn bezorgdheden kunnen legen. Allee, die nam echt heel veel tijd, ik vond dat echt heel positief." (Multipara)*
A holistic approach	*"Dat persoonlijke contact vond ik fantastisch en dat vind ik wel een groot verschil tussen gynaecoloog en vroedvrouw. Dat ge zo... Ja, het is meer dan alleen: Hoe is het met het kindje, alles is oké. Hoe is het met jou, alles is oké. Oké, dan is er geen probleem. Het is ook, ja, hoe voelt ge u erbij en meer naar het emotionele ook dan louter het medische en dat vind ik heel aangenaam. […] Ik vind dat wel fijn dat ze u zo als een geheel bekijken. Ook het gezin als geheel." (Primipara)*
Attention for the experience of pregnancy	*"Mama: Absoluut, absoluut. En ik vind ook dat dat, allee ja, ik heb hier nu aan een aantal mensen al aangeraden. Allee, ik had zo echt het gevoel, het is jammer dat ik daar nu pas echt de meerwaarde van die vroedvrouw prenataal, allé gewoon, een heel traject ontdekt heb. Want die mensen staan toch veel meer stil bij de beleving van uw zwangerschap. Ja, ja dat is gewoon fijn." (Multipara)*
High accessibility and availability	*"Maman: la sage-femme a toujours été disponible, elle pouvait répondre. A titre d'exemple, la visite chez le gynécologue c'est sept minutes dans le cabinet. La visite chez la sage-femme, c'est une heure et demie." (Primipara)* *"Maman : Donc, mais sinon s'il y avait un problème, je pouvais vraiment la [la sage-femme] contacter. Elle, elle était toujours disponible, ça elle me le disait toujours. Que ce soit à 3 heures du matin, elle était toujours disponible par message.* *Interviewer : Et elle répondait ?* *Maman : Ah oui, oui, elle répondait." (Primipara)*
Involvement of the partner	*"Papa : Ah non, elle [la sage-femme] nous prend vraiment… On est deux, deux parents. Je vais dire : on n'a pas la même place que la maman, mais quasiment. C'est vraiment…* *Interviewer: Est-ce que ça, c'est important pour vous ?*

	Papa : Oh oui, c'est important en tant que père. C'est important de trouver nous-même notre place, on va dire, dans le noyau familial. C'est super important aussi de créer des liens avant la naissance de la petite. C'était vraiment important pour moi." (Primipara)
Evokes dialogue between parents	*"Maman: Elle nous a quand même fait comprendre qu'on devait parler entre nous de savoir ce qu'on voulait, etc. Et le fait qu'on ait 50 minutes pour aller, 50 minutes pour revenir, qu'on allait manger au Mc Donald's après. […] Donc voilà, on a beaucoup discuté, etc. Et c'est vrai qu'après avoir autant de temps de route, ben après on avait dans la voiture... on discutait de ce qu'on avait pensé de la visite et tout. Donc, on avait quand même beaucoup discuté entre nous." (Primipara)*
Is affectionate	*"Mama: Ja, wel ik weet, als ik ging kennismaken met mijn vroedvrouw. Dat vond ik echt wel heel, allee, dat was zo een heel warm en een heel hartelijk contact en ik voelde mij daar direct ook goed bij. Ik dacht: waarom heb ik dat daarvoor niet gedaan." (Multipara)*
Is the best painkiller	*"Mama: En ik ben haar daar heel dankbaar voor. Ze heeft mij er ook doorgepraat omdat ik geen epidurale heb genomen. Ook het grappige, maar ik had zo op voorhand gezegd van: Ja, als het kan wil ik graag zonder epidurale verdoving bevallen. Ze had dat heel goed onthouden." (Primipara)*

In terms of services parents referred to antenatal home visits (e.g. to prepare postpartum care), lactation advice and support, preparation of the return home and the postpartum, providing pregnancy and childbirth related information, and birth preparation.

Table 25 – Services parents expected from midwives

	Citation
Antenatal home visits (for example to prepare the postpartum)	*"Mama: Ja, vroedvrouw aan huis heb ik dan ook zelf beslist om ne keer te zien voor de geboorte, dus prenataal. Zij heeft dan eigenlijk de effectieve uitleg gegeven over borstvoeding, omdat ik daar eigenlijk nog niets over gehoord had." (Primipara)*
Provision of lactation advice	*"Mama: Dat er zo niks was. Postnataal dan weer wel zo, we hebben alletwee gesukkeld met die borstvoeding. Moesten we die vroedvrouwen niet gehad hebben, dan zouden we denk ik alletwee heel snel gestopt zijn." (Primipara)*
Preparation of the return home and the postpartum	*"Maman : Sur la fin, elle [la maman de la maman] est venue préparer des choses qu'on a congelées. Parce qu'aussi la sage-femme m'expliquait que les jours qui suivaient, ce serait bien de préparer des choses congelées pour ne pas…* *Papa : Cuisiner…* *Maman : Que le papa fasse à manger, etc. Qu'on soit vraiment tous les trois.* *Interviewer: Donc, vous avez vraiment bien préparé votre période postpartum…* *Papa : Ouais.* *Interviewer: A l'avance ?* *Papa : Exactement, bien à l'avance.* *Interviewer: Et cette préparation, c'est quelque chose que vous avez fait de vous-même ou on vous avait un peu indiqué qu'il fallait?* *Papa : Non nous, on n'en savait rien du tout.* *Maman : Nous, on n'en savait rien.* *Papa : C'est la sage-femme qui nous a vraiment bien aidés, qui nous a tout indiqué. Et d'ailleurs, je la remercie parce que…*

	Maman : Moi aussi. *Papa : Franchement, c'était super, c'était nickel quoi.* *Mama : C'était super.* *Papa : C'est vrai qu'avoir de la lasagne dans le congélateur, c'était très pratique, ça et de la soupe à gogo." (Primipara)*
Provides pregnancy and childbirth related information (e.g. on red flags, healthy diet, antenatal testing)	*"Mama: Ja, da vond ik heel interessant, zo die eerste sessie echt zo privé met die vroedvrouw. Da vond ik heel fijn, want dat was zo heel in het begin en je weet nog zo niet goed wat er u aan het overkomen is. Da heb ik wel vree geappreciеerd. Da was met een vroedvrouw, 1 uur lang die eigenlijk alles uitgelegd heeft, ook nog een keer van wat mag je eten/wat mag je niet eten. Uitleg over al de onderzoeken die nog gingen volgen en zo over de nipt test, over... wat is dat daar allemaal dat je krijgt op het einde? Zo een wisser, de suikertest. Die heeft eigenlijk alles uitgelegd dan. Ook zo wat is er normaal, wat is er niet normaal, wanneer moet je naar het ziekenhuis komen." (Primipara)*
Prepares parents for birth	*"Maman 1 : Ah oui, les rendez-vous, en fait, ils distinguent bien consultation prénatale où là on est en séance individuelle avec la sage-femme, si possible la même. En fait, on a eu une ou deux fois, une différente, mais sinon on a principalement vu une. Et puis, les autres séances, c'est en collectif ou en semi-collectif, de préparation à la naissance, donc avec des thématiques, quoi : l'allaitement, la gestion de la douleur pendant le travail, qu'est-ce qu'il y a ? Le retour à la maison. Et puis, il y en a encore d'autres : le périnée, des choses comme ça, quoi." (Primipara)*

Parents' accounts of midwives were very positive. Inconveniences reported about midwives were about breastfeeding advice being too rigid or midwives providing contradictory information. For example one mother talked about 'breastfeeding mafia'.

6.4.3. Parents' perception of the role of gynaecologists

The gynaecologist fulfils an important role in antenatal care. Appreciation for the gynaecologists work and approach varies between parents, but parents unanimously expect above all **medical expertise**. Moreover they are surprisingly tolerant for inconveniences such as long waiting times. They have a lot of understanding for the workload and time pressure a gynaecologist faces.

Need for reassurance and appreciation for ultrasounds

Parents' consult a gynaecologist mainly to be reassured about the health of their unborn child. They look forward to consultations and especially the ultrasounds. Expectations regarding the frequency of ultrasounds are mixed: some parents expect and appreciate an ultrasound at every consultation. For them the ultrasound and hearing the heartbeat of the foetus is reassuring. Other parents do not need this reassurance and are fine with only a few (2 or 3) ultrasounds in total.

> *"Mama: Ik ben zelf niet zo medisch. Voor mij moest dat niet, die echo altijd, maar zij deed dat wel automatisch."(Primipara)*

> *"Mama: Gelijk zo in het begin, euh, wel. Dan zei ze... Dan had ze het zo uitgelegd: Ja, er zijn drie echo's, euh, die dat ge maar... Of ja, vier met die eerste die ze dan had bijgedaan. Maar ik doe er elke keer één en als ge dat niet wilt, dan moet ge dat nu zeggen en dan... We hebben dat al gezegd: Nee, voor ons is dat niet nodig, want wij vinden dat daar zo er een beetje overgaan en toen zei ze: Oké, da's goed, ik noteer dat. Ze heeft dat dan wel elke keer gedaan. En op die momenten zelf... Ja, ik had altijd keiveel stress, ik dacht van altijd: Misschien is dat fout of misschien is dat fout. Op die momenten zelf heb ik daar eigenlijk nooit iets tegen ingebracht, dus ik had dat misschien wel beter gedaan. Maar ja, ik zat nogal in de stress zo van: Hoe is het met ons kindje? Ja, kei belachelijk, ik weet dat wel, maar, ja nee. Op die momenten had ik daar niks meer over gezegd."(Primipara)*

"Mama: Maar het is wel heel fijn om elke maand een echo te krijgen. Allé da's zowel iets, ik weet dat dat niet nodig is eigenlijk in principe. Want bij mijn eerste zwangerschap deed de gynaecoloog dat niet en was dat zo echt maar de 3 echo's dat standaard zijn. En dus ja dat is wel een luxe om elke maand maar ja, je kijkt daar wel altijd naar uit." (Multipara)

The ultrasound was a very important element in women's pregnancy experience. They experienced it as something to look forward to and as an important source of information regarding the baby's condition.

"Maman : Ben ce qui était positif, c'était le fait d'avoir, chez notre gynécologue en tout cas, on avait à chaque fois des échographies. On avait à chaque fois l'écoute de son cœur, donc ça me rassurait vraiment, chaque fois que je l'entendais.

Interviewer: Est-ce que c'était important pour vous d'avoir une échographie à chaque fois ?

Maman : Pour moi, oui. J'ai eu le cas… L'écho d'autres amies qui elles, n'avaient pas d'échographie à chaque fois, qui se sont retrouvées pratiquement à l'accouchement avec deux échographies et ça m'a un peu interpellée parce que moi, j'attendais justement, quand j'avais le rendez-vous, j'attendais d'avoir ces échographies, sachant que j'allais les avoir. Et j'en ai eu beaucoup en tout cas avec ma gynécologue. Et le cœur aussi, le fait d'entendre son cœur battre, c'est ce qui me rassurait le plus." (Primipara)

Also regarding the morphological ultrasounds done by their own or another more specialised gynaecologist, accounts are rather mixed: some parents found it very useful to have someone else looking at the foetus with a fresh pair of eyes, while others preferred the continuity of their own gynaecologist.

"Mama: Ja, die laat altijd de structurele echo door een andere gynaecoloog doen. Hetzelfde ziekenhuis wel. In Mechelen.

Interviewer: En waarom, waarom laten ze dat doen?

Mama: ik vind dat fijn dat er nog een keer een collega meekijkt. Iemand die echt gespecialiseerd is in de structurele echo's. [...] Ja een geruststelling; Nog een redelijk jonge gynaecoloog, allee, mijn leeftijd. Maar zowel bij ons Nore als nu deden ze dat nog altijd. Hé schat? Dus op 20 weken was het dan een andere gynaecoloog en dan ja, hebben wij toch bijna elke keer een echo gekregen. Op 24 weken, 28 weken, 32 weken en ja dan op het einde ook om de ligging te bepalen. Wij zijn echt zo om de 4 weken en dan op het einde was dat denk ik om de week zeker." (Multipara)

"Maman : Pendant le premier trimestre, la deuxième gynécologue, je ne l'ai vue qu'une fois. Puis, j'ai eu une de ses consœurs pour l'échographie morphologique, parce que elle, elle ne le faisait pas, il fallait aller à l'hôpital. […] Donc, là j'ai vu une de ses consœurs. Qui a été vraiment super chouette pendant l'échographie morphologique, elle nous parlait, parce que les gynécologues ne parlent pas, alors on ne sait pas ce qu'il se passe. On voit juste, voilà, juste voilà. Elle, elle nous parlait. Elle nous disait : « voilà, là on voit le fémur. Là on voit sa petite tête ». Et elle rigolait en même temps, alors j'ai trouvé que vraiment elle était chouette." (Primipara)

Ultrasounds were sometimes preceded by oral or written instructions which made some parents expect an uncomfortable encounter.

"Maman : C'est la première gynécologue qui me l'avait donné, disant : « au moment où vous aller faire l'échographie morphologique, ce sera à telle semaine » voilà les consignes. Et alors les consignes c'était : « il ne faut pas trop poser de questions parce que le gynécologue est très concentré et il vous expliquera en détails, etc.,[…] il faut venir maximum à deux personnes, ne pas poser de questions parce que le gynécologue doit rester concentré, s'il y a quelque chose, c'est lui qui vous expliquera, que l'échographie morphologique durait plus longtemps, donc que la consultation durait plus longtemps, une trentaine de minutes ». Vraiment tout le papier, ils expliquaient tout ça. Donc, tu es là : « d'accord », ça nous met déjà…voilà, un petit peu. On voit déjà qu'est-ce qu'il en sera. Et au final…

Interviewer : Ça ne s'est pas passé comme ça ?

Maman : Elle était hyper sympa et elle nous expliquait tout. Donc ça c'était vraiment bien." (Primipara)

Appreciation for gynaecologists who take time to answer parents' questions

Parents had plenty of questions during pregnancy. Often they prepared a list of questions in advance. It was very much appreciated if a gynaecologist was open to questions and takes time to listen and answer. An appreciated gynaecologist showed medical expertise and professionalism, and was sensitive for parents' worries and needs.

"Mama: Nee, want ik weet dat er ook altijd heel expliciet tijd werd gemaakt, bij elke consultatie trouwens, om te vragen of ik zelf nog vragen had daarover. Bij de gynaecoloog daarna trouwens ook hoor, daar moest je wat meer voor uitgaan natuurlijk. Dat was dan het verschil, bij de vroedvrouw had je het gevoel dat die wat meer tijd voor u kon maken, maar ook bij de gynaecoloog had ik het gevoel dat die wel echt tijd nam om te polsen van is het oké met u, hebt ge nog vragen, ... Het was zo niet het evidente van: ah ja, het is een derde kind, dus je weet al alles."(Multipara)

More than a medical check-up

Parents were sensitive to the way their gynaecologist approached them. They appreciated gynaecologists who have a rather holistic approach, were interested how things were going, and with whom they could build a trusting relationship.

The comparison between gynaecologists and midwives

Parents compared the role of gynaecologists and midwives in their explanations. Primiparae felt disappointed about the time their gynaecologist took for a consultation. They expected information on labour and delivery, while multiparae had put aside this expectation.

"Mama: Ik heb zelf zo wel een boek gelezen daarover: wat kan er gebeuren en welk soort weeën, enzoverder. Daar vond ik dat we zeer weinig info over gekregen hebben. Ik had dan verwacht bij dat laatste consult bij de gynaecoloog, dan ga je op het einde zo om de 2 weken zo. Dan had ik wel verwacht dat er wel meer zo een keer ging komen van 'En? Bevallen, wat wil je? Ga je epidurale nemen of niet?' Maar dat is gelijk nooit echt ter sprake gekomen." (Primipara)

"Mama: Allee, dan vroeg ik om nog een keer langs te komen om echt me voor te bereiden op de bevalling want een gynaecoloog heeft daar toch niet echt tijd voor." (Multipara)

"Mama: Ja, maar ik denk dat wij ook meer onze vragen dan meer naar de vroedvrouw of de verpleegster richtten en minder naar de gynaecoloog. Dat de gynaecoloog meer echt voor te checken is, is alles oké, maar niet om daar vrij lang te palaveren en veel uitleg te vragen enzo." (Primipara)

In what follows we listed what parents appreciated most in the care they received from their gynaecologist.

Table 26 – Parents' expectations regarding the role of gynaecologists

What parents expect from gynaecologists	
Makes time	*"Mama: Zij [de gynaecoloog] is heel direct, maar ze zegt het ook op een fatsoenlijke manier. Maar wij weten gewoon graag waar wij aan toe zijn." (Primipara)*
Answers parents questions	"*Maman : C'est quelqu'un de très ouvert, très humble, et très à l'écoute et qui prend le temps d'expliquer les choses, qui n'impose rien. Il a été très cool en fait." (Multipara)*
Is accessible	*"Maman : Mais c'est vrai que j'ai eu une grossesse facile et puis je ne suis pas quelqu'un de spécialement stressé. Donc les questions que j'avais, je lui posais aux rendez-vous et je n'ai pas eu de questions entre. Et mais sinon, c'est vrai qu'elle m'avait donné son numéro et elle m'avait dit : « s'il y a le moindre souci, il ne faut pas hésiter ». Franchement oui, elle nous répétait souvent que s'il y avait la moindre hésitation, il ne fallait pas hésiter à passer un coup de fil et elle nous intercalerait, elle nous verrait s'il y avait le moindre souci, mais on n'a pas eu besoin de le faire." (Primipara)*
Provides information and anticipates parents' questions	*"Maman : On en avait avec mon mari, mais ce n'était pas non plus une liste de questions.* *Interviewer : Oui, vous ne prépariez pas à l'avance, ça venait naturellement pendant la consultation ?* *Maman : Oui, voilà plus tard. Et notre gynécologue est très… Comment est-ce que je pourrais dire ? Elle parle beaucoup, mais dans le bon sens. Elle explique beaucoup de choses, donc on n'avait même pas besoin de lui poser la plupart des questions parce qu'elle avait déjà répondu de toute manière en nous expliquant les choses." (Primipara)*
Provides information on red flags	*"Maman : Oui, c'est vrai qu'elle m'a dit… voilà elle m'a expliqué : « faites attention, si vous avez de l'hypertension, trouble de la vue, nausée, etc., si vous perdez du sang, des contractions qui sont continues, des pertes des eaux. Oui, elle nous a vraiment sensibilisés sur les différents signes. Si jamais on a ça, il ne faut pas hésiter à passer un coup de fil ou même venir directement aux urgences." (Primipara)*
Puts things into perspective	*"Interviewer: Ja, en hoe... Had je het gevoel dat je daar goed opgevangen werd met een miskraam? Want dat is toch ook niet evident om...Mama: Ja, ja, ja, allé maar dat is natuurlijk ook... de gynaecoloog checkt dan medisch en oké ja, ge moogt terug zwanger worden en... Allé die had zo wel iets van: oei ja, da's niet tof. Maar... ja die hielp ook wel met het relativeren, 1 op 5, 1 op 6 van de zwangerschappen loopt... allé mondt uit in een miskraam". (Multipara)*
Anticipates the next consultation and plans ahead	*"Respondent: Dus, altijd op het einde van de consultatie zeiden ze: We zien u dan graag de volgende keer terug. En dan zei ze ook altijd: Volgende keer gaan we dat, dat en dat doen. Dus dat vond ik ook altijd wel heel fijn. En als ze er dan was, dan was ze ook. We kwamen dan binnen en het eerste wat ze altijd vroeg is: En hoe gaat het?" (Primipara)*

6.4.4. Parents' perception of the role of hospitals

In our interviews the following roles of hospitals have been mentioned.

Hospitals:

- Host gynaecologist consultations
- Host midwife consultations
- Organise visits of the maternity service
- Organise information sessions and workshops
- Provide a hotline in case of problems
- Have an emergency department in case of problems
- Have an integrated birth clinic
- Allow independent midwives to attend labour and delivery within the hospital
- Receives pregnant women suffering from pregnancy complications.

6.4.5. Parents' perception of the role of GPs

Although GPs are not the central healthcare professional for the follow-up of pregnancy, they do have a multitude of roles to play regarding preconception, pregnancy and the postpartum.

Confirmation of pregnancy

The GP is often the first healthcare professional women consult when they suspect they are pregnant. They consult the GP to confirm pregnancy.

Not reassuring

When the pregnancy is confirmed, women are mostly referred to a gynaecologist, although we also encountered antenatal care trajectories in which gynaecologist and GP consultation alternated or one or two GP consultations were foreseen, replacing a gynaecologist consultation. Parents decided themselves who they consult. A motivation we have heard not to consult the GP is that GPs do not do ultrasounds and parents did not feel reassured when leaving the consultation room.

> *"Mama: Bij de huisarts doen ze eigenlijk echt alleen uw gewicht, uw bloeddruk en dan kijken ze uw urine na. Dat is eigenlijk het enige. En dan weet je eigenlijk niet of het met uw kindje goed is, in principe wel maar je weet dat dan niet en bij de gynaecoloog heb je dat dan nog eens gehoord en dan [heb je] weer een goed gevoel van 'ah alles is in orde'." (Multipara)*

Women do not seem to expect a follow-up from their GP.

> *"Et donc le point de vue positif, ben du généraliste, il a fait son boulot, j'ai envie de dire. Peut-être que point de vue négatif, peut-être que c'est son devoir de dire : « voilà, c'est quand-même ma patiente ». Mais il remet ça dans les mains du gynécologue. Je pense.*
>
> *Interviewer : Oui, il savait que vous alliez voir un gynécologue.*
>
> *Maman : Oui voilà, oui. Ou même en tout cas des sages-femmes, quoi. Voilà, il délègue un peu son… Oui voilà, ce n'est pas son job non plus." (Primipara)*

Preconception care

Once women decided they want to become pregnant, they are in search for information, e.g. on fertility. The GP can be a source of information at that point, although they were not often mentioned in our interview round.

> *"Mama: Niemand had zo gezegd van ja: Als ge stopt met uw pil, dan kan dat zolang duren voordat uw regels terugkomen of ge zijt daarom niet zwanger enzo. (…) Maar ja, dat duurde en dat bleef duren en ik was dan naar de huisarts gegaan en die lachte... Allé, niet lachen, maar zo van: Ja en dit en dat, ge zijt nog maar één maand bezig, terwijl ge wel een kindje wilt krijgen. Dat vond ik toen wel erg. Ze hadden dan bloed genomen en ze zeiden: Ja, tijdelijk na de twee keer dat ik daar geweest was, hadden ze gezien dat*

dat hormoon... dat dat gewoon ontregeld was om het zo te zeggen. En toen ja, was het eigenlijk van: Ah ja, wacht maar en dan dacht ik: Ja, daar hadden ze me misschien wel verder in kunnen begeleiden of iets kunnen zeggen, want, ja, dat wist ik echt niet." (Primipara)

Some women expressed the intention to become pregnant during GP consultation. At that time GPs can take the opportunity to provide information about healthy life style, prescribe folic acid and refer to a gynaecologist or midwife for further follow-up.

"Interviewer: En had je er op voorhand met je... de gynaecoloog bijvoorbeeld over gesproken?

Mama: Nee, met de huisarts. Want ik ben wel op voorhand naar daar gegaan en ik had dan gezegd: Kijk, we willen zwanger worden. Ik geloof dat ik nog twee strips had, die ging ik normaal uitnemen, maar ik wou dan wel, dat ze bloed trok om te kijken hoe dat mijn vitaminewaardes enzo op voorhand al waren.

Interviewer: CMV enzo.

Mama: Ja, die dingen. Dus die had ze dan wel al gedaan en dan ook een voorschrift meegegeven... Of nee, gewoon gezegd voor foliumzuur en van die dingen." (Primipara)

Point of contact in case of worries or health problems during pregnancy

The GP is the first point of contact in case of health problems. This is also the case during pregnancy, although some women might switch to a gynaecologist for common health problems during pregnancy.

"Mama: Dus, daardoor dat ik zoiets heb van, nee. Moest er echt iets zijn, dat ik dan eerder naar de huisarts of naar de vroedvrouw zou bellen en die zouden dan wel doorverwijzen hé." (Multipara)

Plays a role in the choice of gynaecologist

GPs are gatekeepers, hence also fulfil a role in the choice of gynaecologist. Some women reported having asked their GP which gynaecologist he/she could recommend.

"Mama: Maar ja, […] ik was nog nooit bij een gynaecoloog geweest. Dus ja, je kiest die dan een beetje op basis van... Allé, ik had toen... de huisarts waar we toen gingen die had dan gezegd: ik ga bij die gynaecoloog, ik ben daar wel content van. Daar vertrouw je dan wel wat op. Zo zijn we daar dan terechtgekomen." (Mulipara)

Women visited their GP for tests such as the glucose test or blood samples.

6.4.6. Parents' perception of the role of physiotherapists

Most of our interviewees (n=15) had one or more physiotherapist consultations during pregnancy. Reasons for this consultation were birth preparation (e.g. learning about the physical process of birth, breathing techniques, and birthing positions) or pain complaints (e.g. back pain). In case of complaints, women were referred to a physiotherapist, but for birth preparation, it was mainly on their own initiative. Women told us the techniques acquired during birth preparation sessions turned out to be very useful during labour and birth.

In addition osteopaths were also consulted to solve problems such as to help the baby take the right birthing position.

6.4.7. *Parents' perception of the role of psychological support*

Interviewees talked about the need for psychological support before and during pregnancy. Although we are talking about small numbers of interviewees, it is remarkable that for those who had psychological support during pregnancy, it was the continuation of an existing trajectory. We did not encounter mothers who started consulting during pregnancy. However, we did encounter mothers who missed psychological support during pregnancy and just before pregnancy, for example in case of fertility problems.

Psychological support is not limited to psychologists, women also found this support in midwife consultations. For example one interviewee witnessed that her fear of delivery has been neutralised by the empowering support of a midwife.

Key messages

- **In general parents expected from healthcare professionals reassurance, answers to their questions, a neutral stance, sensitivity and empathy, realistisc expectations, empowerment and involvement, availability, and attention for other than medical aspects of pregnancy and parenthood.**
- **More than from a physician, parents expect midwives to take time for them. Midwives are perceived as highly accessible and available, meaning that parents can call or sms at any time. They perceive midwives as complementary to gynaecologists in the sense that midwives are occupied with all non-medical aspects of pregnancy, more specifically how parents experience pregnancy, their thoughts, doubts, emotions, and worries. This implies that midwives provide individualised tailored care. Parents describe it as a holistic, more human approach, as opposite to a more technical, medical approach.**
- **Parents' consult a gynaecologist mainly to be reassured about the health of their unborn child. Ultrasounds are very much appreciated. Parents also valued a holistic approach and want to build a trusting relationship with their gynaecologist. It was very much appreciated if a gynaecologist was open to questions and takes time to listen and answer. Primiparae felt disappointed about the time their gynaecologist took for a consultation and the lack of information on labour and delivery.**
- **GPs have a distinctive role in antenatal care. Parents consulted a GP to confirm pregnancy, to be reassured, to find answers to their many questions, also preconceptionally. GPs fulfil a role in the choice of a gynaecologist, as well as some antenatal tests, such as glucose test or tracing CMV. GPs are often the first point of contact in case of worries or health problems during pregnancy.**
- **Reasons to consult a physiotherapist were birth preparation and pregnancy related pain complaints.**
- **Psychological support before and during pregnancy is of crucial importance but gets insufficient attention.**

6.5. Parents' choice of care provider

First of all, we note that in our small sample, we encountered several women who did not have a regular gynaecologist or did never see a gynaecologist before they were pregnant.

> *"Mama: ik was nog nooit bij ne gynaecoloog geweest. Dus ja, je kiest die dan een beetje op basis van de huisarts waar we toen gingen die had dan gezegd: ik ga bij die gynaecoloog, ik ben daar wel content van. Daar vertrouw je dan wel wat op. Zo zijn we daar dan terechtgekomen." (Multipara)*

When searching for a gynaecologist, several strategies were used:

- GP's referral or advice
- Positive feedback from peers

- Consult several gynaecologists before or during pregnancy and make a choice based on the best experience
- Choose a hospital and book the first available gynaecologist

6.5.1. Choice of type of healthcare professional

Among our interviewees we had a mix of couples consulting only a gynecologist, consulting only a midwife except for one or more ultrasounds, and alternating gynecologist and midwife consultations for the clinical follow-up. Apart from the clinical follow-up, we also met couples who followed some birth preparation sessions with an independent midwife or midwifery practice, but this paragraph concentrates on the clinical follow-up.

For those who consulted a gynecologist as main healthcare professional for pregnancy follow-up, this is a self-evident step to take once they discovered being pregnant. Their reflection focused on which specific gynecologist within which hospital, not about the kind of trajectory or type of healthcare professional.

For couples who consulted a midwife during pregnancy (whether or not in alternation with a gynaecologist) this seemed to be a deliberate choice. The reasons were the need for a less technical approach, a positive previous experience or a positive experience of someone in their network. Typically, a midwife was contacted only for the second or third child because couples learned about the existence and services of midwives during or after a first pregnancy. In addition, we heard couples express their regret not having discovered midwifery services earlier.

> *"Interviewer : Donc quand vous repensez en général à tout votre parcours de prénatal, quel est votre sentiment par rapport à ça? Vous trouvez que vous êtes plutôt contents? Vous avez eu des déceptions?*
>
> *Maman: Non. De ne pas avoir vu la sage-femme plus tôt. C'est tout.*
>
> *Interviewer : Et pourquoi vous auriez voulu la voir plus tôt?*
>
> *Maman: Ben en fait parce qu'elle nous a vraiment beaucoup apporté et quand on allait voir la gynécologue j'avais chaque fois une échographie donc, c'est que de le [le bébé] voir… Mais, je trouvais qu'à partir du mois de mai, après quand on le voyait c'était toujours la même chose au fait. Mais après qu'il avait formé… Oui, les échographies c'est mignon mais c'est toujours le même en fait.*
>
> *Papa: Oui.*
>
> *Maman : […] Avec la sage-femme, il n'y avait pas d'échographie, mais on entendait son cœur qui battait. Mais [le papa] réagissait, il y avait plus d'interactions. Elle l'a senti, elle a regardé. Au mois de juillet, il avait déjà la tête en bas donc elle a palpé, elle a touché, etc. Et elle a vraiment mis ses mains sur mon ventre et elle sentait sa tête, elle m'a fait sentir moi et elle a fait sentir [le papa] alors que ça chez la gynécologue... Oui, [le papa] était là, il voyait mais bon.*
>
> *Papa: Ouais, ce n'était pas. C'est vrai qu'il y avait ce côté, il y avait le toucher en plus.*
>
> *Maman: Oui. Elle le faisait sentir et tout.*
>
> *Papa: Il y avait plus d'interactions." (Primipara)*
>
> *"Mama: En ik vind ook dat dat, allee ja, ik heb het hier nu al aan een aantal mensen aangeraden. Allee, ik had zo echt het gevoel, het is jammer dat ik daar nu pas echt de meerwaarde van die vroedvrouw prenataal, allé gewoon, een heel traject ontdekt heb. Want die mensen staan toch veel meer stil bij de beleving van uw zwangerschap." (Multipara)*
>
> *"Interviewer: Quel est votre sentiment par rapport à votre parcours en général ?*
>
> *Maman : Mon sentiment par rapport à mon parcours en général, je pense qu'on n'est pas assez informé sur les sages-femmes. Parce que si j'avais été informée dès le départ, même depuis l'adolescence, si on m'en avait parlé au sein de la famille, etc. Je me serais directement tournée vers une sage-femme." (Primipara)*

The clinical follow-up of gynecologists was especially appreciated for the possibility to have an ultrasound at each consultation and because couples experienced the gynecologist as reassuring.

"Maar het is wel heel fijn om elke maand een echo te krijgen. Allé da's zowel iets, ik weet dat dat niet nodig is eigenlijk in principe. Want bij mijn eerste zwangerschap deed de gynaecoloog dat niet en was dat zo echt maar de 3 echo's dat standaard zijn. En dus ja dat is wel een luxe om elke maand maar ja, je kijkt daar wel altijd naar uit." (Multipara)

"Papa : Tu vois, moi, j'aime bien quand-même qu'il y ait le gynéco. Je vais dire…

Maman : Moi aussi.

Papa : C'est quand-même des… Je veux dire, il y a… Chacun son métier. Ils font très bien leur boulot. Même pour l'accouchement. Techniquement le gynécologue, on l'a vu 5 minutes. Il est arrivé « c'est bon », tout était fait, il a refait ce qu'il devait. C'est plus avec la sage-femme… qui font très bien leur boulot, mais c'est vrai que je pense c'est quand-même plus rassurant un…

Maman : Et même, c'est ton médecin, c'est lui qui te suit.

Papa : Oui, voilà.

Maman : Allez, il te connait.

Papa : Il te connait, ben." (Primipara)

Alternating gynaecologist and midwife consultations allowed parents to compare both approaches. They emphasised the complementarity of both roles. Both were valued.

"Maman : Ben non, en prénatal non. Non, je trouve que ce qui est le plus important pour moi, c'est l'information, rassurer le patient. Parce que surtout pour le premier enfant, c'est l'inconnu. Et c'est chouette d'avoir un service qui prend le temps, que ce soit au niveau des gynécologues ou des sages-femmes, que chacun explique sa partie. Il y a la partie médicale, tout ce qui est santé du bébé et il y a l'autre : accompagnement dans le travail. Chacun son rôle qui est tout aussi important, qui est bien scindé.

Interviewer : Vous avez vraiment trouvé qu'il y a une scission, que ce n'est pas le même métier ? Vous avez bien trouvé la différence entre…

Maman : Oui, chacun avait son rôle qui était vraiment important et un dans l'accompagnement, même si la gynécologue nous a quand même accompagnés…

Papa : En fait, le travail du gynécologue, c'est plus d'être factuel et il y a plus un côté social dans le travail de la sage-femme, j'ai envie de dire.

Maman : C'est plus un accompagnement, avec une sage-femme.

Papa : Oui, oui.

Maman : C'est vraiment l'accompagnement, plus que faire naitre l'enfant ou de nous donner tous les points de vue techniques, les bilans sanguins, les examens, etc., donc il y a vraiment deux rôles scindés qui sont tous les deux très importants.

Papa : Parce que là, tout s'est bien passé. Et même l'accouchement en tant que tel s'est très bien passé.

Maman : Oui.

Papa : Maintenant, quand il y a la moindre… le moindre problème au niveau de l'accouchement, je pense que c'est quand même aussi beaucoup plus rassurant pour les parents d'avoir un gynécologue qui est là et qui sait les gestes qu'il doit faire ou quoi, comment réagir si jamais le cordon est autour du cou ou si la tête ne passe pas ou…

Maman : Oui, c'est important d'avoir les deux acteurs qui ont chacun leur rôle, mais qui sont tous les deux présents." (Primipara)

"Mama: Maar ja, da's zo... De bezoekjes aan de gynaecoloog waren zo meer van: Oké de... de medische kant en het moet een beetje zelfs...

Mama: ...en de bezoekjes bij de vroedvrouw, dat was iets om naar uit te kijken." (primipara)

6.5.2. Choice of a specific healthcare professional

6.5.2.1. Elements important in the choice of a specific gynaecologist

The choice of an individual gynaecologist was based on a wide range of elements: habit, trust, familiarity, appreciation of certain (personality) characteristics (e.g. correct, soft character, no-nonsense, gender), recommended by peers or GP, coincidence, a nice match, feeling at ease, availability, the hospital and proximity.

Table 27 – Criteria playing a role in the choice of a specific gynaecologist

Criterion	Words used to express the criterion
Habit	'C'est ma gynécologue que je vois depuis toujours tellement je l'adore.' ; 'C'était ma gynécologue.'
Trust, familiarity	'Je la connaissais.'
Appreciation of a certain characteristic	'Il me semble correct' ; 'Elle est très douce.'
Recommended by peers or GP	'On m'a déjà dit beaucoup de bien autour d'elle' ; 'On m'a recommandé le docteur [Name of the doctor]'; 'Gewoon aan de huisarts gevraagd.' ; 'Vrienden waren heel lovend over [Name gynaecologist].' ; 'Na rondvraag bij vriendinnen.'; 'Het was een beetje op aanraden van de buurvrouw.'
Coincidence	'Par hasard.'
A nice match, feeling at ease	'J'ai un bon ressenti avec elle.' ; 'Het klikte direct.' ; 'On l'aime beaucoup tous les deux.'
Availability	'Degene die het meeste plaats had of het eerste kon helpen.'
In function of a hospital	'Dan hebben we eigenlijk een gynaecoloog gezocht hier in het ziekenhuis.'
Proximity	'Quelqu'un ici qui est tout près.' ; 'Nabijheid op de eerste plaats.'

Also someone mentioned that she looked for a gynaecologist who was ready to accept alternating consultations with a midwife. Finally, we observed that several interviewees choose first the hospital where they would like to give birth and looked for a gynaecologist who took consultations and attended deliveries in that particular hospital.

6.5.2.2. Elements important in the choice of a specific midwife

Women choose a specific midwife mostly because peers recommended her. It's mainly word of mouth. Others got a list of midwives at hospital, contacted someone for postpartum care and re-contacted the same person for antenatal care during the next pregnancy. Choices are made in function of proximity and midwives' expertise (e.g. lactation).

Key messages

- **In general, parents searched for reassurance and answers to their many questions. They appreciated empathic professionals who were sensitive to their needs and preferences, who were available and highly accessible, and who were attentive to other than medical aspects of the pregnancy. They valued neutrality and objective information. Parents wanted to be involved and empowered in their new role.**
- **Elements in the choice of the type of healthcare professional were access to ultrasounds, positive or negative previous experiences, or peer recommendations. Choice for a gynaecologist as main care provider appeared as mainstream and self-evident. A midwife however seemed a deliberate choice mainly in function of a quest for a less technical approach.**

- **Parents choose a specific healthcare professional by means of the following strategies: referral by a GP, positive feedback from peers, medical shopping, or in function of a certain hospital.**
- **Elements in the choice of a specific healthcare professional were habit, trust, familiarity, appreciation of a certain (personality) characteristic, recommendations of GP or peers, coincidence, feeling at ease, availability, proximity, and the link to a hospital.**

6.6. Parents' perceptions of the organisation of antenatal care

6.6.1. The duration of a consultation

We observed that:

1. the topic was more frequently addressed in interviews with primiparae
2. the duration of a consultation varied between 7 and 60 minutes (as mentioned).
3. the duration of a consultation was judged short compared to the time spent in the waiting room.

   "Mama: Dat was toch meestal wel redelijk snel. Ik denk dat we na een kwartiertje buiten waren.

   Papa: Ja een kwartiertje zeker ja. Als je dan nog bij die secretaresse zit voor af te rekenen, dan bij de dokter zelf, ja, u uitkleden en onder da ding.

   Mama: Direct uitkleden, efkes vragen hoe het is. Vertelt wat er aan de hand is of wat je voor hebt of wat er is, of niks. Ja, uitkleden, echootje, weer aankleden en eigenlijk kort nog wat dat schriftje of iets vragen. Redelijk snel eigenlijk ging zo'n consultatie, allez voor de tijd dat je moet wachten." (Primipara)

4. primiparae expected to spend more time in the consultation room, while multiparae already adapted their expectations.

   "Mama: Maar ik denk dat we daar alle twee wel in het begin van verschoten waren da je daar eigenlijk maar een kwartier binnen zit. Ik denk da we in het begin dachten dat gaat met vrij veel toeters en bellen en dingen zijn, eigenlijk is het gewoon hop, alles is goed, voila, alles is goed dus je mag terug naar huis. Maar ja, da's normaal hé." (Primipara)

5. the same duration may be experienced too short by some and adequate by others.

   "Normaal gaat mijn man nooit mee bij de gynaecoloog en nu was hij mee en ik ben daar echt tien minuten binnen en buiten geweest en toen heeft hij gezegd: Ik doe dat nooit meer. Die was zo onvriendelijk, maar was dat nu een momentopname omdat het zo druk was, ik heb die ook maar ene keer gezien. Nee, dat was echt... dat was geen goede ervaring. Ik kwam binnen in zijn praktijk, ik was er nog nooit geweest dus ik wist ook niet waar kan ik mij gaan omkleden of wat moet ik doen. En dat was: Ja, legt u dan daar maar op die tafel, maar ja, ik wist niet goed, ja, moet ik mijn broek nog uitdoen of moet ik dat niet uitdoen. Dus dat was heel raar. Dat moest allemaal zo heel rap rap gaan en voordat ik het wist: ik lag nog op die tafel, ik was nog niet omgekleed of hij zat al aan zijn bureau en had hij al gezegd hoeveel ik hem moest betalen. En dan, ik dacht zo van: Wat? En hij had mij niet eens de foto's meegegeven van de echo, dus hij was heel erg gehaast, ik weet het niet. Was dat nu gewoon omdat dat druk was op dat moment, maar dat was een negatieve ervaring." (Multipara)

   "Maman : ben c'est vrai que c'est fort court. Maintenant, elle fait ce qu'elle doit faire. On ne sait pas faire grand-chose de plus. C'est vrai que nous, ça nous paraissait fort court, mais elle prenait toujours le temps de faire une échographie, d'écouter les battements du cœur, de m'examiner. Donc ce qu'il fallait faire était fait. Mais c'est vrai que oui, ça ne prend pas trois heures. Nous, on voudrait bien voir notre bébé trois heures, mais on se doute que ce n'est pas possible, qu'il y a d'autres personnes aussi autour et que… " (Primipara)

"Maman: Franchement, j'étais satisfaite sauf que j'avais l'impression qu'elle est très "vite faite" quoi, on dirait qu'elle veut aller plus vite, allez suivante, quoi. Et elle ne prenait pas la peine de me demander et m'expliquer. J'avais l'impression que c'était tac, tac, tac, tac, tac, tac. Peut-être que c'est sa manière de travailler. " (Multipara)

6. some reported that they needed more consultation time

"Maman: la sage-femme a toujours été disponible, elle pouvait répondre. A titre d'exemple, la visite chez le gynécologue c'est sept minutes dans le cabinet. La visite chez la sage-femme, c'est une heure et demie.

Interviewer: Oui, sept minutes?

Maman: Oui. Le temps de se déshabiller et de se rhabiller, c'est compris dans les sept minutes.

Interviewer: Ah oui, ok. Ok, c'était rapide.

Papa: Donc, oui, il vous dit tout est normal, à la prochaine fois.

Maman: Oui, ça a toujours été comme ça, même les visites avant d'être enceinte. Donc, je le connaissais, je savais qu'il était comme ça mais là, j'avais besoin de plus. C'est peut-être un peu dur vis-à-vis de lui, mais j'estime qu'il aurait dû ressentir un besoin de ma part car, j'étais demandeuse et je n'ai pas…

Interviewer: Il n'y a pas eu de réponse de sa part.

Maman: Non." (Primipara)

6.6.2. The number of consultations and in advance planning

Interviewees usually reported one consultation each month, except for the last month. Then consultations were planned every two weeks or even on a weekly basis. This frequency was generally experienced as adequate. Someone mentioned it might have been more frequent in the first trimester and less frequent in the last trimester because then she was reassured by foetal movements. A reassurance she did not have in the first trimester.

Some parents appreciated the in advance planning of consultations. This way they could plan other activities such as work around them. Others did not have this advance planning and explained that their gynaecologist spread consultations in function of their needs.

"Maman : Oui et c'est vrai que moi, je trouve ça bien de programmer à l'avance parce qu'avec le travail c'est pas évident. Donc moi, j'étais très contente que tout soit programmé dès le début. Elle nous avait expliqué que sur la fin de grossesse, à partir du moment où le bébé vient, c'est bien de faire des monitorings, voilà des rendez-vous un peu plus rapprochés. On ne s'est pas posé de questions." (Primipara)

"Maman : ben en fait, ce n'était pas prévu forcément à chaque fois qu'on se voyait, en fonction de la situation et de comment ça évoluait, elle me donnait le rendez-vous d'après avec un délai qu'elle fixait à ce moment-là.

Interviewer : Ah oui, donc elle n'a pas tout donné à l'avance.

Maman : Non, elle n'a pas tout donné à l'avance. C'était si ça allait bien, là on peut attendre 5 semaines, « oui ici je voudrais vous voir avant », ou des trucs comme ça. Ça veut dire qu'elle regardait en fonction de mon état de santé et comme ma grossesse s'est très bien passée, ben, c'était 5-6 semaines, il ne fallait pas rapprocher les visites. Et donc voilà, moi, j'étais assez rassurée, ce n'était pas tous les mois alors que je me sentais inquiète. C'était bien et voilà, si ça devait s'accélérer parce que ça n'allait pas, elle m'aurait donné un rendez-vous plus tôt.

Interviewer : Donc ça vous rassurait plutôt qu'elle ne vous donne pas de rendez-vous ?

Maman : Oui, ça allait très bien, donc de toute façon elle m'expliquait comment ça allait. Et c'est très bien et six semaines, c'est amplement suffisant pour se revoir. " (Primipara)

Key messages

- **We observed a large variation in consultation time among gynaecologists, and a large difference in consultation time between gynaecologists and midwives**
- **The number of consultations was generally one each month with an intensification of the follow-up towards the end of pregnancy.**

6.7. Parents' experiences with preconception care

Throughout parents' statements preconception has been used in two meanings:

- Stricto sensu: the weeks and months before conception, hence from the decision to conceive until conception
- Lato sensu: also the time before the decision to conceive is included.

Need for reassurance

Women reported a need to be reassured in the months before conception. They felt unsure especially when getting pregnant took more time than expected, when they misconceived or when they thought they were pregnant but in fact their period was not yet regular after a long period of taking birth control pills.

Our interviewees often mentioned feeling uncertain in the time window between taking the decision to become pregnant and actually being pregnant. They had plenty of questions, but experienced difficulties in finding satisfying and consistent answers.

> *"Mama: Het heeft heel lang geduurd voordat mijn maandstonden terug gestart zijn. Dan had ik ook een hele lange cyclus, ik peins 45 dagen of zo, dus allee dat was wel zo een beetje: is da normaal of niet.*
>
> *Da's toch iets waarvoor je niet naar de gynaecoloog dan direct stapt. Vind ik. Dus dan zelf wat informatie opgezocht op internet. Een app installeren enzo.*
>
> *Maar dat vond ik zelf wat moeilijk. Ook omdat dat, ja je verkondigd dat niet aan heel de wereld dat je aan het proberen bent, dus je kunt het niet vragen aan zussen of vriendinnen die het al meegemaakt hebben. Dus dat is zowel een beetje de eerste periode zowat zoeken, zijn we hier wel goed bezig." (Primipara)*

"I did not know anything about pregnancy or delivery before being pregnant"

A striking observation was that quite some women in our sample said they didn't know anything about fertility and pregnancy before they started trying to get pregnant.

> *"Mama: Voordat ik de eerste keer zwanger was wist ik daar eigenlijk niets van. Dus ja, toen dat ik ontdekte dat ik zwanger was ging ik gewoon bij mijn gynaecoloog gelijk dat denk ik de meeste vrouwen doen. Informatie had ik, ja, van internet of vroeg ik aan haar [de gynaecoloog]" (Multipara)*

Reticence to consult in function of getting pregnant

We observed reticence to consult in function of getting pregnant. Our interviewees believed that the need for information on fertility is not a reason to consult. Women who had their intra-uterine device removed took the opportunity to ask fertility related questions, women received some information when they mentioned their wish to get pregnant during a routine consultation, or women consulted a GP to have a general check-up before getting pregnant or because they worried about not being able to conceive.

Preconception consultations evaluated as insufficient or dissatisfying

A preconception consultation mostly consisted of a blood sample, the prescription of folic acid, and reference to another healthcare professional in case of health problems or risks (e.g. overweight).

"Mama: Ook omdat ik heel lang een spiraal heb gehad als anticonceptie. Ik had dan een afspraak gemaakt om die te laten verwijderen in het ziekenhuis. Ik had een afspraak bij mijn gewone gynaecoloog, maar ze was weggeroepen (…) waardoor ik bij een andere gynaecoloog terechtgekomen ben. Die was nogal kort. Toen had ik heel veel vragen. (…) Jamaja en hoe gaat da gaan? Wanneer moeten we panikeren dat het niet lukt? Moet ik over 6 maanden al terugkeren? Dan heb ik wel zo vrij kort een antwoord gekregen van: "mevrouwtje, probeert eerst ne keer en we gaan ons daar nu nog geen zorgen over maken." Dat was nogal. Geen vragen stellen." (Primipara)

However, we learned that women evaluated these consultations often as insufficient or dissatisfying. Women had very practical questions (e.g. how do I know when I am ovulating). They did not dare to ask these questions or did not get the information they needed.

In the quote below a woman stated that the gynaecologist mentioned folic acid during a consultation for intra-uterine device removal, but in her experience this came too late because intake should have started 3 months earlier.

"Interviewer: Voor dat je zwanger was, heb je dan foliumzuur genomen?

Mama: Ja.

Interviewer: En hoe wist je dat?

Mama: Goh, via vriendinnen eigenlijk die dat ook gedaan hadden. Want ik moet zeggen daarvoor heb ik daar eigenlijk nog nooit van gehoord, maar het waren vriendinnen die dan vertelde: ja, we zijn begonnen met foliumzuur en dan moest ik vragen van: "oei wat? Wat precies?" Maar zo wist je dat wel dat je dat 3 maanden op voorhand moet doen. Denk wel dat ze dat gezegd hebben bij de gynaecoloog toen ik mijn spiraaltje liet verwijderen. Hebben ze dat wel ook gezegd, maar toen was ik al bezig dus ik was goed op voorhand. Peins dat ik al 3 maanden op voorhand al begonnen was met dat te nemen." (Primipara)

Preconception is a lonely period

Women are prone to fertility and pregnancy related information from the moment they decide to get pregnant. They learn from their peers in tempore non suspecto, but will not use this information source in an active way after they decided to get pregnant in order not to disclose their intention. Hence preconception is a lonely period. Couples shut themselves off from their social support network once they decided to try to get pregnant.

Preconception information is retrieved online

Since couples tent to keep their intention to conceive hidden from their social network, they turn to more anonymous sources of information: the internet and all kinds of smart phone applications.

"Mama: Niemand had zo gezegd van ja: Als je stopt met uw pil, dan kan dat zolang duren voordat uw regels terugkomen of ge zijt daarom niet zwanger enzo. Dat vond ik wel heel erg, omdat we dan... Wij wouden heel graag zwanger worden.[…]

Dat vond ik wel, allee, erg. Ik weet wel dat ik bij die momenten voelde ik mij heel verdrietig en onzeker. Ik zei: Ik ga nooit zwanger worden. Maar ja, oké, uiteindelijk dus wel, maar ja, ik dacht echt dat er iets scheelde met mij. […] Ik heb toen heel veel geweend en dat [Naam partner] dan ook zoiets had van: Ja, maar kan niemand u dat uitleggen? Maar ik ben al twee keer bij een huisarts geweest, da's toch, ja... Er was kans genoeg om het uit te leggen denk ik dan." (Primipara)

"Mama: Ik heb hard moeten zoeken naar correcte informatie over wanneer is nu je eisprong. Heel de cyclus, wanneer ovuleer je enzo, dat vond ik heel ingewikkeld. " (Primipara)

"Interviewer: Maar voordat je zwanger was, allé bijvoorbeeld foliumzuur nemen.

Mama: Dat wist ik niet van ervoor, maar dat wist ik dan wel via collega's, je praat er wel is over en dan ja 'je moet eigenlijk foliumzuur innemen voordat je zwanger wilt worden'. Maar ik denk niet dat veel mensen dat weten op zich. Ik denk dat dat wel eens

onder de aandacht mag gebracht worden, zodat mensen dat weten of dat je dat ergens in een opleiding weet, want dat is bv ook niet in het middelbaar, in de biologieles ofzo weet je dat ook niet. Dat hebben ze daar nooit vermeld eigenlijk van je moet dat nemen voordat je zwanger wil worden. En zo ook van als je zwanger wilt worden kun je best een half jaar stoppen van te voren met de pil zodat die hormonen uit uw lijf zijn. Dat zijn ook dingen die ik zelf op het internet heb gelezen. Dat je dat dan ook maar via zelfstudie eigenlijk gaat bekijken. Dat is ook al niet dat ik dat van tevoren wist ofzo, nee." (Multipara)

During pregnancy women retrieve information when problems arise, although some women also indicated to have anticipated potential problems by reading e.g. books on pregnancy and childbirth.

"Mama: Dus ik heb daar eigenlijk niet zo veel voor opgezocht. Wat ik wel vond is toen ze zo begonnen te praten over die CMV, ik wist daar dus bv. niets van hé, dat dat gevaarlijk is als je dat niet doorgemaakt hebt enz., dus ja, dan zoek je daar wel over op, maar alleen als het probleem zich stelt." (Multipara)

Key messages

- **Although women have plenty of questions, they remain reticent to consult a healthcare professional in function of getting pregnant.**
- **If they consult preconceptionally, women evaluated these consultations as insufficient or dissatisfying.**
- **Women learn from their peers in tempore non suspecto, but will not use this information source in an active way after they decided to get pregnant in order not to disclose their intention. Consequently many searched for information online or through apps.**
- **Quite some women in our sample said they didn't know anything about fertility and pregnancy before they started trying to get pregnant.**

6.8. Parents' experiences with antenatal care

6.8.1. The first consultation

Throughout the interviews we found a large variation in the content of the first consultation, as well as in women's expectations regarding this first encounter. Both content and expectations diverge in function of the consulted care provider. GPs are often the first point of contact. Women expect their GP to confirm the pregnancy by means of a blood test. GPs can take the opportunity to provide information on do's and don'ts for a healthy pregnancy, but in our sample this has not often been reported. Gynaecologists confirm the pregnancy, check for twin pregnancy, and reassure parents that everything goes well by means of an ultrasound. Other activities reported during the first consultation are pregnancy related medical information, the prescription of vitamins, paperwork for the employer, planning ahead of all future consultations, and replies to parents' questions. In our sample midwives were not reported as first point of contact.

6.8.2. Midwife consultation in early pregnancy

Women evaluate midwife consultations in hospitals as very useful and informative. However, the information came too late in pregnancy. Information on e.g. healthy diet is needed early on, even before getting pregnant.

"Mama: Da's dan denk ik informatie die wel komt maar later in je zwangerschap. Omdat bijvoorbeeld, als ik zeg van ik vond die infosessie bij de vroedvrouw in het ziekenhuis super interessant. Da was super interessant, maar er zijn veel dingen die wij gelukkig al wisten. Als je pas op 12 weken weet van ik mag geen sla eten. Dan ben je al te laat eigenlijk hé. Dus allé dat zijn eigenlijk dingen die wij weten omdat we die rondom ons zien van zussen en vrienden en dat je dat daardoor al weet. Want anders komt het natuurlijk wel een beetje te laat hé." (Primipara)

6.8.3. Antenatal diagnostics

Interviewees have been talking about antenatal testing: detection of CMV, toxoplasmosis, NIPT, glucose test, and ultrasounds.

CMV and toxoplasmosis

Regarding the detection of CMV and toxoplasmosis, two findings stand out:

- Some interviewees report to have had a blood test every month, in some cases on their own demand, to feel reassured.

  "Maman : Oui, toutes les choses comme ça, chaque fois elle nous expliquait les conséquences que ça pouvait avoir si c'était positif, ce qu'on pouvait faire, par exemple pour la toxo, elle nous avait dit : « normalement, c'est trois prises de sang au cours de la grossesse ». Moi, j'ai posé la question pour savoir si on pouvait en faire plus et alors, du coup elle me dit : « si vous le souhaitez, on peut faire une prise de sang par mois, mais ce n'est pas remboursé, etc. ». Enfin, elle nous a vraiment tout expliqué. Moi, j'ai décidé de faire une prise de sang par mois. Donc à chaque fois quand même quand on lui disait un petit peu nos inquiétudes, etc., elle nous réexpliquait, elle prenait vraiment le temps." (Primipara)

- In case a CMV infection was detected, this caused a lot of stress, which was not relieved until the results of the amniocentesis were known and reassuring. Parents experienced the weeks between the detection of the CMV infection – often early in the pregnancy – and the results of the amniocentesis, as a very distressing period in their pregnancy. When the question about discontinuation the pregnancy was asked, parents were surprised and did not feel prepared to make that decision at that moment.

  "En dan... Allee, ergens was ik ook wel denk ik blij dat we toch al gegoogeld hadden om zo een beetje de... de uitkomsten te weten omdat, en dat had ik niet verwacht dat we ook effectief de volgende dag de vraag kregen: Wil je de zwangerschap afbreken? En daar was ik ook wel een beetje van verschoten van: Oei, nee. Is dat fout als wij nu nee zeggen zo? Efkes om... omdat die vraag zo... Ja, dat is hard hé, als die vraag zo direct gesteld wordt. Dus dan was ik wel blij dat we zo bepaalde [dingen] hadden opgezocht en dan al wist van: Ja, eigenlijk is er een grote kans dat het zelfs niet eens doorgaat naar het kindje. Maar ja, ze had ons dan ook uitgelegd van: Kijk, als het echt heel slecht blijkt, dan kun je ook op een later moment nog afbreken, dus we hadden zoiets van: Kijk, we wachten." (Primipara)

Non-invasive prenatal test (NIPT)

Parents had divergent points of view regarding the non-invasive prenatal test or NIPT. From the interviews we got the impression that the NIPT is almost automatically done, or at least it does not seem to be the result of a conscious reflection or consideration. Motivations vary between:

- It is reimbursed, we are entitled to it.

  "Maman : Parce que je savais que c'était devenu remboursé, parce qu'avant ce n'était pas le cas.

  Oui, parce que c'est un test particulier et qui donne le sexe du bébé.

  Maman : Oui tout à fait. Et donc comme je savais qu'on y avait droit, c'est moi qui ai amené le sujet en fait." (Primipara)

- Although the risk is low (based on age, family history, measurement nuchal fold thickness), we do the NIPT because we want to know/be sure/be prepared.

  "Elle [la gynécologue] nous a expliqué que comme c'était remboursé par la mutuelle, ben voilà. Mais, elle nous a dit que si ça n'avait pas été remboursé par la mutuelle, elle ne l'aurait pas prescrit parce qu'elle dit: «voilà, vous êtes jeunes tous les deux, il n'y a pas de cas dans votre famille. Donc voilà.»" (Primipara)

- We want to know the sex of the baby.

  "Maman : Mais moi, je n'ai vraiment pas pensé à la trisomie, j'ai directement pensé au sexe. Et j'ai posé la question: "c'est sûr à

100%, c'est fiable?", elle m'a dit: "oui, c'est 100% fiable pour le sexe".

Interviewer : Donc finalement le test c'était plutôt pour le sexe.

Maman: Franchement oui. Pour elle, je ne l'avais pas fait, je me suis dit: "ça ne sert à rien de le faire pour la trisomie". Si ton enfant est trisomique...voilà. Si à la fin il est trisomique, c'est comme ça, c'est le destin, voilà point barre.

Interviewer : Vous n'aviez pas besoin de le savoir avant.

Maman: Franchement, non. Personnellement, je n'aimerais pas le savoir avant. Avoir tout ce stress, toute la grossesse." (Multipara)

- We have an increased risk (e.g. based on age).

"Maman : Voilà, oui, oui. Vu mon âge, je pense que… C'est obligatoire, non, mais maintenant il y avait l'amniocentèse qui était faite à partir de 36-38, je ne sais plus. Et donc de toute façon, moi, vu mon âge, c'était quelque chose qui m'angoissait.

Interviewer : Donc vous vouliez être rassurée ?

Maman : Oui. J'ai un facteur de risque pour, donc…

Interviewer : Donc voilà, c'était super chouette qu'on vous l'ait fait, alors ?

Maman : Ah oui, oui. Non, j'étais très rassurée, j'attendais le résultat avec impatience." (Primipara)

Even though some parents made clear that they would not consider interrupting the pregnancy if the test was positive, they still wanted to do the test. They wanted to know the result in order to prepare for the birth of a child with Down syndrome.

"Maman : Même si, comme je viens de dire, avec mon mari, de toute manière on gardait le bébé quoi qui… Quoi qu'il y ait, quoi.

Interviewer : Et donc le savoir, ça vous permettait quoi ? De vous préparer à l'accueillir ?

Maman : C'était plus ça.

Interviewer : Ah oui, c'était juste pour être prêts.

Maman : Oui, voilà. S'il y avait un problème, au moins on pouvait voir ce qu'il fallait pour après.

Interviewer : Pour après. Ok. Donc c'était finalement… Le NIPT, c'était informatif ? Ça vous aidait à vous préparer ?

Maman: Voilà." (Primipara)

Parents did not get information in advance on what to do in case of a positive test. Most of them were fine with that and argued that the gynaecologist wanted to prevent them to be unnecessarily worried.

"Papa : Il est plus à dire voilà, quand il y a un cas, on va voir, on va en parler. Mais s'il n'y a pas, il n'y a pas de raison d'en parler.

Maman : Il ne veut pas faire peur.

Interviewer : Il n'y a pas de raison d'en parler, pas de raison de stresser.

Papa : pas de raison de s'inquiéter. Voilà, il est fort comme ça, c'est ce qu'on aime bien, je pense que c'est pour ça qu'elle est… Dès qu'on a eu un problème, il a toujours… C'est plus…

Interviewer: Voilà, rassurant.

Papa : Si, il faudrait en parler, on en parlera "Ne vous en faites pas"." (Multipara)

Parents got information about the NIPT orally during a consultation with their gynaecologist or midwife, by means of a brochure or they sought information themselves on the internet. Results were communicated during a consultation, by telephone, by e-mail or by means of an online platform.

Ultrasounds

Parents took basically two opposite stances towards ultrasounds:

- ultrasounds are an important source of reassurance and therefore they want to have one at each consultation.

"Maman : Ben ce qui était positif, c'était le fait d'avoir, chez notre gynécologue en tout cas, on avait à chaque fois des échographies. On avait à chaque fois l'écoute de son cœur, donc ça me rassurait vraiment, chaque fois que je l'entendais.

Interviewer : Est-ce que c'était important pour vous d'avoir une échographie à chaque fois ?

Maman : Pour moi, oui. J'ai eu le cas… L'écho d'autres amies qui elles, n'avaient pas d'échographie à chaque fois, qui se sont retrouvées pratiquement à l'accouchement avec deux échographies et ça m'a un peu interpellée parce que moi, j'attendais justement, quand j'avais le rendez-vous, j'attendais d'avoir ces échographies, sachant que j'allais les avoir. Et j'en ai eu beaucoup en tout cas avec ma gynécologue. Et le cœur aussi, le fait d'entendre son cœur battre, c'est ce qui me rassurait le plus." (Primipara)

- an ultrasound is not necessary to be reassured. Reassurance was found in e.g. foetal movements. An ultrasound can even be distressing. Three ultrasounds per pregnancy is comfortable, additional ones are superfluous.

"In het begin had ze het zo uitgelegd: Ja, er zijn drie echo's, maar ik doe er elke keer één en als je dat niet wilt, dan moet je dat nu zeggen. We hebben dat al gezegd: Nee, voor ons is dat niet nodig, want wij vinden dat daar zo er een beetje overgaan en toen zei ze: Oké, da's goed, ik noteer dat. Ze heeft dat dan wel elke keer gedaan. En op die momenten zelf... Ja, ik had altijd keiveel stress, ik dacht altijd: Misschien is dat fout of misschien is dat fout. Op die momenten zelf heb ik daar eigenlijk nooit iets tegen ingebracht, dus ik had dat misschien wel beter gedaan. Maar ja, ik zat nogal in de stress zo van: Hoe is het met ons kindje? Ja, kei belachelijk, ik weet dat wel, maar, ja nee. Op die momenten had ik daar niks meer over gezegd." (Multipara)

Glucose testing

Glucose testing was little discussed during our interviews with parents, but for some it caused stress. They worried about the high amount of sugar they had to drink and its effects on their own and the baby's health. One mother refused the test.

Key messages

- **We found a large variation in the content of the first consultation, as well as in women's' expectations regarding this first encounter.**
- **Experiences with antenatal testing focused on the detection of CMV, toxoplasmosis, diabetes, and means such as the NIPT and use of ultrasounds.**
- **Some interviewees report to have had a blood test every month, in some cases on their own demand, to feel reassured.**
- **The NIPT seems to be automatically performed independently of the mother's risk profile. Some perceived the NIPT primarily as a way to discover the sex of the baby.**
- **Parents did not get information in advance on what to do in case of a positive NIPT. Most of them were fine with that and argued that the gynaecologist wanted to prevent them to be unnecessarily worried.**
- **Ultrasounds are an important source of reassurance.**

6.8.4. Birth preparation

6.8.4.1. Where did parents receive information on labour and delivery

Preparation of labour and delivery is mostly located outside gynaecologist consultations. Only few parents reported to have received information on labour and delivery from their gynaecologist. Some said to have received information on where to follow antenatal classes from their gynaecologist. Although also physiotherapists were mentioned, birth preparation sessions were mostly offered by midwives, both inside and outside hospital setting.

6.8.4.2. The content and format of birth preparation

The content of the sessions seems to vary largely along whether they took place in or outside the hospital, whether they were organised in group or individually, the size of the group, the degree of parents' participation, whether the received information was general or personalised, whether the focus was on sharing information or an activity such as massage, singing, relaxation or breathing exercises.

Interviewees were very positive about birth preparation, especially a more personalised approach in small groups was appreciated. One interviewee reported that she experienced a contrast between the gynaecologists' approach and what she was told during birth preparation by a midwife, which was confusing to her.

> *"Wij hebben bij het eerste kindje ook zo de infosessies in het ziekenhuis gedaan. Eigenlijk een beetje omdat dat zo een stukje verwacht werd vanuit het ziekenhuis precies wel, maar wij hadden zoiets van: Wij volgen allebei de vroedvrouwen, is dat dan niet goed genoeg? Euh, en als wij dat dan vergeleken qua info dat we daar kregen en bij de vroedvrouwen waren we zo opgelucht en blij dat we een vroedvrouw gecontacteerd hadden, want je krijgt toch heel wat meer info in zeven of negen lessen prenataal, dan zo twee infosessies die dan in grote groep worden gegeven, dus da's dan eigenlijk gewoon op een stoeltje zitten en er legt van voor iemand iets uit. Terwijl, ja, de prenatale lessen bij de vroedvrouw, dat was een groepke van zeven mama's ofzo, maar met partner. Dat geeft ook veel meer vertrouwen om vragen te stellen. Wij zijn ook wel zo het type dat in een volle aula niet zijn vinger gaat opsteken om: Ik snap het niet helemaal, terwijl in een klein groepke, durven wij dat dan wel, dus bij het tweede kindje had zij [partner van de mama] ook zoiets van: 'We gaan zeker terug naar de vroedvrouw'." (Primipara, but second child of the couple)*

It is clear that birth preparation takes plenty of forms and is offered by a lot of actors. Some parents were annoyed by what they called the commercialisation or merchandising of pregnancy.

However, surprisingly we also met parents who did not come across any source of information on antenatal classes or other types of birth preparation.

> *"Maman: Et je trouve qu'aujourd'hui il y a quand-même une mode, on est fort « Mindfulness », pleine conscience, autonomie, machin. Moi, ça ne me parle pas des masses. J'ai fait le cycle de « Mindfulness », donc c'est vrai qu'au niveau visualisation, gestion de la douleur, c'est peut-être un peu plus facile et encore. Parce que tu crèves de mal quand-même comme tout le monde, mais c'est vrai que je trouve que par contre, c'est une critique globale, c'est qu'il y a un business autour de la maternité. Ce n'est pas à vous que je dois le dire, mais de l'accouchement à la maternité… C'est trop. Complètement. Complètement trop, quoi. Et ça, je trouve qu'on n'en sort pas. Rien que quand on va à la maternité […], il y a des fascicules de 10.000 personnes qui proposent ça, ça, ça, ça, ça. Et ça, moi, ça me gonfle." (Primipara)*

6.8.4.3. Parents' needs regarding birth preparation

Parents' needs for birth preparation change with parity. The primiparae in our sample talked more about birth preparation, compared to the multiparae. In general, parents who already had one or more children, found it more difficult to free time for birth preparation, and felt less the need to do it. Nevertheless, some multipara found birth preparation important because it was the only way to find time to enjoy their pregnancy and connect to the unborn baby. In addition, someone mentioned that every pregnancy is different and so are the needs.

> *"Interviewer : Est-ce qu'il y a quelque chose que vous trouvez particulièrement positif dans votre suivi prénatal que vous avez choisi ? Qu'est-ce que recommanderiez, qui était vraiment positif ?*
>
> *Maman : Moi, ce sont ces séances individuelles, les massages, les séances de relaxation avec [Name] qui joue de la harpe. Que du moment où on est pleinement présents avec son bébé et qu'on vit vraiment sa grossesse, je trouve. Mais c'est aussi un moment où on se déconnecte un peu de ça. Même si le bébé est présent, etc.*

c'est aussi un moment où on reste femme et qu'on n'est pas juste en devenir d'être mère.

Interviewer: Donc on reprend…

Maman : parce que j'ai deux autres enfants et que prendre du temps pour soi en dehors des autres enfants, c'est aussi important." (Multipara)

Some parents consciously choose not to follow any birth preparation. Their reasoning was that the more you know (e.g. about what can go wrong), the more anxious you become. Among multiparae some felt they were sufficiently informed and experienced, not needing additional preparation.

"Mama: Ik wil dat allemaal zo op mij laten afkomen, ik had ook geen geboorteplan of van die dingen, want ik denk het kan alleen maar misgaan als het anders is dan wat je denkt. (...) Ik snap dat mensen daar wel iets aan kunnen hebben, maar ik liet het nogal graag op mij afkomen." (Primipara)

Another group of parents did not follow any birth preparation sessions because they discovered them too late in pregnancy, or because of incompatibilities with their agenda, or difficulties to find someone to take care of the other children.

6.8.4.4. The functions of birth preparation

Birth preparation served several functions. Parents found reassurance in the received information. They learned to trust their own capabilities as well as those of their care providers. They build an informal support network which allowed them to exchange knowledge and experiences with other parents. Birth preparation sessions, especially for multiparae were a way to escape daily hassles and enjoy being consciously present with their unborn baby. Fathers felt more involved and informed. For primiparae (and their partner) it was important to know what to expect from labour and delivery.

"Maman : Et franchement moi qui suis très cartésienne, qui aime bien lire beaucoup d'informations, avoir beaucoup de théorie, ça m'a vraiment, comme dit mon mari, rassurée. C'est vraiment le mot. Je suis arrivée à la maternité, j'avais déjà vu la chambre, je savais le monito. Ce que c'était le haut et le bas, je savais que s'il se passait quelque chose, ben, on allait faire ça, si mon streptocoque était positif, on allait faire ça, on allait peut-être faire une prise de sang à mon bébé. On savait déjà tout ce qui allait se passer. Donc…

Interviewer : Et ça, c'était important pour vous ?

Maman : Oui.

Interviewer: Pour être sereine ?

Maman : Très. Et ça franchement, le plus important c'est de ne pas avoir peur de l'accouchement finalement. De savoir plus ou moins comment ça allait se passer." (Primipara)

Key messages

- **Not all parents felt the need for birth preparation.**
- **Although physiotherapists were mentioned, birth preparation sessions were mostly offered by midwives, both inside and outside hospital setting.**
- **Birth preparation was experienced as reassuring, increasing trust in own and healthcare professionals' capabilities; it facilitated the emergence of an informal support network, and making time to enjoy being focussed on the unborn baby. Fathers felt more involved and informed.**
- **A personalised approach in small groups was particularly appreciated.**
- **For primiparae (and their partner) it was important to learn what to expect from labour and delivery.**

6.8.5. Preparation of postpartum follow-up

From our interviews we observed:

- A large variation in postpartum preparation. Usually women were told during pregnancy to contact a midwife, a maternity care assistant (Flanders only) and search for day care. However, this does not account for all interviewees. Some did not receive any instructions to arrange postnatal follow-up during pregnancy.
- Preparation of the postpartum during pregnancy is not yet a default part of antenatal care for all future parents. Quite a number of interviewees did not receive any instructions about how to prepare for the postpartum. Some interviewees took initiative themselves, but others did not plan postnatal services at all.
- An organised postnatal follow-up at home is in some hospitals a prerequisite for discharge. Some interviewees reported that before discharge the hospital staff wants to be sure a midwife will continue the follow-up at home, they ask a name and phone number. Some were offered a hospital midwife doing home visits during their maternity stay. Other interviewees reported that follow-up at home was no issue at all at discharge.

  "Maman : Et d'ailleurs ce qui est bien, c'est que la maternité, tant qu'elles n'ont pas le GSM, elles ne vous laissent pas partir tant qu'ils n'ont pas le GSM de la sage-femme. Ils veulent être sûrs et ça, je trouve ça très pro. Ils ne vous laissent pas partir tant que vous n'avez pas donné le nom de la pédiatre, ils veulent vraiment que vous…

  Interviewer : Etre sûrs que le suivi est ok ?

  Maman : Ouais. Quitte à appeler au GSM devant eux, mais si vous ne savez pas, ils vous donnent des noms. Bon moi, je savais qui je prenais.

  Interviewer : Oui, pour les mamans qui n'ont pas d'idées, ils guident un peu.

  Maman : Ah ouais, ouais, ouais. Complètement, quoi. Ils ne laissent pas du tout dans…

  Interviewer : Et donc dans le prénatal tout est fixé ?

  Maman : Tout est fixé. Ouais, ouais, ça c'est clair. Et ça, c'est génial." (Primiparae)

- Remarkably a number of interviewees did not have any follow-up after discharge. Among them also some women said they didn't need any follow-up at home. Those who did not have any follow-up after discharge were all French speaking.

  "Interviewer : Est-ce que c'était un besoin pour vous ? Vous auriez voulu qu'une sage-femme vienne tous les jours quand vous êtes rentrée ou pas du tout ?

  Maman : Pas du tout, non. Non, non. La dame de l'ONE, j'étais contente, ça je trouvais ça chouette pour la petite. Mais moi, tout allait très bien, donc je ne sais pas trop ce que j'aurais fait avec… " (Primipara)

- One interviewee did not see any caregiver during the first three days after discharge, although this was pre-arranged.

  "Maman : Et quand je suis arrivée à la maison, là ça a été le comble puisque je n'ai vu personne pendant 3 jours.

  Interviewer : Est-ce qu'il y avait le passage d'une sage-femme qui avait été organisé avant ?

  Maman : Alors oui, à l'hôpital ils m'avaient dit qu'il y avait une sage-femme qui allait passer. Alors, [la première sage-femme qui me suivait] m'avait dit que elle, si on sortait le matin, elle passait l'après-midi. Si on sortait l'après-midi, elle passait le lendemain matin. Et là pourtant, j'avais spécifié à l'hôpital : « je suis seule, ne me laissez pas toute seule ». Enfin, je suis sortie le dimanche, et je n'ai vu personne avant le mercredi. Et le mercredi, ils étaient 5 ici. Donc, il y a eu la travailleuse sociale de l'ONE, il y a eu une sage-femme parce que moi, entre temps je cherchais quelqu'un, donc, il y a eu une sage-femme externe qui est passée et il y a eu

deux autres sages-femmes de l'hôpital qui sont venues. Donc non, ils étaient 4." (Multipara, single)

- Some parents experienced a lack of information on how to take care of a newborn

  "Mama: Ja zo een dingen heb ik wel gemist. Wat als je kindje geboren is éh? Op wat moet je letten in huis? Temperatuur? Wat kan je doen om hem dat gevoel te laten hebben van in de baarmoeder éh. Zo die kleine tips heb ik wel gemist." (Primipara)

- Confusion about what can be expected from whom, more specifically the healthcare professionals doing home visits: independent midwife, hospital midwife doing postpartum follow-up and ONE/K&G nurse.

Key messages

- **Preparation of the postpartum during pregnancy is not yet a default part of antenatal care for all future parents. A number of interviewees did not have any follow-up after discharge.**
- **An organised postnatal follow-up at home is in some hospitals a prerequisite for discharge.**

6.9. Parents' perceptions of quality of care

6.9.1. Accessibility of care

6.9.1.1. Availability

In the interviews availability of the healthcare provider(s) has been addressed in relation to four situations:

- In case of a problem or worry during pregnancy
- To obtain test results (e.g. CMV)
- To attend the delivery
- To schedule the six weeks (after delivery) appointment

Women choose their care provider in function of the nature of the problem or worry at hand. When our interviewees encountered a small problem or worry during pregnancy (e.g. blood loss, lack of foetal movements, health problems of the mother) they rather turned to their GP, midwife, or the maternity service. For more serious problems they contacted their gynecologist. The communication of test results (e.g. CMV) was another reason to contact a care provider during pregnancy. Some interviewees reported they had to try several times to reach their gynecologist to obtain test results.

Another thread throughout the interviews was about whether the gynecologist would attend the delivery. We identified three types of situations:

- Parents and gynecologist did not discuss this during consultations
- The gynecologist made clear that he/she would attend the delivery only during daytime. In the evenings and at night a colleague on duty takes it over.
- The gynecologist made clear that he/she would be notified by the hospital midwives and come over to the hospital to attend the delivery.

We noted that in general women have a lot of appreciation for the gynecologist who manages to attend the delivery, but also understanding for those who opt not to be on call all the time.

Finally, midwives and maternity services seemed to be always available by phone or text message in case of problems or worries.

6.9.1.2. Waiting times

Time in the waiting room

The time spent in the gynaecologist's waiting room varied between a few minutes to about 3 hours. Parents show understanding for the unpredictability in the gynaecologist's work. Others saw the long waiting time as the price they had to pay for a popular gynaecologist who takes time to listen. Exceptional delays were generally accepted and excused.

However, long waiting times occurring at each consultation generated irritation. It was experienced as a waste of time, especially if both parents were present, if other children accompanied them, if one of the partners experienced conflicts with their work agenda or they had to take a day off from work to be able to go to consultation, and if parking tickets were expensive.

> *"Papa: Ja 't is ook de tijd hé. […] Ge hebt veel werk en ge zit daar dan zo uw tijd te passeren. Er kan altijd een keer iets gebeuren of iets tussenkomen, maar 't was iedere keer hetzelfde jong." (Primipara)*

A display in the waiting room informing parents about the delay and the reason for the delay was much appreciated. Parents also found solutions to reduce waiting times, e.g. calling the reception before departure and leaving home later in function of the delay, partners joining at a later moment, or shifting from hospital practice to private practice, but the latter strategy was not always successful.

> *"Maman : Non, au départ je la voyais à l'hôpital, et puis j'ai appris qu'elle avait une consultation à l'extérieur et je préférais aller à l'extérieur.*
>
> *Interviewer: Et pourquoi vous préfériez à l'extérieur ? Qu'est-ce qui a guidé votre choix ?*
>
> *Maman : Le temps d'attente. A l'hôpital, au moins une heure et demi de retard parce qu'ils sont appelés à gauche, à droite, ça n'arrête pas. Ils ont les urgences qui se rajoutent. En consultation privée, il y a zéro minute de retard. " (Primipara)*
>
> *"Papa: Altijd 2 uren. Maar echt 2 uur hé. Zeker hé tot een uur of 3 en 't was echt 2 uur.*
>
> *Mama: Ja en dan hebben we toen beslist om toch naar die privé-praktijk te gaan zoals ik daarjuist vertelde omdat we dachten dat we sneller gingen geholpen worden. Maar eigenlijk is dat even hetzelfde." (Primipara)*
>
> *"Maman : Si, il y a un message qui défile.*
>
> *Papa : Mais il n'est pas toujours mis à jour.*
>
> *Maman : Non, il n'est pas toujours mis à jour.*
>
> *Interviewer : Et donc ça c'est bien qu'il y ait un écran.*
>
> *Maman : C'est bien parce qu'on sait si on peut aller faire pipi, par exemple.*
>
> *Interviewer : Oui, parce que pour les femmes enceintes c'est très important.*
>
> *Maman : C'est très important, voilà. C'est vrai que voilà, j'ai eu plusieurs fois dans la salle d'attente où ma gynécologue est venue et elle m'a dit : « écoutez, désolée, mais j'aurais une heure de retard parce que j'ai un accouchement » Ben oui, voilà et on sentait bien dans la salle d'attente tout le monde ne le prenait pas très zen alors que je pense qu'ils ont des vies de fous et qu'ils ont déjà des vies plus de fous que d'autres personnes et donc on se dit des fois « les pauvres », « c'est pas bien grave si vous avez une heure de retard, moi, je peux attendre, aucun problème ». " (Primipara)*
>
> *"Mama: Da's wel pittig, je weet op voorhand dat 't minstens drie kwartier ga zijn tot een uur en half. [Naam partner] werkt in Gent, die vertrok eigenlijk pas op het moment dat we een afspraak hadden [in Brugge]." (Primipara)*

In our sample long waiting times were not reported for other care providers.

Time to get an appointment

Appointments were mostly planned in advance. The few reported problems were lines being occupied, therefore needing to call several times to get an appointment and having to wait several weeks between a positive pregnancy test and the first appointment.

6.9.1.3. Other indicators of accessibility

Other indicators of accessibility were the positioning of the screen during ultrasounds, the attitude towards other children during consultations, transport and parking.

> *"Maman : Non mais, c'est vrai qu'il se mettait à côté de moi et encore une fois, l'écran pour l'échographie, je trouve qu'il n'est pas assez tourné pour que le papa puisse voir.*
>
> *Interviewer : Donc, vous vous étiez plus confortable pour regarder que monsieur ?*
>
> *Maman : Ben franchement, même moi. A certain moment, elle aurait pu le tourner un peu plus. Ça aussi, je trouve que ce sont des choses à y penser. On est quand même intéressé à voir le bébé. Si on va faire l'échographie, c'est quand-même qu'on a envie de voir le bébé.*
>
> *Interviewer : Donc, vous ne profitiez pas du fait de faire une échographie pour voir votre bébé ? " (Primipara)*
>
> *"Quand j'allais chez le gynéco, elle ne restait pas…la gynéco devait me consulter et qu'est-ce qu'elle fait la gynéco? Elle m'a dit ça, ça m'a choqué et je lui ai dit en plus, "il faut fermer la porte, je n'entends pas le cœur du bébé" et j'ai besoin de vous consulter. Donc, elle ferme la porte, la petite reste toute seule dans le bureau et moi je suis dans le petit local et elle pète un câble qu'est-ce qu'elle fait de la poussette, parce que les enfants sont très malins, elle a quasiment enlevé son truc, les ceintures on va dire, elle a enlevé la sécurité et elle était carrément descendue en bas de la poussette. A ce moment j'ai quitté, j'ai dit "excusez-moi, moi, je dois aller voir mon enfant, là elle pleure, je ne peux pas la laisser comme ça". Je suis partie, je l'ai prise, j'ai essayé de l'arranger un peu, je lui ai dit: "calme-toi, calme-toi", j'ai essayé de la rassurer et je suis repartie chez la gynécologue, elle ne se calmait toujours pas mais bon. Vous voyez c'est super compliqué quand on y va avec un enfant et elle a osé me dire: "vous ne savez pas la laisser à quelqu'un?". Ce jour-là, elle m'a dégoutée. Je me suis dit: "il faut être humain un peu". Ce jour-là, je me suis dit, ce gynécologue, je ne sais pas si je le prendrai la prochaine fois." (Multipara)*
>
> *"Papa : il y a juste un… Ce n'est pas vraiment eux, c'est pas vraiment eux, c'est plus… C'est que pour notre hôpital, je trouve que question parking, pour surtout les femmes enceintes, il n'y a pas… Je veux dire, on a un parking, mais en général, je la dépose. Heureusement que j'étais là pour pouvoir la déposer. Mais une mère qui doit aller toute seule, parfois elle doit se retrouver à l'autre bout, elle doit faire… Je trouve qu'ils devraient faire, je ne sais pas moi, soit des places « femmes enceintes », comme il y en a… Ou alors, peut-être même… enfin, je ne sais pas comment ils pourraient faire. Mais un système, je ne sais pas, quand tu es une femme enceinte, avoir un badge qui te permet d'avoir un parking exprès pour elles ou…" (Multipara)*

Also comprehensibility and openness to questions has been addressed: gynaecologists used a more technical language in comparison to midwives. Parents did not always feel at ease in asking a gynaecologist questions.

> *"Maman : Mon mari a juste posé une question au gynéco, maintenant que vous le demandez. C'était la toute première écho. Non, c'était le deuxième écho. Pour savoir si c'était une petite fille ou un petit garçon. Comme ça, il a dit: "est-ce que vous savez déjà voir? Pour savoir." Et il a répondu: "je ne regarde pas ça, mais je regarde s'il a bien, ses deux bras et ses deux jambes". Il avait d'autres choses plus importantes à regarder avant. Mais, on lui a répondu ça. Donc, après on n'osait plus poser de questions." (Primipara)*
>
> *"Interviewer : Quel était votre rôle pendant les consultations? Vous pouviez poser toutes vos questions? Vous étiez active ou plutôt passive? Vous attendiez de recevoir de l'information?*
>
> *Maman: avec les sages-femmes, active. Et avec le gynéco, j'ai toujours eu peur de lui poser des questions. J'ai l'impression d'être une mangeuse de temps si je lui posais des questions." (Primipara)*

"Maman : Oui, ça oui. Quand j'y allais, au [birth centre] beaucoup évidemment. Le gynécologue après, je ne pouvais pas poser les mêmes questions, avoir les mêmes demandes vis-à-vis du gynécologue que vis-à-vis des sages-femmes au [birth centre], donc...

Interviewer : Quelle était la différence pour vous, quelles différences faisiez-vous vis-à-vis de ces deux types de prestataires, finalement ?

Maman : Ben déjà, le fait que ce soit des sages-femmes et des femmes. Moi, je trouve ça plus…En tout cas pour moi, c'était plus sécurisant. Je pouvais parler de tout. De tout ce qu'il se passait dans ma vie et ça, ça me faisait du bien.

Interviewer : Elles prenaient en compte vraiment le contexte de la grossesse.

Maman : Ouais. Elles me prenaient en compte dans ma globalité. Tandis que le gynéco, il est là pour faire des échos, mesurer bébé, voir que tout va bien, et puis il est hors de question de commencer à dire : « ah mais j'ai peur parce que le père du bébé, il est parti ». Parce que, voilà, c'est pas leur job." (Multipara)

Key messages

- **Availability of the healthcare professional has been addressed in the context of a problem or worry during pregnancy, to hear about test results (e.g. CMV), to attend the delivery and to schedule the six weeks (after delivery) appointment.**
- **For small problems or worries during pregnancy, women rather turned to their GP, midwife, or the maternity service. For the more serious problems they contacted their gynaecologist.**
- **Women have a lot of appreciation for the gynecologist who manages to attend the delivery, but also understanding for those who opt not to be on call all the time.**
- **The time spent in the gynaecologist's waiting room varied between a few minutes to about 3 hours. Exceptional delays were generally accepted and excused. However, long waiting times occurring at each consultation evoked irritation.**
- **Parents also found solutions to reduce waiting times and a display in the waiting room informing parents about the delay and the reason for the delay was much appreciated.**
- **Parents are not always at ease in asking a gynaecologist questions.**

6.9.2. Continuity of care

Continuity of care was very closely linked to the importance of building a trusting relationship with a healthcare professional. Continuity of care was greatly appreciated in relation to several pivot points over time: first, within pregnancy, second, between pregnancy and delivery, third between pregnancy and the postpartum and finally between fertility treatment and pregnancy.

6.9.2.1. Importance of a trusting relationship between parents and healthcare professionals

We identified two reasons for the importance of a trusting relationship between parents and healthcare professionals during pregnancy. First, women believe that healthcare professionals are better placed to estimate the severity of their complaints if they have a long term relationship.

"En het feit dat die u ook wel een beetje kennen na een tijd. Dat als ik last had van mijn bekken bijvoorbeeld of..., dat die weten van dat is geen flauwdoenerij want wij hebben die hier al zolang, we volgen die al zo lang zodat we weten dat dat gewoon vervelend is." (Multipara)

Second, a trusting relationship makes them feel at ease and more comfortable.

"Ik ben eigenlijk heel goed begeleid geweest en (…) voor een stukje had dat voor mij te maken met het feit dat ik mijn vroedvrouw ondertussen wel bijvoorbeeld goed ken, dat ik daar een hele fijne band mee heb omdat wij meer kindjes hebben en zij is altijd degene geweest die ons begeleid heeft. Maar de gynaecologe ook. Ik vind dat een hele fijne persoon, dat is een heel correct iemand, dus dat zorgt er ook voor dat je jezelf al meer op je gemak voelt, vind ik." (Multipara)

In addition, parents note that healthcare professionals can play an active role in creating a trusting relationship between patient and professional, but also strengthen the bonding within the couple.

"Maman: Il y avait de la confiance. Oui, franchement...

Papa: Elle était top.

Maman: Oui, oui.

Presque un lien presque familial.

Maman: Oui, oui. Franchement elle a su créer ça, etc. oui." (Primipara)

"Vous avez parlé de relation de confiance qui s'était créée, est-ce que ça s'est créé entre vous et la sage-femme ou entre le triangle de vous trois?

Maman: Ben, entre nous trois.

Papa: Oui.

Maman: Elle nous a quand même fait comprendre qu'on devait parler entre nous de ce qu'on voulait, etc." (Primipara)

Personal contacts with healthcare professionals made parents feel at ease and facilitated the creation of a trusting relationship.

"En heb ik zoiets, ik heb een heel goed contact met mijn gynaecoloog dus ik voel me daar ook wel goed bij." (Multipara)

However, the account below shows that personal contact or familiarity in the contact between healthcare professionals and parents is not for everyone a prerequisite for trust.

"Mama: Er zijn zeker mensen die, die het te onpersoonlijk vinden in het [Name hospital], maar ik vind dat het vlot verloopt en dat puur op alles wat moet gecheckt worden, word alles gecheckt. Maar als je het persoonlijker wil, dan denk ik dat je naar een kleiner ziekenhuis moet gaan. Maar ik vind dat geen probleem, bij mij gaat het er vooral om dat je goed opgevolgd wordt en dat ze je op alles attent maken. En als er iets is, dan weet je dat je er op de eerste plaats zit." (Multipara)

6.9.2.2. Continuity within pregnancy

Parents prefer a follow-up by the same main healthcare professional throughout pregnancy. This way they feel more at ease, they build a trusting relationship and do not have to repeat the same story to several healthcare professionals.

"Wel, ik vind dat wel aangenamer als je gewoon altijd dezelfde [healthcare professional] hebt, want anders moet je altijd hetzelfde vertellen altijd ook opnieuw."(Multipara)

In a teaching hospital context pregnancy follow-up may be carried out by several physicians, often physician assistants. By consequence parents may see another physician at each antenatal consultation. Some parents are fine with that, others are in search of a more personal contact. One of the solutions they use to fulfil this need is to switch to the private practice of the gynaecologist of their choice.

"Mama: de eerste 20 weken was het continu wel iedere keer een andere arts, allé assistent eigenlijk. Was da embetant? Ja ergens wel omdat je toch wel de eerste keer toch bij dokter [name of physician] terechtkwam en dan was het iedere keer die assistenten en dan op een bepaald moment zei ik dan, (…) ik wens toch wel zelf verder dokter [name of physician] terug te zien. Zeker omdat ook verder in de zwangerschap toch wel ook alles wat spannender

wordt. En zo hebben wij beslist om toch naar de privé-praktijk te gaan. Dan waren wij ook zeker dat we haar [the gynaecologist] zagen. Nu niet dat ik twijfelde aan die mensen hun kunnen, zeker niet. Maar ja, ergens heb je dat eerste goeie contact al gehad en dan is dat weg." (Primipara)

A similar situation applies for the consultation of midwives. Hospital midwives change in function of their work organisation, while in private midwifery practices parents can choose to have the same midwife following them throughout pregnancy.

"Mama: Ik ben wel blij dat ik één vaste vroedvrouw had en dat die dichtbij was, dat die telefonisch bijvoorbeeld ook bereikbaar was, dat dat een gemakkelijke manier was om te communiceren en afspraken te maken en dat was bij de vorige twee zwangerschappen niet, omdat ik dan opvolging volledig in het ziekenhuis deed en daar kunde zo moeilijker een vroedvrouw kiezen. Allé, daar ga je gewoon bij wie er tijd heeft en dat was eigenlijk heel vaak wel een andere, wat waarschijnlijk aan hun manier van organiseren ligt." (Multipara)

In some cases parents themselves organise an alternation between several healthcare professionals. For example, when they choose to alternate gynaecologist and midwife consultations. In the setting of a midwife practice, parents also see several midwives of the same practice in order to familiarise with all of them, since it is not clear who will attend the delivery.

"Et c'était important pour vous que vous les voyiez toutes avant l'accouchement ou vous auriez préféré une relation plus privée ?

Maman : Non, moi, j'aimais mieux justement le collectif. (…) Comme j'étais toute seule, je me retrouve entre filles et comme je ne sais pas qui sort du chapeau le jour J, ben, tant qu'à faire autant que je les voie toutes." (Primipara)

Also we observed that it is common practice to have the morphologic ultrasounds done by another gynaecologist specialised in medical imaging. Parents seem to appreciate this fresh pair of eyes.

"Mama: Ja, die [Gynaecologist] laat altijd de structurele echo door een andere gynaecoloog doen. Hetzelfde ziekenhuis wel. Ik vind dat fijn dat er nog een keer een collega meekijkt. Iemand die echt gespecialiseerd is in de structurele echo's. Dat is een geruststelling." (Multipara)

Note that continuity of care can be disrupted because of life events occurring to the mother (e.g. separation, moving to another region). Especially if happening unexpectedly, women could not anticipate, had to look for another healthcare professional taking over antenatal follow-up, sometimes leaving a gap in antenatal care as other priorities took over (e.g. finding new housing). One of our interviewees did not find the same type of antenatal care services (midwifery led care in the setting of a birth centre) at her new place of residence and was very disappointed with the care she finally received. The midwives who followed her initially, continued following her by telephone to be sure she and the baby were all right. This was very much appreciated.

"Maman : Donc enfin déjà, le fait de me rendre compte que je ne pouvais pas accoucher au [birth centre], ça a été une grosse déception, parce que ça porte bien son nom. (…) La façon dont ça fonctionne, c'est que, on connait toute l'équipe et les sages-femmes apprennent à te connaitre, donc forcément, il y a un lien qui se crée.

Interviewer : Oui, il y a un lien affectif.

Maman : Oui, et tu te sens dans un cocon, quoi. C'est un peu ce dont on a besoin quand on est enceinte et c'est encore plus vrai quand on se retrouve dans une situation comme la mienne. Or, quand je me suis séparée et que je suis arrivée ici, il a fallu retrouver des gens pour faire le suivi et en fait au début, je me disais : « je vais prendre une sage-femme et après, je vais regarder si je ne peux pas accoucher chez moi ». Enfin, j'ai pensé à toutes sortes de possibilités. Et finalement, je n'ai pas eu le choix parce que j'étais arrivée à un stade de ma grossesse où plus aucune sage-femme n'aurait accepté de faire mon suivi et de m'accoucher à domicile." (Multipara)

"Maman : Ben oui, j'avais besoin d'une personne de référence, j'avais besoin de pouvoir parler et c'est [Name of the midwife] qui a continué à m'appeler et de prendre de mes nouvelles jusqu'au bout, et ça j'ai beaucoup apprécié qu'elle ait fait ça pour me soutenir. (….) Parce que elle sentait bien que j'étais un peu comme ça, lâchée dans la nature et que… ben voilà, j'allais quand même pas accoucher toute seule chez moi. Elle a été fort présente. (…) Elle a fait tout ce qu'elle a pu pour trouver des gens, des personnes ressources, mais ça a été très difficile." (Multipara)

6.9.2.3. Continuity of care between pregnancy and delivery: the importance of being familiar with birth attendants

Women valued being familiar with the birth attendants in general, no matter whether it's a gynaecologist or a midwife.

"Mama: Maar dus ja, zo is dat en dan is mij gevraagd: Wat vond je het meest aangename? Ik vond het aangenaam dat zij zei: Ik zal er zijn tijdens uw bevalling. Of dat dat nu een vroedvrouw is dat daar zal zijn of een gynaecoloog, als dat gewoon iemand is die je al een aantal keer gezien hebt lijkt me dat dan eender." (Mulitpara)

Presence of own gynaecologist at the delivery

Parents described the presence of their own gynaecologist at the delivery as very valuable. At the same time they understand that this puts a heavy burden on gynaecologists' private life.

"Mama: De gynaecologe had gezegd: Als je in arbeid gaat, zorgt... bel naar de materniteit en zegt dat ze mij opbellen, dan kom ik. Dat is geen standaardprocedure. Allee, bij de twee vorige was daar een vroedvrouw die ik niet kende. Een vroedvrouw, een gynaecologe die had uiteindelijk... Je hebt altijd een gynaecoloog bij de bevalling in [name of the hospital], dus al is het maar voor de laatste vijftien minuten ervan. Hup, hallo, we zijn hier hé. Dus dan waren dat mensen, die deden hun werk niet slecht, maar die... Ik heb die... Ik had die nog nooit gezien. Eigenlijk als ik... als ik die twee vorige bevallingen kan vergelijken met de bevalling van [Name last born] vind ik dat wel aangenaam dat dat mijn gynaecologe was die daar zat, maar ik begrijp ook als je in het midden van de nacht bevalt, dat niet elke gynaecoloog zomaar opgetrommeld kan worden, allee, of dat die iets anders aan het doen zijn. Dat begrijp ik ook, dus dat is denk ik zo'n beetje wat dat je... wat dat je moet willen denk ik als mama van wil ik dat die gynaecoloog erbij is, dan moet je een gynaecoloog zoeken die dat wilt doen voor u en die opkomt en als ik dat dan, allee, naast mekaar leg, dan denk ik, ik vond dat wel leuk dat zij dat was. Zij zei: Ah, we gaan eraan beginnen. We... we... we waren dan al negen maanden onderweg, snapte?" (Multipara)

"Mama: Het is niet gezegd dat je dan negen maanden opgevolgd wordt door de gynaecologe dat die dan ook opgetrommeld wordt voor uw bevalling. Dat lijkt zo precies een vinkske dat ze moeten zetten in uw dossier van, nu moeten we die bellen, en anders beval je gewoon bij wie dat er op dat moment van dienst is.

Interviewer: Maar jij hebt dan niet expliciet zelf gevraagd? Het is de gynaecoloog die dat heeft aangekaart met u?

Mama: Ja. Zij zei eigenlijk: Ik heb laten noteren dat ze mij mogen bellen als gij in arbeid zijt. Ah, da's tof, want ik heb dat niet zelf aangebracht, maar achteraf bedacht ik, dat is wel tof als dat zo zou zijn." (Multipara)

At the one hand the importance was clear from the disappointment of women when the gynaecologist could not be present during delivery.

"Mama: Ja, ik voel mij ook wel heel goed bij mijn gynaecoloog, dus ja, ik vond dat heel jammer dat mijn gynaecoloog niet bij de bevalling was. Want ook bij de tweede... dan ben ik op Paaszaterdag bevallen, dus was ze er ook niet bij. Had ze ook verlof. Ja, ik vond dat heel jammer, ik vond dat heel jammer. Maar ja het was 's nachts. Dus, dan is het gewoon de gynaecoloog die bezig was." (Multipara)

At the other hand, also from the fact that women believed that it was not their gynaecologist's standard practice, but he/she wanted to be there especially for them. They experienced it as a kind of VIP treatment.

> *"Mama: Nu ik weet eigenlijk niet goed, misschien als je dat vraagt als patiënt dat zij daar ook wel zou op ingaan, maar ik denk niet dat dat zoiets standaard is." (Multipara)*

> *"Mother: And then he explained that he himself is going to do the c-section for me because it's a… it's a case that he really wants to be there." (Multipara, English speaking)*

Also the presence of their own gynaecologist is taken into account as a plus when deciding on having labour induced, even if an induction is not what they hoped for or wanted.

> *"Mama: Ja, als het dan bij een andere gynaecoloog één dag langer is. De meeste gynaecologen die u tot tien dagen overtijd laten gaan... Ik denk dat op die ene dag, heb ik dan wel denk ik liever onze eigen gynaecologe, omdat ik die wel echt vertrouw en mij daar wel op zich heel goed bij voel." (Primipara)*

Independent midwives accompanying couples to the hospital

Some independent midwives accompany couples to the hospital. This was very much appreciated by the women who experienced this kind of continuity of care. For them it was the ideal combination of the secure setting of the hospital and the familiarity and trust relationship they had built with a team of independent midwives who followed them throughout pregnancy.

> *"Mama: De vroedvrouw hoorde ook wel denk ik aan mijn stem aan de telefoon toen er gesproken was van die inleiding van dat ik dat heel jammer vond en dat dat niet is wat dat ik wou en zij zei dan ook: Ça va? We gaan ook mee naar het ziekenhuis hé, als ge wilt. En dat heeft mij wel echt daardoor geholpen. Ik wist ook op voorhand wie dat er van wacht was, wie dat er ging komen...*
>
> *Interviewer: Van de vroedvrouwen?*
>
> *Respondent: Ja, van de vroedvrouwen en dat was zowel zo mijn enige troost eigenlijk van ja: Oké, ze gaan er ook zijn en ik ga constant iemand naast mij hebben die dat ik ken en die dat ik vertrouw." (Primipara)*

6.9.2.4. Continuity between pre- and postnatal follow-up

Regarding midwifery care two types of continuity emerged from the data: between antenatal follow-up and postnatal care at home, and between postnatal care at hospital and at home. Some hospitals engaged midwives working both at the maternity service and as an independent doing home visits.

> *"Maman : Mais que la sage-femme, oui elle était vraiment à faire un petit cocon, etc., et à faire peut-être oui, ce projet de naissance avec nous, etc. et tout. Donc ça moi, je trouverais vraiment intéressant d'avoir. Maintenant, c'est vrai, si c'est la même sage-femme qui vient après l'accouchement, c'est vrai que c'est chouette." (Primipara)*

6.9.2.5. Continuity between fertility and pregnancy

We had some parents in our sample who had a fertility treatment or artificial insemination. Gynaecologist with fertility specialisation often hand over the follow-up of pregnancy to another gynaecologist. This came as a surprise for some parents.

> *"Maman : Et là, elle m'a dit : « l'équipe de PMA, voilà on a fini. Donc maintenant c'est à vous de continuer votre suivi de grossesse avec qui vous voulez », et puis je lui ai demandé si elle le faisait, si elle faisait de l'obstétrique aussi, en plus de la PMA. Et elle m'a donné un rendez-vous chez elle tout de suite, par la suite." (Primipara)*

Key messages

- **Personal contacts with healthcare professionals made parents feel at ease and facilitated the creation of a trusting relationship.**
- **Parents prefer a follow-up by the same main healthcare professional throughout pregnancy. This way they feel more at ease, they build a trusting relationship and do not have to repeat the same story to several healthcare professionals.**
- **Parents described the presence of their own gynaecologist or midwife at the delivery as very valuable.**

6.9.3. Caregiver-patient communication and information provision during pregnancy

Information provision was an important theme in the interviewees' accounts. The subtopics emerging from the data were: non-adapted information, contradictory information, shortage of information, disguised information, one-sided information, undesired information, and sources of information. Shortage of information stood out with most references, followed by sources of information and contradictory information. Hence these three subtopics were most salient during our interviews. Except for shortage of information, the other subtopics were more addressed by primiparae then multiparae. The topic information provision was more talked about in Dutch interviews, compared to French, and this accounts more specifically for the subtopic sources of information.

6.9.3.1. Non-adapted information

An example of non-adapted information provision was about first-time parents being shown a video as part of birth preparation including images of episiotomy. These were experienced as unnecessary distressing, resulting in fear.

Multiparae indicated that they needed less information and less follow-up compared to their first pregnancy. The presence of an informal support network was pointed out as important in how many formal follow-up parents needed.

6.9.3.2. Contradictory information

Half of our interviewees reported to have received contradictory information. Several times they addressed gynaecologists and midwives having a different approach, but also gynaecologists and midwives contradicting each other, both within hospital as between hospital and home setting. The two topics mostly cited were breastfeeding (which was rather situated in the postpartum) and healthy food during pregnancy.

> *"Maman : J'avoue que j'étais un peu perplexe. Il y avait beaucoup d'explications théoriques, pas beaucoup de pratiques et puis, il y a une discordance entre la philosophie des sages-femmes et la philosophie des gynécologues. Et donc elles m'expliquaient, disant qu'elles, voilà ce qu'elles préfèrent, en sachant qu'elles ne travaillent pas en salle d'accouchement, pas dans celle-là, mais dans celle des grossesses à risques. Donc voilà ce qu'elles, elles préfèrent et pourquoi. Mais les gynécos préfèrent autre chose, mais qui commande en salle d'accouchement ? « Oui, mais vous avez votre mot à dire. Les gynécologues n'aiment pas cette position parce que c'est compliqué pour eux », je dis : « moi, je préfère que le gynécologue soit à l'aise ». Parce que ça ne va pas me rassurer si le gynécologue ne fait pas bien son travail si j'ai choisi l'une ou l'autre position ou telle ou telle respiration. Et donc finalement j'avais des explications au cas où je veux faire selon les sages-femmes ou au cas où je veux faire selon les gynécologues.*

> *C'était très confus et donc rien que les techniques de respiration pour pousser, c'était… Il fallait que j'apprenne 2-3 techniques et puis finalement elles se confondaient les unes avec les autres et moi, je lui disais… Je lui ai dit qu'il fallait un petit peu qu'ils homogénéisent un petit peu leurs façons de penser parce que c'est un peu déstabilisant.*

Interviewer: Pour la maman.

Maman : Oui. Elle me dit que j'ai mon mot à dire, mais moi, je dis : « non, du moment que je fais confiance à quelqu'un qui va m'aider pour accoucher. Ben, je vais écouter ce qu'il me dit », ce n'est pas moi l'experte." (Primipara)

A theme somewhat different from the others was about caregivers assessing a situation very differently: from reassuring to worrying. By consequence parents experienced an emotional rollercoaster and did not know what to think. A reassuring message was no longer believed and they were distressed all the time.

"Papa: En den eerste keer aan de monitor zeiden ze ook da die weeën wel geweldig waren. Het leek alsof…

Mama: …ik ging bevallen. Diezelfde avond nog.

Papa: Maar het laatste kwartier was het toch aan het kalmeren zeiden ze.

Mama: Ja dan mocht ik naar huis. Maar die werelden lagen zo ver uit mekaar voor ons. Van allé ja, wat is het nu eigenlijk. Ga ik nu bevallen of mag ik nu naar huis en is er nu niks aan de hand? Dat was gelijk van super erg, naar het is niet erg mevrouw, ga maar naar huis." (Primipara)

6.9.3.3. Shortage of information

Among all the topics parents especially wanted to be more informed about were 1) the possibilities of antenatal follow-up (with gynaecologist or in alternation with a midwife, or GP, in hospital or in private practice, midwife or GP only), 2) labour and delivery (what to expect, how to prepare, different possible scenarios), 3) breastfeeding, breastfeeding difficulties and solutions, 4) daily care for a new born, and how demanding a new born can be. All topics addressed during our interview round can be found in the table below.

"Maman: Contente de savoir que j'étais enceinte. Mais c'est un gynécologue qui ne communique pas beaucoup et j'avais plein de questions auxquelles je n'ai pas eu de réponses et ça m'a perturbée.

Interviewer : Donc, vous lui posiez des questions ou vous attendiez qu'il vous donne de l'info?

Maman: J'attendais qu'il me donne de l'info.

Interviewer : Et il ne vous a rien donné?

Maman: Non." (Primipara)

"Maman : Ben, encore une fois est-ce qu'elle répondait à tous mes besoins ? Non. Parce que s'il y avait une question à laquelle je n'avais pas pensé, ce n'est pas elle qui allait m'en parler. Encore une fois, je ne sais pas, les gynécologues sont aux abonnés absents, je n'en sais rien." (Primiparae)

Table 28 – Topics on which interviewees needed more information

Topic	Citation
• Fertility	*"Mama: Ik heb hard moeten zoeken naar correcte informatie over wanneer is nu je eisprong. Heel de cyclus, wanneer ovuleer je enzo, da vond ik heel ingewikkeld. […]* *ook omdat ik heel lang de spiraal gehad als anticonceptie. Ik had dan een afspraak gemaakt om die dan te laten verwijderen in het ziekenhuis. Ik had een afspraak bij mijn gewone gynaecoloog, maar ze was weggeroepen geweest voor ja, ik weet ni, een bevalling of een keizerssnede, waardoor ik bij een andere gynaecoloog terechtgekomen ben. Die was nogal kort. Toen had ik heel veel vragen. Het spiraaltje was verwijderd en dan had ik wel wat vragen. Jamaja en hoe gaat da gaan? Wanneer moeten we, wanneer panikeren dat het niet lukt? Moet kik over 6 maanden al terugkeren? Dan heb kik wel zo vrij kort een antwoord gekregen van: "mevrouwtje, probeert eerst ne keer en we gaan ons nu daar nog geen zorgen over maken." Dat was nogal. Geen vragen stellen, trekt uw plan en kijkt of dat 't marcheert en we zien dan wel."(Primipara)*
• All possible antenatal care trajectories and different care providers involved in antenatal care	*"Mama: ik had zo echt het gevoel, het is jammer dat ik daar nu pas echt de meerwaarde van die vroedvrouw prenataal, en een heel traject ondekt heb. Want die mensen staan toch veel meer stil bij de beleving van uw zwangerschap. Ik vond da nu zo een fijne ervaring om bij die vroedvrouw te gaan, maar dat is omdat ik zelf het landschap wat ken […]. Maar daar is niemand dat u dat zegt of u dat aanraadt of u op attent maakt dat dat ook kan." (Multipara)* *"Maman: Je crois que de conseiller les gens avant d'aller voir une sage-femme, oui de voir qu'il y a une autre possibilité que le gynécologue. Je crois que c'est quand-même important, parce qu'après c'est quand-même une sage-femme qui vient à la maison. […] Je trouve qu'ils devraient informer les parents, dire: "ben voilà ça existe"." (Primipara)* *"Maman : Mon sentiment par rapport à mon parcours en général, je pense qu'on n'est pas assez informé sur les sages-femmes. Parce que si j'avais été informée dès le départ, même depuis l'adolescence, si on m'en avait parlé au sein de la famille, etc. Je me serais directement tournée vers une sage-femme." (Primipara)*
• Which care provider does what, what is recommended, what is mandatory	*"Interviewer: Duo opvolging, is dat dan echt afwisselend vroedvrouw, de volgende maand naar de gynaecoloog, dan weer een maand bij de vroedvrouw, dan weer bij de gynaecoloog? Of...* *Mama: Wel, dat was me niet zo geweldig duidelijk wat dat daar in kon, maar ik wou eigenlijk graag zoveel mogelijk dicht bij huis opgevolgd worden en ik wou de link met de kliniek ook behouden en daar was voor mij niet zo duidelijk: Wat is nu echt zeer noodzakelijk dat in het ziekenhuis gebeurd en wat kan de vroedvrouw allemaal." (Multipara)*
• Antenatal testing, which antenatal tests, why, when, by whom	*"Maman: Oui. Ça, mon gynéco, c'est lui qui m'a fait les premières prises de sang et à titre d'exemple, la toxoplasmose, je n'étais pas immunisée. Je sais par l'entourage qu'il ne faut pas manger de viande et qu'il faut bien nettoyer ses légumes. Mais, ce n'est pas lui qui me l'a expliqué." (Primipara)*
• Vaccinations during pregnancy, what, when and why	*"Interviewer : Est-ce que vous avez reçu des vaccinations pendant votre grossesse ?* *Maman : Non.* *Interviewer : Pas de grippe, pas de coqueluche ? Ça ne vous dit rien ?* *Maman : Non. Non." (Multipara)*
• Healthy diet during pregnancy	*"Mama: Da vond ik ik eigenlijk ook wel wat moeilijk om te weten van wat mag ik nu wel en wat mag ik niet eten. Omdat je daar ook tegenstrijdige informatie over vind." (Primipara)*

• Vitamin intake, what, when and why	*"Mama: Dat wist ik niet vooraf. Maar dat wist ik dan wel via collega's. Je praat er wel is over: 'ja je moet eigenlijk foliumzuur innemen voordat je zwanger wilt worden'. Maar ik denk niet dat veel mensen dat weten op zich. Ik denk dat dat wel eens in de aandacht mag gebracht worden, zodat mensen dat weten of dat je dat ergens in een opleiding leert, want dat is. Bv ook niet in het middelbaar, in de biologieles ofzo weet je dat ook niet. Hebben ze daar nooit vermeld eigenlijk van je moet dat nemen voordat je zwanger wil worden." (Multipara)*
• The offer of birth preparation courses (where, who, what, why is it important, price)	*"Maman : Et moi, j'attendais que ce soit elle qui me dise aussi: « ah ben, tiens tu peux aller au cours pré-natal » ou quoi. Elle ne m'en a jamais parlé." (Primipara)*
• Wellbeing and physical complaints during pregnancy	*"Interviewer : Et de quel type d'information vous auriez eu besoin ?* *Maman: Déjà un accouchement provoqué, je ne me suis jamais posé la question, je ne savais pas que ça faisait partie des possibilités. Quel type de questions à cette étape là… Des informations de base sur le bien-être de la maman, les nausées, l'état de fatigue, les changements hormonaux que ça provoque." (Primipara)*
• What can go wrong during pregnancy with the mother (e.g. placenta praevia), alarm signals	*"Interviewer : Quand vous dites de déroulement, c'est ce qui va se passer au niveau de la maman ou ce qu'il se passe au niveau du bébé ?* *Papa: au niveau de la maman plutôt. Tu vois, les risques pour…expliquer déjà qu'est-ce qu'il peut y avoir comme risques, qu'est-ce qui peut être bien, qu'est-ce qui peut ne pas être bien. […] Expliquer ça par exemple. Si vous portez des enfants, vous risquez d'avoir le col ouvert, vous risquez d'avoir le bébé bas, vous risquez d'avoir le placenta bas, vous risquez d'avoir des saignements, etc. Ce genre d'informations." (Multipara)*
• What can go wrong during pregnancy with the foetus (e.g. too little amniotic fluid)	*"Interviewer : Est-ce qu'on vous avait expliqué en gros les signes d'alerte, quand est-ce qu'il fallait faire attention par rapport à la grossesse? Quels étaient les signes qui devaient vous inquiéter, qu'est-ce qui ne devait pas vous inquiéter?* *Maman: Franchement non.* *Papa: Un petit peu quand-même, les pertes de sang, ça non?* *Maman: Non, jamais.* *Papa: Si vous avez des pertes de sang.* *Maman: Non, non.* *Interviewer: Oui, c'est ça.* *Maman: quand j'avais un truc, que j'appelais, ils me disaient: "si vous avez des pertes de sang, il faut venir, sinon non". Mais comme ça te dire, tant qu'ils ne voient pas le problème, ils ne te diront jamais rien." (Multipara)*
• Labour, difficulties, what to expect, alarm signals	*"Papa: expliquer plus en détails le déroulement de...* *Interviewer : Quand vous dites de déroulement, c'est ce qui va se passer au niveau de la maman ou ce qu'il se passe au niveau du bébé?* *Papa: au niveau de la maman plutôt. Tu vois, les risques pour…expliquer déjà qu'est-ce qu'il peut y avoir comme risques, qu'est-ce qui peut être bien, qu'est-ce qui peut ne pas être bien." (Multipara)*
• Labour pain, what to expect and how to cope	*"Mama: Dat was een uur. Oefening met die bal voor die weeën op te vangen.* *Papa: Ja da was eigenlijk de enige persoon die eigenlijk iets zei over de bevalling. Wat dat er moest gebeuren, wat dat er de moeilijkheden waren, de drempels.* *Mama: Dat had je nu niet zo bij de gynaecoloog.* *Papa: Zij zei eigenlijk niks." (Primipara)*

• Delivery, difficulties, different scenarios of how delivery may proceed	*"Interviewer : Est-ce que pendant ce second trimestre, on vous a parlé de la préparation à la naissance, de la préparation à la parentalité ? […]* *Maman : Qui nous aurait parlé de ça ? Un prestataire de santé ?* *Interviewer : Oui, votre gynécologue qui vous dit qu'il y a des séances pour ça.* *Maman : Ah pas du tout.* *Papa : Non. Franchement* *Maman : Franchement, on a été déçu.* *Papa : On était des numéros. Pourtant, on en a fait 2 [gynécos] différentes." (Primipara)* *"Mama: Dus ik zelf zo wel daarover een boek gelezen: 'wat kan er gebeuren en welk soort weeën,...' Daar vond ik dat we zeer weinig info over gekregen hebben. Ook al zo, ik had dan verwacht bij da laatste consult bij de gynaecoloog, dan ga je op het einde zo om de 2 weken zo. Dan had ik wel verwacht dat er wel meer zo een keer ging komen van 'En? Bevallen, wat wil je? Ga je epidurale of niet?' Maar dat is gelijk nooit echt ter sprake gekomen en 38 weken moest het dan ineens snel snel gaan. En je hebt dan in je hoofd van ik wil natuurlijk bevallen of ik wil zo lang mogelijk rondlopen, maar dan ineens overvalt heel die situatie u. Maar omdat er daar eigenlijk nooit echt over gesproken geweest is of overleg over geweest is over die bevalling. Het gaat zo de hele tijd over de gezondheid van het kindje. Wat wel het belangrijkste is. Maar zo die bevalling, daar is nooit echt veel aandacht aan besteed, info ofzo." (Primipara)*
• What is normal after delivery versus alarm signals regarding the mother's (e.g. postnatal bleeding) and new-born's condition	*"Papa: Nous dire: "voilà, vous êtes des hommes. Vous avez aussi un rôle à jouer dans cette grossesse. Si vous voyez que madame est pâle ou si vous voyez que madame a vraiment des douleurs énormes, il faut essayer de l'amener", par exemple ce genre de choses." (Multipara)*
• Several breastfeeding scenarios, problems and solutions, how to prevent problems	*"Mama: Ik had zo graag nog voor de geboorte zo wat van die verschillende scenario's bijvoorbeeld doorgekregen van eh als je bijvoorbeeld je kindje aanlegt en het drinkt niet genoeg, wat dan? Zo die verschillende scenario's. Gewoon ne keer kort zodat je gewoon weet, ah ja, dat kunnen we ne keer proberen of dat kunnen we ne keer proberen." (Primipara)*
• Daily life with a new born, potential difficulties (e.g. lack of sleep), potential consequences (e.g. fatigue and tensed partner relationship) and how to cope (e.g. sleep when the baby sleeps, restrict visiting hours, turn out your phone), how to prevent difficulties, alarm signals	*"Papa: Ce qui manquerait plutôt, c'est un encadrement sur la vie d'un enfant, sur la naissance, sur la grossesse.* *Interviewer : Et ça c'est important pour vous de le savoir avant?* *Papa: Je trouve même qu'ils devraient faire des cours. Faire des cours à suivre pendant que la femme est enceinte. Des cours, par exemple d'une semaine répartis sur certains jours. Et voilà, un jour on vous explique tout." (Multipara)*
• Administration (e.g. how and when to apply for child allowances)	*"Maman : Voilà, je n'ai pas fait ça correctement, du coup, tout était en retard, la mutuelle aussi, donc j'ai pas été payée pendant un mois et demi.* *Interviewer : Ah ça, ce n'est pas cool.* *Maman : Oui, c'est parce que je n'ai pas fait les choses correctement, mais donc ça non, les démarches administratives, j'ai un peu foiré et puis, personne ne m'a aiguillé dans ce sens-là.* *Interviewer : On ne vous a pas non plus dit que toutes les infos se trouvaient dans le carnet de la maman?* *Maman : C'est quoi ça, le carnet de la maman ?*

	Interviewer : Vous n'avez pas reçu de carnet de la maman ? *Maman : Non." (Primipara)*
• Pelvic floor rehabilitation	
• Hospital policies and routines (e.g. newborn immediately skin to skin with the mother)	*"En je weet ook niet wat het beleid is van een ziekenhuis. Het is niet dat je daar als patiënt een boekske over gaat lezen. Wat gaan jullie doen de eerste vijf minuten nadat ik bevallen ben? Legt die dat kind bij mij of niet. Mensen kunnen u toch tussen aanhalingstekens wijsmaken wat dat ze willen. Ja, we pakken die weg want dan kunt gij efkes recupereren van uw bevalling. Dan denkt gij: Ah ja zeker, het zal wel. Ah nee, we gaan in de (...) – 28:23, want dat is goed voor de opstarting van de hechting en van de borstvoeding. Het is al... Het kan allemaal logisch zijn. Maar dan... Hoe kunt gij als patiënt dan weten wat voor u het meest op zijn plaats is of wat dat gij het belangrijkste vind?" (Multipara)*
• Maternity home care assistants (kraamhulp)	*"Hoe gaan we ervoor zorgen dat iemand keuzes kan maken in dat palet die bij haar of bij haar gezin aansluit. Dat moet je nu zelf zo wat uitzoeken. Bijvoorbeeld kraamzorg, dat dat bestaat, er zijn mensen die dat niet weten.* *En dat zijn geen uilen hé, dat zijn mensen zoals ik die bevallen en gelijk ik. Ik zeg: ge moet zo kraamzorg pakken, da is ik-weet-niet hoe gemakkelijk en zeker als ge zo vroeg naar huis zijt. Die doen uw strijk en die wassen en ditte, ditte, ditte... Echt? En dan zeg ik: Ah, dat ge dat niet weet? Maar hoe komt het dat ik dat weet? Ja, geen idee. Hoe komt het dat ik dat weet? […] Al gelijk, maar het is toeval dat ik een kraamzorgmadam gevraagd heb en dat ik daar content van was." (Multipara)*

6.9.3.4. Disguised information

Parents ask for honest communication and complete information. They want to know exactly what will happen and what will be the consequences. They presented some examples of situations in which they were not informed about what was going to happen or in which they received disguised information. Note that we purposefully do not use the wording 'misleading information' because parents were convinced about the good intentions of the caregiver.

> *"Maman : j'ai accouché avec une semaine de retard. Ah non, non, non, non, non. C'est lui avec une semaine. Un jour de retard.*
>
> *Interviewer : Ah vous étiez tiptop bien.*
>
> *Maman : Oui, oui. Grace au gynécologue.*
>
> *Interviewer : Quand vous dites « c'est grâce au gynécologue », pourquoi ? Qu'est-ce…*
>
> *Maman : Parce que j'ai fait un décollement.*
>
> *Interviewer : Il a ouvert votre col, c'est ça ?*
>
> *Maman : Je pense. Ce qu'il s'est passé, c'est que mes parents et tout ça étaient au taquet pour l'arrivée du bébé et donc ils voulaient savoir où j'en étais et donc moi, quand j'entendais « savoir où j'en étais », c'était savoir si le col était ouvert, l'évolution de ce point de vue-là. Et donc le gynécologue ne devait pas me voir et puis… Non, s'il devait me voir et donc quand j'étais là-bas, après le monitoring, il regarde le monitoring et il dit « rien, c'est calme, ce n'est pas pour tout de suite ». Et puis, je lui dis : « ah, vous ne le consultez pas » et il dit : « ah vous voulez ». Et je pense qu'il a compris que je voulais un coup de main pour l'accouchement, chose qu'il a faite. Donc il a fait un décollement avec ses doigts, je ne sais pas comment c'est. Et le jour même, en effet, j'accouchais.*
>
> *Interviewer : Ah oui ? Donc il a été efficace.*
>
> *Maman : Il a été très efficace, mais je pense que mon organisme était…*
>
> *Interviewer : Prêt aussi.*
>
> *Maman : Prêt. Mais voilà, je ne m'y attendais pas. Ça, ça c'est quelque chose de… Parce qu'il ne m'a pas expliqué ce qu'il faisait*

et ce qu'il allait faire, je ne m'attendais pas à ça. Donc j'ai eu mal et…

Interviewer : Il n'a pas dit : « je vais vous faire… », « ça risque de vous faire mal » ou… ?

Maman : A mon avis, il pensait que j'avais cette attente-là. On s'est mal compris. Moi, je voulais juste savoir où j'en étais, je ne voulais pas de décollement, je laissais faire la nature. Et donc du coup, ben voilà, on s'est un peu mal compris de ce point de vue-là. Qui plus est, il ne m'a pas dit : « je vais procéder à un décollement, ça peut faire un peu mal ».

Interviewer : Oui, il ne vous a pas expliqué ce qu'il faisait ni quelles étaient les conséquences de ce qu'il faisait.

Maman : Non.

Interviewer : Et ça, ça vous a un peu embêté ou… ?

Maman : Oui. Oui. Ça oui parce que je voulais laisser faire la nature." (Multipara)

6.9.3.5. One-sided information

One-sided information presenting only the advantages of an action or intervention in order to 'sell' it, was experienced as dishonest.

"Mama: Ah, maar dat is misschien echt zo tijdens de bevalling van de eerste maal is het: We gaan u efkes helpen, en ik dacht: Wat gade doen? En dan is dat als je zowat ontsluiting hebt bij wijze van spreken van 5-6 centimeter, dan kun je zo een keer roefelen... […] Dat doet echt onnoemelijk veel pijn. […] Allee, zij stelt dat ook voor als we gaan u efkes helpen. Ah tof. (lacht) Zegt gewoon: We gaan u efkes pijn doen en dan gaat ge een paar centimeter minder, ça va, tof. […] Ik vond dat op dat moment heel pijnlijk, dus dan denk ik: Dat zou ik niet opnieuw laten gebeuren. Maar je weet dat niet. Als mensen tegen u zeggen: We gaan hier voor wat meer centimeters zorgen, dan denk jij gewoon: Ah ja, doe maar. We gaan u helpen. Oké, doe maar. Ow, dat was niet wat dat ik dacht dat gij ging doen."(Multipara)

6.9.3.6. Unwanted information

On a few occasions parents mentioned they got information they did not want. This unwanted information comes down to two situations:

1. Parents being informed about the sex of the baby, while they did not want to know the sex in advance (and notified this to the care provider)

   "Mama: Euhm... En toen voor de echo's zijn we altijd bij haar gegaan en dan de NIPT-test, maar wij wouden het geslacht niet weten. Euh, en dat merkte ik wel dat dat heel moeilijk was, want ze heeft zich drie keer bijna versproken." (Primipara)

2. Information regarding to pregnancy related risks or possible birth defects which finally turned out to be false alarm unnecessarily causing fear and worries.

   "Mama: En dan kwam daar al direct zo van alles bij van: En ja, erfelijkheidsziekten en we gaan dat onderzoeken en dat, en ik dacht: Dat is onze vraag helemaal niet, maar ik durfde dat dan ook niet aangeven. Ik dacht: Ja, dat zal dan wel zo zijn, en dan, ja, onderga je dat maar, maar dat is zo….zo dat er eigenlijk zo toch nog veel boven uw hoofd wordt beslist terwijl dat het eigenlijk over u gaat en over uw kindje." (Primipara)

6.9.3.7. Sources of information

Antenatal care providers (gynaecologists, midwives, GPs and physiotherapists) were cited as important sources of information. There was a large variation in accessibility, especially of gynaecologists. Some provided information pro-actively or blocked time in their agenda for questions of parents, which was very much appreciated, others barely answered questions during consultations (see 6.9.3.8).

"Interviewer: Est-ce que vous avez eu l'occasion de poser des questions à la fois à la gynécologue et à la fois...?

Maman: Oui ça, toutes les deux oui. Et la gynécologue, même en dehors du rendez-vous, elle a des heures de consultation durant la journée où on peut lui téléphoner. Elle a une ou deux heures par jour où on peut lui téléphoner où elle répond ou pas mais on peut lui laisser un message et elle répond dans la journée. Donc, ça c'était bien et la sage-femme aussi." (Primipara)

However parents made very clear that professionals are far from the only information source, perhaps not even the main information source. Parents, especially first-time parents, told us pregnancy was a quest for information. Parents' own informal network (family, especially parents and sisters, friends and colleagues) stands out as really important, also for multiparae. Apart from that, other sources were mentioned such as books, the internet (e.g. website 'www.gezondzwanger.be), apps with daily alerts and advice (e.g. FLO). To a lesser degree, printed media such as posters (e.g. in waiting rooms), booklets (e.g. mother booklet developed by ONE/K&G) and brochures have been cited.

"Interviewer : Et par rapport au postnatal, est-ce qu'on vous avait expliqué en prénatal les démarches administratives, les recherches de crèche, comment on faisait pour le congé maternité, etc. ou pas du tout ?

Maman : Non, mais par contre ils donnent un livre où tout est mis dedans. Donc c'est vrai qu'elle n'a pas dit en consultation, mais dès la première consultation elle donne le guide qui a été fait par l'hôpital, par les gynécologues. Et alors, ça reprend trimestre par trimestre le ressenti de la maman, les symptômes, où en est bébé dans la croissance, et les démarches qu'il ne faut pas oublier de faire. Donc « n'oubliez pas ce mois-ci, si vous voulez faire des réservations de préparations à l'accouchement, c'est maintenant. N'oubliez pas de prévenir votre employeur, de prévenir votre mutuelle, de demander l'allocation », et il y a une catégorie, quoi." (Primipara)

Some parents explicitly said they preferred oral over written communication.

"Maman : elle donnait des petits folders avec tous les trucs dedans. Mais franchement, je ne les ai jamais lus parce que voilà…

Interviewer : C'était trop…?

Papa: Moi je préfère qu'ils expliquent…

Maman: Franchement, c'est très bien. Mais moi, je préfère qu'ils expliquent au moment même parce que déjà, je perds du temps à venir, je prends le temps. J'ai une vie active, ce n'est pas possible… J'arrive déjà là, en plus il m'a donné des folders encore à lire." (Multipara)

"Maman : On reçoit beaucoup d'informations. Quand je suis sortie de l'hôpital, j'avais reçu-je ne sais pas combien de fascicules. Et je regardais : « est-ce que ça c'est utile, ça c'est utile, ça c'est utile ? », je ne sais pas. C'est… Il y a beaucoup d'information écrite, pas beaucoup d'information verbale et rassurante, genre : « ça c'est normal, ça ce n'est pas normal », « si vous avez ça, c'est pas normal »." (Primipara)

6.9.3.8. Conclusion: pregnancy is a quest for information

In general parents told us that pregnancy was a quest for information. They felt they had to search many answers themselves (e.g. in books, on the internet and through their own informal network). Often the information they retrieved was contradictory and confusing (e.g. on healthy diet during pregnancy).

Parents asked for objective information with arguments pro and contra, in order to be able to decide which option is best for them and their family. Also parents wanted information being provided pro-actively, instead of in case a problem occurs, in order to prepare and not to be surprised in case of.

Parents felt disappointed when their gynaecologist did not leave any time for questions during consultation and/or answered them very briefly. Parents developed strategies facilitating themselves to ask questions: asking questions at the start of a consultation, preparing and listing questions in advance, writing them down on paper and being assertive to squeeze their questions into the consultation time.

"Maman : Chez la gynécologue, quand j'allais et que j'avais des questions, je les posais vite avant l'échographie parce que je savais qu'après c'était merci, au revoir. Je suis là et j'ai des questions, mais on dirait qu'on s'en fout en fait." (Primipara)

"Maman : Mais sinon, on va dire que les questions, comme je vous ai dit, la deuxième gynécologue quand j'ai changé, la première fois comme j'ai remarqué que c'était la même chose que la première gynécologue, je lui ai dit… J'ai noté les questions dans mon carnet et sans mentir, dès qu'on rentrait en consultation c'était : « tout se passe bien », « oui, mais j'ai des questions », « ah oui, d'accord ». Hop première question, deuxième question, … Alors, elle répondait limite : « oui » ou « ah non, ça non », voilà c'était très bref." (Primipara)

In addition, when their due date was approaching, primiparae expected their gynaecologist to ask about their birth expectations (e.g. what they would like, what they fear), and or to provide information on the birth process, possible interventions, and how he/she was going to proceed in case interventions were needed. They seemed to be well aware of the unpredictability of childbirth, but wanted to be prepared.

"Mama: Euhm, dus ik zelf zo wel een boek daarover gelezen: 'wat kan er gebeuren en welk soort weeën,...' Daar vond ik da we zeer weinig info over gekregen hebben. Ook al zo, ik had dan verwacht bij da laatste consult bij de gynaecoloog, dan ga je op het einde zo om de 2 weken zo. Dan had ik wel verwacht dat er wel meer zo een keer ging komen van 'En? Bevallen, wat wil je? Ga je epiderale of niet?' Ma da is gelijk nooit echt ter sprake gekomen en 38 weken moest het dan ineens snel snel gaan. En je hebt dan in je hoofd van ik wil natuurlijk bevallen of ik wil zo lang mogelijk rondlopen, maar dan ineens overvalt heel die situatie u. Maar omdat er daar eigenlijk nooit echt over gesproken geweest is of overleg over geweest is over die bevalling. Het gaat zo de hele tijd over de gezondheid van het kindje. Wat wel het belangrijkste is. Maar zo die bevalling, daar is nooit echt veel aandacht aan besteed, info ofzo." (Primipara)

At several occasions parents told us that they got to know something by coincidence (e.g. the services of a midwife, the existence of maternity home care assistance). By coincidence means through their informal network of colleagues, friends and family and was contrasted with through healthcare professionals. They argued that information should be provided in a standardised package offered to every future parent, especially the variety in antenatal care trajectories and providers was often cited.

"Dus ik denk dat het heel belangrijk is dat mensen het belang van zo'n begeleiding, ook prenataal, leren kennen, dat het niet toevallig moet zijn omdat je dan van iemand hoort, dat is eigenlijk wel belangrijk. Maar dat het anderzijds ook niet gepamperd moet worden vanuit de overheid." (Multipara)

It was claimed that parents should be able to make their own choices based on objective information on what are the possibilities, what are the pro's and con's of each possibility and what are our needs and preferences. Information should be provided timely, leaving enough time for parents to decide. This implies some information is already needed before conception, e.g. on antenatal care providers and trajectories.

We found little differences between primiparae and mutliparae in terms of topics, but multiparae seemed to be more firm in their assertions and spend more time talking about lacking and/or contradicting information. A possible explanation is that they are more experienced and saw some patterns in their experiences. Some had discoveries (e.g. birth preparation classes) when pregnant for the second or third time and felt sorry that they did not know earlier. On the other hand, multiparae also nuanced their statements by the observation that the second or third pregnancy was easier, less a quest for information, as they were better informed than the first time.

Key messages

- **Pregnancy is a quest for information. Parents have the feeling that important pieces of information reached them by coïncidence (e.g. because they heard a colleage talk about it), hence was not provided in a formally organised way.**
- **Parents showed a clear need for objective information, which means pros and cons, enabling them to make their own choices.**
- **Pro-active information is valued. This means providing information not only in case a problem occurs, but up front, enabling parents to prepare and not be surprised at the event of a problem.**
- **Gynaecologists are not always perceived as accessible and open to questions. Parents reported a limited amount of time to ask questions. Parents sought ways to be able to ask their questions (e.g. by asking at the start of a consultation, by preparing lists in advance). Some were disappointed because of very brief answers. Some expected to receive information initiated by the gynaecologist, rather than only answers to questions.**
- **A lot of topics were mentioned as not sufficiently covered. Most salient was information on the antenatal care trajectory and types of healthcare professionals, information on labour and delivery, breastfeeding and daily care for a new born.**
- **Parents needed timely information. Some info is needed before conception (e.g. on fertility, folic acid).**
- **Although multiparae are more experienced than primiparae, we did not notice different information needs. Multiparae spent more time talking about lacking and/or contradicting information.**

6.10. Parents' role and involvement in antenatal care

6.10.1. Decisions, routines or procedures beyond parents' control

Parents gave examples of decisions, routines or procedures beyond their control. Examples that have been addressed in the interviews are hospital routines, rules, procedures, monitoring of the baby in the last weeks of pregnancy, antenatal testing.

> *"Mama: En dan kwam daar al direct zo van alles bij van: En ja, erfelijkheidsziekten en we gaan dat onderzoeken en dat, en ik dacht: Dat is onze vraag helemaal niet, maar ik durfde dat dan ook niet aangeven. Ik dacht: Ja, dat zal dan wel zo zijn, en dan, ja, ondergaat ge dat maar, maar dat is zo... zo dat er eigenlijk zo toch nog veel boven uw hoofd wordt beslist terwijl dat het eigenlijk over u gaat en over uw kindje." (Primipara)*

> *"Mama: Allee, als ze u zo'n bad tonen om in te bevallen en een bal voor op te gaan zitten en een krukske... Allee en dan de bevallingstafel zelf. Als ze u dat allemaal tonen, kunt ge misschien evengoed zeggen: Wat is ons beleid na de bevalling, hoe doen wij dat... Dat lijkt mij nog wel iets dat alleszins niet overal hetzelfde is en dat ik dan bedenk: Dat kun jij als mama gewoon maar ondergaan wat dat uw ziekenhuis standaard doet en daar ben je niet zo op voorbereid, denk ik." (Multipara)*

This feeling of control loss did not so much occur in the context of personal face-to-face communication with care providers, but rather in larger institutional settings. On the contrary, we encountered some examples of shared decision making between healthcare professional and parents.

> *"Maman : Oui. Disons qu'à la dernière visite chez le gynéco, je lui ai dit : « voilà, mon col est presque effacé, j'ai une ouverture à 3 centimètres. Est-ce qu'on ne pourrait pas le déclencher ? ». Je veux dire, qu'il naisse à 39 semaines ou à 42, … Bon voilà, il a un bon poids, il va bien, … Et le gynécologue m'a dit : « oui, j'accepte parce que le travail a déjà commencé en fait et qu'il y a déjà cette ouverture. Sinon, je ne le ferais pas, mais j'accepte de le faire ».*

Donc, je suis rentrée à l'hôpital à 39 semaines et 6 jours pour être « déclenchée ». Et puis finalement, il n'y a pas eu besoin de le déclencher." (Multipara)

6.10.2. Unpredictability of childbirth

Interviewees addressed the unpredictability of childbirth. They stated that even if you cannot control the birth process, it remains important to be informed about all the steps in the process ahead.

"Interviewer: Maar je hebt nergens spijt van?

Mama: Ik had, ja 't was toch, 't was ni met kiezen

Interviewer: Nee

Mama: En ik heb wel 't gevoel da wij op ieder moment, op iedere stap goe geïnformeerd geweest zijn. Ik had ni 't gevoel van ze zitten hier te pletwalsen over ons van we gaan nu dit en hup ge hebt niet te kiezen. Ook al hadden we niet te kiezen had ik wel 't gevoel dat ze ons goed begeleid hebben, geïnformeerd hebben en dat we ook wel de tijd hadden om effkes na te denken van ja oké we gaan hier nu wel of ni." (Primipara)

The unpredictability of childbirth also made parents think about the relativity of a birth plan. The birth process imposes itself, sometimes opposite to all wishes and desires one can have about the ideal delivery.

"Mama: Ja ik had da graag misschien gedaan, maar ja het lot heeft er anders over beslist dat ik zo lang mogelijk zo kunnen thuisblijven en da je dan pas op't einde naar't ziekenhuis gaat om dan effectief te bevallen. Je maakt dan een geboorteplan maar ik mocht het al in de vuilbak smijten al voor da we begonnen waren. (…) Ik heb alles wat ik wou heb ik niet kunnen doen dus ja." (Primipara)

" Maman: Et c'est à l'écho. Que le gynécologue a vu ce problème de liquide amniotique. Et comment la décision a été prise de dire, ça ne sera pas en maison de naissance, ce sera provoqué?

Maman: Je n'ai pas eu mon mot à dire parce que d'un point de vue médical, c'était nécessaire. Donc, …

Interviewer: Vous n'avez pas eu l'impression de participer à la décision?

Maman: Non. Non, mais je pense que c'était non-négociable par les professionnels de la santé.(…) On m'a dit lundi s'il n'est pas venu.

Maman: On m'a dit: "vous êtes là à 7 heures du matin".

Interviewer: Comment vous êtes-vous sentie par rapport à cette décision? Vous m'avez dit que vous avez pleuré pendant 5 jours.

Maman: Oui, oui. Je l'ai très mal vécu parce qu'on me l'avait dit que ça pouvait se passer comme ça, mais je ne m'étais pas préparée, moi. J'étais persuadée que ça n'irait pas comme ça, mais c'est de ma faute car on m'avait dit que ça pouvait arriver." (Primipara)

6.10.3. Lack of experience and knowledge

Regarding parents' choice and control, one interviewee summarised it as follows: "how can you as a patient know what suits you best or what is most important to you?" Parents need full information in order to make informed choices about their antenatal care trajectory.

"Wat is het palet dat we aanbieden en wat... Allee, hoe gaan we ervoor zorgen dat iemand keuzes kan maken in dat palet die bij hem aansluit of bij haar of bij het gezin aansluit, dat... dat moet je nu zelf zo wat uitzoeken.(…) en hoe stemde de boel op elkaar af zodat mensen niet dubbel werken." (Multipara)

"Mama: Maar ge hoort da altijd dat de mensen da zeggen: ja je moet toch zeggen dat je geen knip wil tenzij het echt, echt nodig is éh, want ze zetten da anders zo standaard. Ik heb da nooit kunnen zeggen tegen iemand of allé da is daar gelijk nooit van gekomen. Terwijl ze wel in't ziekenhuis éh, ge krijgt dan ook zo infobrochures over bevallen en pakt da op in uw geboorteplan en pakt da mee. Maar als't puntje bij 't paaltje komt dan heb ik zo ni den indruk da

da echt. Aléé ik denk da je da heel actief moet aanbieden van ik wil da en da en da." (Primipara)

Lack of experience and knowledge implies that you depend on healthcare professionals and you cannot but trust the professionals taking care of you. Healthcare professionals should provide the full list of options with all consequences, instead of presenting only their own solution or convictions.

"Papa: Das ook, allé ja. Is da bij iedere zwangerschap zo of komt iedereen da tegen da weten wij niet éh." (Primipara)

"Mama: En zo het ding van: Ik ga een geboorteplan maken. Als je nooit bevallen zijt... Wat of hoe, hoe moet je daar dan aan beginnen aan uw geboorteplan en dan is dat eigenlijk geluk dat je daar dan bevalt en dat daar de policy zo is, of ik denk dat dat hier in Asse gebeurde. Die collega zei van: De eerste nacht zullen wij uw kleintje bij ons houden, we zullen hem dan eten geven en dan kunt gij is een keer goed slapen. Ja sorry, maar die drie maanden nadien slaap je toch niet goed. Het is niet dat die ene nacht u er dan doorgeholpen heeft ofzo hé. En dat is juist dan zo essentieel als uw kleine bij u is voor die borstvoeding en vooral dat, maar dus, je weet dat niet hé. Ze zei ook: Ik dacht, ah da's tof hé. Plezant, dan kan ik een keer doorslapen, maar dat is eigenlijk een beetje een vreemde reden en ook niet goed voor de opstart van een borstvoeding bijvoorbeeld, maar dat weet je niet. Dus je denkt: Ah, dat is lief, tof, bedankt. Maar je hebt te weinig kennis om daar tegenin te gaan denk ik op dat moment." (Multipara)

Parents feel they lack the knowledge and or experience to judge and decide. They trust that healthcare professionals do have the expertise and do the best they can. This finding underlines the importance of the trusting relationship with the care provider.

"Ge zijt zelf niet medisch genoeg onderlegd om te weten wat dat ge wanneer zou kunnen weigeren en wat dat ge wanneer moet toestaan of laten gebeuren. Dus daar moet je toch altijd een beetje vertrouwen op wie dat er daar zit, maar dat is het dan ook hé. Je kunt dan maar geloven dat die zegt: We gaan u een beetje helpen. Oké. Maar dan... Ik weet niet of dat als ze mij nu op voorhand al die mogelijkheden... Hé, we kunnen dat dan eens doen of dat. Allee, weet ik veel. Als gij denkt dat dat dat nodig is, dan moet ge dat doen." (Multipara)

"Maman : Oui. Elle me dit que j'ai mon mot à dire, mais moi, je dis : « non, du moment que je fais confiance à quelqu'un qui va m'aider pour accoucher. Ben, je vais écouter ce qu'il me dit », ce n'est pas moi l'experte."(Primipara)

At several occasions parents told us they felt unable to judge about quality of care, to judge whether a certain act is adequate or not, especially for their first pregnancy. Especially multiparae said they regretted choices they made during their first pregnancy because at that time they didn't know any better.

"Die collega zei van: De eerste nacht zullen wij uw kleintje bij ons houden, we zullen hem dan eten geven en dan kunt gij is een keer goed slapen. Ja sorry, maar die drie maanden nadien slaap je toch niet goed. Het is niet dat die ene nacht u er dan doorgeholpen heeft ofzo hé. En dat is juist dan zo essentieel als uw kleine bij u is voor die borstvoeding en vooral dat, maar dus, je weet dat niet hé. Ze zei ook: Ik dacht, ah da's tof hé. Plezant, dan kan ik een keer doorslapen, maar dat is eigenlijk een beetje een vreemde reden en ook niet goed voor de opstart van een borstvoeding bijvoorbeeld, maar dat weet je niet. Dus je denkt: Ah, dat is lief, tof, bedankt. Maar je hebt te weinig kennis om daar tegenin te gaan denk ik op dat moment." (Multipara)

Key messages

- **Parents gave examples of decisions, routines or procedures beyond their control. This feeling of control loss did not so much occur in the context of personal face-to-face communication with care providers, but rather in larger institutional settings.**
- **Parents feel they lack the knowledge and or experience to judge and decide about the adequacy of an act.**
- **Parents want to be informed about all options to identify their own preferences and make the choices that suit their preferences best.**

6.11. Parents' disappointments and appreciations

6.11.1. Too much or too little care

Superfluous care (Table 29) refers to unnecessary investigations or interventions as perceived by the parents. However, these evaluations are very personal. Topics mentioned by some in the category too much, were mentioned by others in the category too little (Table 30). For example, some interviewees experienced an ultrasound at each consultation as overkill, while this was exactly what other interviewees appreciated the most. The same contradiction was identified for the number of consultations, which was too much for some and too many for others. The only topic that stands out is about double investigations in case of an alternating care trajectory. Basically this means that there is still some overlap when alternating a gynaecologist and a midwife.

Table 29 – Topics referring to superfluous care

Topics	Citations
Ultrasound at each consultation was overkill	*"Mama: Nee, en dan die echo's dat die elke keer gemaakt werden, dat was ook iets wat eigenlijk voor mij niet gehoeven had." (Primipara)*
Investigations that were not asked	*"Mama: We kregen eerst een afspraak bij iemand van erfelijkheidsziekten en dan begon die uit te leggen wat dat ze allemaal gingen doen en dat ze zo ook standaard alles checkten omdat ze dan toch vruchtwater en... Ik was daar eigenlijk wel van verschoten omdat... Wij hadden allebei zoiets van: Ik vind dat eigenlijk niet nodig, en... Ja, dat kost de maatschappij ook weer zoveel geld dat jullie daar allemaal onderzoek gaat naar doen." (Primipara)*
Too much consultations – useless consultations	*"Interviewer: Et est-ce que vous trouvez que vous avez eu assez de rendez-vous en prénatal ?* *Maman : J'allais dire presque trop, quoi. Ouais, au niveau agenda, ce n'était pas toujours facile. Mais non, c'était juste bien." (Primipara)* *"Papa: Aussi, parfois, on y va, on regarde. Mais, au fond, on ne veut même pas y aller parce qu'on se dit que ça ne sert à rien." (Multipara)* *"Maman: Le dernier trimestre, non on va dire le deuxième trimestre, je n'ai quasiment pas vu la gynéco et la sage-femme parce que j'étais trop occupée avec elle et puisque je suis dans la politique, J'étais trop occupée dans la politique, je n'avais pas le temps de courir vers les deux, alterner tout ça et je savais que ce n'était pas très important parce que c'était chaque fois la même chose: préparation, préparation, préparation, ce genre de choses. Des questions qui sont bien, mais ça va, c'est bon, j'avais déjà vu avec la petite, il n'y a pas longtemps alors je connaissais tout ce suivi et du coup j'ai pas été." (Multipara)*
Double investigations in case of alternating care trajectory	*"Mama: Euhm, en ik ben blij dat ik dat gekozen heb, dus dat, dat maakte bijvoorbeeld het aantal verplaatsingen, ja, gewoon veel minder was of veel korter kon zijn, dus dat vond ik wel positief. Euhm, als ik daar een kanttekening bij mag maken, dan denk ik sommige dingen lijken mij zo nog... Worden zo wat dubbel gedaan precies dan. Als je daarvoor kiest, dan is het voor mij precies nog niet zo duidelijk wie dat wat wanneer dan doet. En ja... Waren er soms afspraken heel kort op mekaar, dan dacht ik: Ja, is dat nu nodig? (…)Die duo opvolging is... Leek mij soms precies mij meer afspraken te hebben opgeleverd dan minder" (Multipara)*
Systematic monitoring during last week of pregnancy	*"Mama: Ik voelde mij nog heel goed en ik was dan ook heel gerust in. Ik voel het kindje altijd bewegen, dus voor mij hoefde dat niet om zo om de twee dagen aan een monitor te hangen. Ik zag daar eigenlijk een beetje tegen op." (Primipara)* *"Interviewer: Donc, que vous ayez besoin d'un monitoring ou pas, on ne vous le demande pas. On vous met un monitoring directement.* *Maman : Oui, ça je n'ai jamais compris. Je leur disais : « je n'en ai pas besoin. Pourquoi je serais en monito », « si, si, si ».* *Interviewer : C'est leur manière de faire.* *Maman : C'est ça, c'était systématique. Monito., et si jamais au monito. on ne voit rien, on regarde ce qu'il se passe." (Multipara)*

Table 30 – Topics referring to too little care

Topics	Citations
Too few ultrasounds	*"Maman: Le fait d'alterner ne me posait pas vraiment de problèmes. Ce que je n'aimais pas c'est qu'on n'avait pas droit à une échographie chaque fois, qu'on avait que trois échographies pour toute la grossesse. C'est ça qui m'embêtait le plus.* *Ça vous a semblé trop peu?* *Maman: Oui moi, je trouve que c'est très peu. Parce que j'avais une copine qui était dans un autre hôpital qui en avait tout le temps alors que moi, je devais attendre X temps pour avoir une échographie. Je pense, moi personnellement j'aurais préféré, à chaque fois que j'allais, voir mon bébé." (Multipara)*
No morphological ultrasound	*"Et votre gynécologue, c'est lui qui faisait aussi les échographies morphologiques ou… ?* *Maman : Je n'ai pas eu d'échographies morphologiques malheureusement, par ce qu'il n'y a pas assez de personnel ici, dans la région du Luxembourg. Je n'ai pas eu d'écho morpho. Donc il m'a dit, je verrai bien à l'écho s'il y a quelque chose ou pas." (Mutlipara)*
Too few consultations	*"Maman : Allez, vraiment pour être rassurée en début de grossesse, je ne serais pas contraire d'avoir un petit peu… une consultation en plus, pour être rassurée. En fin de grossesse, je vais dire, après, dès qu'on commence à sentir l'enfant bouger, on sait qu'il est là, qu'il va bien donc c'est beaucoup plus rassurant. Donc moi, c'est vraiment le début de la grossesse que je trouve qu'il y a un petit manquement." (Multipara)*
Consultations on demand instead of planned ahead	*"Papa: Franchement, on préfère avoir des rendez-vous, par exemple, au moment où on ne se sent pas bien ou quand on a une crise de panique. On préfère appeler à ce moment-là.* *Maman: Et avoir un rendez-vous à ce moment-là.* *Papa : Et avoir un rendez-vous à ce moment-là.* *A la demande?* *Papa: Oui, à la demande. Plutôt que dire: "vous venez dans un mois"." (Multipara)*

6.11.2. Defective material

Defective material was a source of disappointment or annoyance, but we encountered only two examples.

Table 31 – Topics referring to defective material

Topics	Citations
Breakdown ultrasound device	*"Mama: Als daar een bevalling tussenkomt, ja oké. Nee, we praten daar ni over. Maar 't was wel iedere keer. Of te wel was 't toestel kapot of te wel was't dit of te wel was't dat. Ma anders, allé was't echt een super goeie arts hé. Zij heeft ons echt heel goed geholpen. Heel empatisch opgesteld." (Primipara)*
Independent midwife had no doppler	*"Mama; Dat dopplertje was toen ook al niet binnen, dus ze is dan de eerste 3 – 4 keren langsgekomen zonder doppler. Dus om te luisteren naar't hartje* *Papa: Ja, ma we hadden er zelf eentje. Dat was nu niet erg.* *Mama: We hadden er zelf eentje, maar ze wist het niet dat we er zelf eentje hadden. Het Is daarmee dat we nog niet snel panikeerden als ze het nooit bij had. Maar ik had ook zoiets van: als je prenataal komt, zorg dan dat je ook in orde bent. How, we hebben er niks van gezegd omdat we er zelf eentje hadden. We konden dagdagelijks zelf luisteren, zeker na die miskraam, je wilde echt wel bijna letterlijk elke dag dat hartje horen kloppen. En cho dat was wel de beste aankoop die ik gedaan heb." (Primipara)*

6.11.3. Disappointing healthcare professionals' attitudes and reactions

Parents were especially sensitive to healthcare professionals' attitudes and reactions. Some parents felt not taken seriously, not listened to or even unwelcome. Unfriendly or hurried healthcare professionals were also mentioned, as well as healthcare professionals imposing own ideas or solutions instead of listening to parents' preferences or expectations.

Table 32 – Topics referring to disappointing care providers' attitudes and reactions

Topic	Citation
Feeling laughed in the face	*"Mama: Niemand had zo gezegd van ja: Als ge stopt met uw pil, dan kan dat zolang duren voordat uw regels terugkomen of ge zijt daarom niet zwanger enzo. Dat vond ik wel heel erg, omdat we dan... Wij wouden heel graag zwanger... Dat was ook stom om al na direct één maand... Maar ja, dat duurde en dat bleef duren en ik was dan naar de huisarts gegaan en die lachte... Allé, niet lachen, maar zo van: Ja en dit en dat, ge zijt nog maar één maand bezig, terwijl ge wel een kindje wilt krijgen. Dat vond ik toen wel erg. Ze hadden dan bloed genomen en ze zeiden: Ja, tijdelijk na de twee keer dat ik daar geweest was, hadden ze gezien dat die hormoon... dat dat gewoon ontregeld was om het zo te zeggen." (Primipara)*
Feeling not being taken seriously	*"Maman : Et en fait, je n'avais pas envie que ce soit un homme.* *Interviewer : Et vous avez pu l'exprimer ?* *Maman : Non, je n'ai pas pu le dire. Je n'avais pas envie que ce soit un homme pour différentes raisons qui m'appartiennent. Et ce n'était par rapport au fait…* *Interviewer : Oui voilà, vous n'aviez pas envie. Vous avez le droit de ne pas avoir envie.* *Maman : Et en plus ça s'est mal passé parce que j'avais une douleur sur le côté et puis j'avais mal et en gros lui, il m'a examiné et il m'a dit : « mais, il n'y a rien ». Or, ce n'était pas vrai, j'avais un candida.* *Interviewer : Ah ouais.* *Maman : Et en plus, il s'est mis à remettre en doute ma parole à me dire : …« et c'est bizarre parce que vous dites que vous avez mal puis après, vous n'avez plus mal et quand je vous touche vous n'avez pas mal et vous dites que vous avez mal quand même ». Alors, je lui dis : « Ben non, ce n'est pas bizarre. C'est juste que quand je fais certains mouvements, ça me lance ici sur le côté » et je lui dis : « je pense que c'est la position du bébé parfois comment il est mis, il pousse avec ses pieds et ça me fait plus mal », enfin voilà. Et bon, le fait qu'il remette en doute comme ça ma parole, ça a raisonné avec des choses qui étaient déjà arrivées par le passé par des hommes qui m'ont un peu rabaissées et donc du coup, …* *Interviewer : Ca rappelait un historique* *Maman : Et du coup en sortant de là, je n'étais pas bien du tout, je pleurais. Pour le coup, j'ai dû aller voir un psy. Ça n'allait pas, quoi." (Multipara)*
Not being listened to – needing to repeat the same information over and over again	*"Mama: Euh, nee. Volgens mij heeft ze dat nooit ergens opgeschreven, dus dan...* *Interviewer: Ah ja, oké, dus je moest het iedere keer opnieuw herhalen?* *Mama: Elke keer opnieuw en het is echt dan zo een paar keer... Gelijk zo dan de eerste keer, euh, hadden we dan de NIPT gehad en dan hadden we een mail gehad dat alles goed was en we kwamen dan de keer erna binnen bij haar en we zeiden: Ah ja, en de NIPT. En zij zei: Ja, uit de NIPT is gebleken dat uw... Ja, en die wou dan waarschijnlijk dochter zeggen en wij alletwee: We willen het geslacht niet weten hé. En we hadden al zo vaak gezegd. En die zo: Ah ja, uw kindje is goed. En dan, euh, bij de bevalling zelf. Ja, daar kwam ze er dan uit en hadden wij ook tegen de vroedvrouw gezegd van: We weten het geslacht niet, maar dan... De gynaecologen kwamen binnen en zeiden: We gaan uw... En dan de vroedvrouw: Ze weten het geslacht niet. Ze wouden echt zo duidelijk zeggen: We gaan uw dochtertje halen. Het is... Dat was echt zo een paar keer dat ik dacht: Sjonge, als ge dat hier op het einde nog gaat verprutsen, dat zou ik echt heel stom vinden, maar ja, oké." (Primipara)*

	"Mama: Het pijnpuntje was ook bij de eerste zwangerschap, omdat je altijd iemand anders hebt hé of stond dat misschien niet goed in mijn dossier vermeld... Euhm, dat ik alleenstaande was, dus ja, dan soms zeiden ze 'u en u man' en dan moest ik dat iedere keer zeggen en nu de tweede keer had ik het gevoel dat ze iets beter voorbereid waren en bewust het dossier gelezen hadden en ook het gevoel van ja, als alleenstaande voelde u nog altijd comfortabel enzo dus ja... *Interviewer: Dat ze daar iets meer rekening mee hielden?* *Mama: Ja, voorzichtiger mee omsprongen. Ma ja da is gewoon vervelend als je dat iedere keer moet zeggen: 'ja, ik ben eigenlijk alleen en...' Of als ze zo zeggen 'ge komt alleen?' 'Euh, ja'." (Multipara)* *"Mother: No, no, they weren't listening to me. I went to the GP. I explained her "They're not listening to all that what I'm saying." And the GP, she personally wrote a letter to them. I went, I gave them. It was useless thing to be honest. Then I really got pissed. I was like "Okay, they are not following…" There was huge gap between what they're doing and what I'm telling them." (Multipara, English speaking)*
Not feeling welcome	*"Dat [de vroedvrouw] was nogal een harde tante vonden wij, van allé dat is nogal één die denkt dat zwanger zijn niks is en dat allemaal vlot en niks, allé dat het allemaal gemakkelijk is. En we hadden zoiets van "amaai, we zijn hier precies ni welkom, we zullen maar naar huis gaan". Dat gevoel hadden we bij die vroedvrouw." (Multipara)*
Partner feels being ignored	*"Est-ce que vous aviez l'impression d'avoir une place ou d'être spectateur ?* *Papa : Spectateur. C'était un peu comme des numéros, je ne pense même pas qu'elle connaissait mon prénom." (Primipara)*
Imposing own ideas	*"Maman : Moi, je lui dis d'emblée, je veux une péridurale. Et j'ai compris qu'elle était anti-péridurale. Et donc j'ai dû écouter les explications, le pourquoi du comment il ne faut pas prendre une péridurale et moi, j'explique le pourquoi du comment je ne voulais pas être traumatisée de mon accouchement. J'ai dû défendre ma position. Et elle, elle me fait : « ça ne fait pas si mal que ça ». Ben, chacun son seuil de la douleur, donc moi je ne veux pas non plus souffrir. Je sais pas, je dis : « je ne connais pas mon seuil, donc je verrais bien, je ne la demanderais pas dès que j'arrive, parce que j'ai 2 contractions, mais je ne veux pas non plus ne pas la demander et que ce soit dépassé ». Donc…* *Interviewer : Et donc elle, elle voulait défendre la physiologie à tout prix ?* *Maman : Voilà. Et donc j'ai dû lui dire plusieurs fois : « ça dépend de comment ça se passe, de moi et de mon seuil de la douleur, parce que je ne sais pas ».* *Interviewer : Et donc là, vous n'avez pas eu l'impression d'avoir été vraiment écoutée ?* *Maman : Non, elle défendait énormément ses positions, donc j'avais envie qu'elle parte, quasi. Pour vous dire la vérité.* *Interviewer : Ah ouais ? Donc ce n'était pas très agréable.* *Maman : Ce n'était pas très agréable parce que, on, on peut dire : « voilà, il y a ça, ça, ça et pourquoi, pourquoi », mais pas qu'on y revienne tout le temps.* *Interviewer : Donc elle n'a pas défendu son point de vue d'une manière bienveillante, finalement ? Plutôt contraignante.* *Maman : Oui, oui, je trouvais qu'elle voulait m'influencer. Et du moment que le message est clair et que j'ai compris, c'est à moi de prendre une décision." (Primipara)*
Non-acceptance of alternating care	*"Mama: Niet voor de thuisbevalling, maar het... het vernoemen alleen al dat ik mij gecombineerd ging laten begeleiden met een zelfstandige vroedvrouw, dat was... Dat werd niet echt aanvaard." (Multipara)*

Unfriendly or hurried care providers	*"Mama: Ik ben daar echt tien minuten binnen en buiten geweest en toen heeft hij [De partner] gezegd: Ik doe dat nooit nimeer, en hij was... Die was zo onvriendelijk, maar was dat nu een momentopname omdat het zo druk was, ik heb die ook maar ene keer gezien. Nee, dat was echt... dat was geen goede ervaring. Ik kwam binnen in zijn praktijk, ik was er nog nooit geweest, dus ik wist ook niet waar kan ik mij gaan omkleden of wat moet ik doen. Dat was: Ja, legt u dan daar maar op die tafel, maar ja, ik wist niet goed, ja, moet ik mijn broek nog uitdoen of moet ik dat niet uitdoen. Dus dat was heel raar. Dat moest allemaal zo wreed rap rap gaan en voordat ik het wist: ik lag nog op die tafel, ik was nog niet omgekleed of hij zat al aan zijn bureau en had hij al gezegd hoeveel dat ik hem moest betalen. En dan... Ik dacht zo van: Wat? En hij had mij niet eens de foto's meegegeven van de echo, dus hij was... Die was wreed gehaast, ik weet dat niet. Was dat nu gewoon omdat dat druk was op dat moment, maar dat was... Da's niet goed, allee, dat was een... een negatieve ervaring." (Multipara)*

6.11.4. Organisational issues

Organisational issues refer to problems or restrictions related to the organisation of care at hospital level.

Table 33 – Topics referring to organisational issues

Topics	Citations
Planned C-section later than expected	*"Mama: Euhm, ik was eigenlijk wel teleurgesteld bij hem, over het feit dat het geen week vroeger kon. Omdat we dan toch eigenlijk beslist hadden van de keizersnede te doen omdat zij met een spoedkeizersnede moeten komen is, dus da was eigenlijk heel spannend. En ik wou da misschien wel een kans geven ma toen had ik toch wel de knoop doorgehakt van ja toch liever niet. En euhm toen…heb ik da gezegd van 'ik wil een keizersnede' en normaal gezien moet da een week voor u datum en euh ik ging er van uit dus 15 januari gaat hij er zijn. En toen zeiden ze: 'Dan is het voor den 22ste januari'. Dus ik zeg 'Oei kan da niet vroeger?' 'Ja nee dat gaat niet want den ok zit vol'. Ma hij was dus al heel groot en hij was al heel zwaar dus op 40 weken is hij dan gekomen, eigenlijk op zijn datum dat hij moest komen. Maar hij was dan ook 53cm en woog 4kilo dus hij was wel heel groot voor eigenlijk dan... ook omdat ik heel veel kwaaltjes had, ik kon niet meer... ik vond mijn draai niet meer zal ik maar zeggen. En er was echt niks aan te plannen om een weekje vroeger te kunnen. En daar was ik wel teleurgesteld om maar ja dat is een beetje een luxeprobleem, hé." (Multipara)*
Long waiting time at emergency service	*"Papa: Les urgences pour les femmes enceintes, c'est beaucoup de temps d'attente." (Multipara)*
More birth centres needed	*"Maman : Au niveau médical, je pense quand même qu'on a de la chance en Belgique, quoi. Pour le coup, quand … j'ai trouvé que c'était très médicalisé, ces histoires de monitos, de trucs. De ce côté-là, je pense qu'il n'y a pas de soucis. Après le problème, c'est quand justement c'est quand on veut accoucher de façon plus… Il faut une surveillance. Moi, je suis convaincue qu'il faut une surveillance, mais je crois que la normalité, ça devrait être des cocons partout." (Multipara)*

6.11.5. Medical interventions

Medical interventions have been questioned by some interviewees. This typically occurred when parents' expectations or preferences were violated.

Table 34 – Topics referring to medical interventions

Topics	Citations
Difficulties accepting medical interventions – Questioning necessity of medical intervention	*"Moest ik nu nog is zwanger zijn dat ik daar misschien toch nog meer mjin eigen ding zou volgen en denken: Nee, ik wil... ik wil eigenlijk helemaal niet. Ik ben ook echt heel triest naar het ziekenhuis vertrokken en ik wou helemaal niet ingeleid worden. Ik voelde mij nog heel goed en ik had zoiets van: Ja, waarom is dit nodig?" (Primipara)*
Course of delivery deviated from expectations	*"Mama: Ja ik had da graag misschien gedaan, maar ja het lot heeft er anders over beslist dat ik zo lang mogelijk zo kunnen thuisblijven en da je dan pas op het einde naar het ziekenhuis gaat om dan effectief te bevallen. Je maakt dan een geboorteplan maar ik mocht het al in de vuilbak smijten al voor da we begonnen waren. Dus ik denk ook met het tweede dat we gewoon gaan kijken wat dat er op ons afkomt en ja. Roll with the punches want het is toch niet ... . Ik had alles dat ik wou heb ik niet kunnen doen dus ja." (Primipara)*

6.11.6. Parents' appreciations

Parents' appreciations are the reverse of parents' disappointments with healthcare providers' attitudes and reactions. The availability of healthcare professionals is often directly or indirectly mentioned as particularly valuable. Healthcare professionals taking the time needed to listen to parents and to give answers to their questions stands out as important, and by extension an empathic and supportive attitude. In addition the right information at the right time with respect to parents' needs was also much appreciated. Information should be transparent and manageable (not too much at the same time). Birth preparation sessions have been evaluated as very informative, and the complementarity between gynaecologists and midwives has been valued.

Table 35 – Topics referring to parents' appreciations

Topics	Citations
Gynaecologist took the time needed	*"Interviewer : Ses consultations sont longues, courtes ? Ça dure combien de temps ?* *Maman : Le temps qu'il faut, j'ai envie de dire parce que je n'ai pas eu le sentiment que c'était ni trop long ni trop court, tout était dit, les questions étaient posées, il prenait vraiment le temps de regarder le bébé à l'échographie, de me montrer que tout allait bien.* *Interviewer : Il faisait une échographie à chaque fois ?* *Maman : Oui, oui à chaque fois. Chaque fois il faisait une échographie, sauf vers la fin où ça ne servait plus à rien parce qu'on ne voit plus grand-chose, mais tant qu'on pouvait voir le petit, oui." (Multipara)*

Availability of gynaecologist	*"Maman : C'est vrai qu'elle m'avait donné son numéro et elle m'avait dit : « s'il y a le moindre souci, il ne faut pas hésiter ». Franchement oui, elle nous répétait souvent que s'il y avait la moindre hésitation, il ne fallait pas hésiter à passer un coup de fil et elle nous intercalerait, elle nous verrait s'il y avait le moindre souci, mais on n'a pas eu besoin de le faire." (Primipara)*
Listening	*"Maman : C'est aussi l'intérêt de l'écoute du [maison de naissance]. Qu'ils ont une écoute incroyable. Et que nous, on a beaucoup aimé et qui était aussi pour le partenaire. Et c'était vrai dans les échanges qu'on a eu où les couples étaient là. Je veux dire, les hommes, ils avaient aussi… Enfin, il y a tout le temps eu cette… cette écoute et cet échange et…" (Primipara)*
Replies to questions	*"Papa : Oui, parce qu'elle [la sage-femme] nous a vraiment rassurés. Moi, j'ai posé toutes ces questions-là. Je les ai posées. Parce que je suis un peu parano pour ça. Je suis très sécurité. Donc, du coup, moi, j'ai posé : « s'il y a le cordon autour du cou ? », « si le bébé vient pas ? », « s'il se retourne ? », « si… ». Enfin, je lui avais posé toutes les questions possibles et imaginables. Et elle m'a toujours trouvé les bonnes réponses." (Primipara)*
Feeling at ease	*"Maman : Moi, j'ai de la chance, c'était très positif parce que, comme je vous l'ai dit, dès l'entrée au [birth centre], je me suis sentie chez moi. Et les rendez-vous que j'ai eu de prépa., que ce soit les séances collectives ou les entretiens sages-femmes individuels, parce qu'on en voit aussi de manière individuelle pour voir l'état du futur bébé, tout a été super, quoi. Donc je me suis vraiment sentie en famille, quoi. J'ai trouvé une famille d'adoption entre guillemets, tout de suite.* *Interviewer: Et c'était important pour vous ?* *Maman : Ouais. Oui, surtout que j'étais seule, quoi. Donc c'était bien que j'aie des référents sur place. Je veux dire, que j'aie des personnes…" (Primipara, single)* *"Mama: Zo niet het gevoel van 'ge komt bij den dokter'. Dus da's wel echt een gemoedelijke toestand zo, dat is niet zo dat ge zo bij ne stijven dokter komt. Dus ge kunt wel alles vragen waar ge mee zit." (Mulipara)*
Supportive, empathic attitude, not imposing own solutions	*"Maman : C'est quelqu'un de très ouvert, très humble, et très à l'écoute et qui prend le temps d'expliquer les choses, qui n'impose rien. Il a été très cool en fait. (Primipara, single)* *Interviewer : Et est-ce qu'il a répondu un peu à vos envies d'une naissance plus naturelle ?* *Maman : Bien sûr. Alors lui, il me disait : « je n'impose rien et puis, à la limite je suis là et si ça se passe bien, vous allez accoucher avec les sages-femmes ». Donc pendant la grossesse, c'est ce qu'il m'avait dit, ça m'a rassurée." (Primipara, single)*
Feeling being understood	*"Mama : Ik dacht gewoon da da nimeer bestond da begrip. Achter wat ik meegemaakt had. En dan was er wel 1 persoon, dus dat was dan zij, en zij was dan voor mij de hele wereld. Ik had zo iets van: ah jij begrijpt dat hier nu echt wel wat wij hier meegemaakt hebben. Ze wist ook direct aan te geven van 't is al lastig genoeg geweest voor jullie." (Primipara)*
Trusting relationship with care providers	*"En het feit dat die u ook wel een beetje kennen na een tijd. Dat als ik last had van mijn bekken bijvoorbeeld of..., dat die weten van dat is geen flauwdoenerij want wij hebben die hier al zolang, we volgen die al zo lang zodat we weten dat dat gewoon vervelend is." (Multipara)*
Respect	*"Maman : A chaque fois, elle respecte quand-même notre nudité, donc si elle doit examiner les seins ou le bas, elle fait quand même couvrir l'un ou l'autre, même chose quand elle examine, elle demande toujours la permission. Elle explique bien : « voilà, ça peut faire un peu mal. Vous pouvez sentir ceci ou ceci ». Donc il y a quand-même une bienveillance à chaque fois au niveau des consultations et elle prend vraiment en considération le fait qu'on n'est pas toujours à l'aise quand on est nu face à quelqu'un. Donc la gynécologue, j'ai trouvé ça vraiment très très bien." (Primipara)*

Transparency on what and how	*"Maman: Donc moi, j'étais pas du tout inquiète parce que chaque fois qu'il a fait l'échographie, il m'expliquait ce qu'il voyait et moi, je leur ai demandé ça. Je leur ai demandé parce que peut-être que naturellement les gens ne le font pas, comme il y a certains dentistes qui expliquent ce qu'ils font, comme certains dentistes n'expliquent rien. Donc moi, je sais dans le besoin que j'ai de savoir les choses, autant le dire tout de suite : « moi j'aime bien savoir ce que vous allez faire, comment vous procédez, ce que vous voyez ». (Multipara)*
Manageable bits of information at the time	*"Mama: Ik weet dat ik het heel gemakkelijk vond dat er in kleine hoeveelheden informatie op mij afkwam, bijvoorbeeld zo die CM-nieuwsbrieven zo elke week vond ik heel handig omdat dat heel behapbaar is, dat is niet teveel ineens." (Multipara)*
Birth preparation	*"Maman : Et les préparations à l'accouchement, ça m'a vraiment rassuré énormément.* *Interviewer : Donc pour vous, c'est utile ?* *Maman : Très. Très utile." (Primipara)*
Complementarity between gynaecologist and midwives	*"Maman : Tout ce qui n'a pas été retrouvé chez la gynécologue, la sage-femme nous l'a donné et bien plus encore.* *Papa : Elle a tout fait avec elle.* *Maman : Je trouve qu'elles sont vraiment précieuses dans ce domaine-là, parce qu'en plus de ça si on a des craintes, elles savent directement quoi faire et quoi nous dire pour nous rassurer." (Primipara)*

Key messages

- **Parents' disappointments related to healthcare providers' attitudes and reactions, too much or too little care, defective material, organisational issues, or medical interventions. Appreciations referred mostly to the availability of healthcare professionals.**
- **Healthcare providers' attitudes and reactions should reflect availability, empathy, respect for parents' preferences, objectivity and transparency. If not, this leads to parents' dissatisfaction and disappointment.**
- **It is clear that with regard to the intensity of care parents' expectations play an important role in the sense that too intensive for one couple, can be satisfying for another (e.g. the number of ultrasounds, number of consultations) depending on what they expected or preferred.**

7. PERSPECTIVES OF ANC PROFESSIONALS

7.1. Introduction

This chapter is dedicated to healthcare professionals' perspectives regarding the current organisation of ANC in Belgium. The objective is to learn about what can be improved in the Belgian ANC. To reach this goal, a multimodal approach was developed combining qualitative research techniques, more specifically face-to-face interviews, and workshops guided by human design thinking and the nominal group technique.

7.2. Methods

7.2.1. Interviews with ANC professionals

The aim of the interview round was to identify how the provision of antenatal care can be improved from the perspective of the main healthcare professionals involved in antenatal care. Therefore 29 Belgian healthcare professionals have been interviewed (Table 36). Interviews have been performed by three KCE researchers, two French speaking, one Dutch speaking.

Most interviews were face-to-face and one-to-one. Two interviews were done by means of video conferencing. Three interviews were done by telephone. One interview was a group interview with employees of K&G, ONE and Kaleido, the three organisations involved in child welfare in Belgium. This group interview was assisted by two of the three interviewers and was done at the KCE offices. The other face-to-face interviews took place at the location of the interviewees' choice.

Interviews have not been transcribed verbatim, however the researchers summarised each interview in personal notes. These notes have been analysed in a thematic way.

Table 36 – Number of interviewees per profession

	Dutch speaking professionals	French speaking professionals
Midwife	5	5
Paediatrician	1	1
General Practitioner	1	0
Gynaecologist	5	4
K&G/ONE	2	1
Psychologist	1	0
Physiotherapist	1	2
Total	16	13

7.2.2. Brainstorm session with ANC stakeholders

In addition, a qualitative method was used to gather information from professionals during a face-to-face brainstorm session in June 2018. During the meeting, two tools, which were adapted to the healthcare sector by Namanh[rr], were used (see figures in Appendix 3.3). The purpose of these tools was to understand the needs and the problems of ANC professionals and (future) parents, and to propose appropriate solution(s). The 2.5 hours lasting brainstorm session was moderated by Kristel Van Ael (Namanh).

Figure 48 shows the instrument used to collect information from participating stakeholders. This diagnostic phase included the core principles of ANC, a description of the stumbling blocks in the current organisation of ANC, the means to address the identified sticking points by adapting the organisation of ANC, the foreseen improvements if the organisation of ANC is adapted,

[rr] Namanh is a human-centered design consultancy agency.

and finally the key performance indicators (KPIs) that should be measured to evaluate the improvement after the implementation of a new organisational model. The data collection took the form of an individual brainstorm to reflect on different issues of the diagnostic stage. The results were then discussed to reach consensus on the diagnosis of the current situation. A group of 7 stakeholders was involved in this exercise: 2 representatives from 2 professional midwives' organisations, 1 representative of a professional organisation of obstetricians, 1 physiotherapist, 1 member of a midwifery practice, 1 representative of K&G and 1 representative of an organisation supporting couples facing difficult pregnancy choices.

During the meeting, the same group was involved in a second brainstorm exercise related to the values that the ANC organisation should ideally achieve for people, organisations and society, from an economical, psychological, sociological, and medical perspective as presented in Figure 49.

7.2.3. Brainstorm to identify non-clinical interventions

Finally, the nominal group technique was used to collect data from the field (midwives, physiotherapists, medico-social workers from ONE and K&G). The introductive question was 'Which interventions related to birth preparation and parenthood education are needed during a low-risk pregnancy?'

In an individual brainstorm round of about 5 minutes, 9 participants wrote down their ideas. In a plenary round all ideas were harvested. Participants were asked to share their ideas one idea at the time, leaving room for the other participants to react. The group eliminated duplicates and grouped interventions into 4 categories:

- Psychosocial anamnesis

  This group gathers interventions regarding the set-up of the antenatal pathway and the early assessment of the specific needs of pregnant women.

- Pregnancy support

  This category focuses on interventions supporting women during the antenatal period.

- Birth preparation

  Birth preparation gathers interventions preparing pregnant women for the intrapartum period.

- Parenthood education

  In this section, the interventions aim to prepare the postnatal period and the transition to parenthood.

In a final round the participants situated each intervention on a timeline dividing a pregnancy in 4 key periods: the early pregnancy (period during which the pregnancy is diagnosed), the first trimester, the second trimester and the third trimester.

Finally, the result of the nominal group was discussed during an expert meeting (see colophon).

7.3. Findings

7.3.1. Interviews with ANC professionals

In the following section, we report findings from the interviews with ANC professionals.

Note that these findings represent the perception and opinions of the interviewees.

7.3.1.1. *Observations regarding the current organisation of antenatal care*

Clinical follow-up during pregnancy is provided through several care trajectories

From the interviews we identified the following care trajectories:

- Exclusively gynaecologist consultations, one per month and with increasing intensity in the last weeks of pregnancy.
- Gynaecologist consultations combined with one midwife consultation in the second trimester of pregnancy.
- Gynaecologist consultations combined with two midwife consultations, one before 24 weeks to prepare for birth, one at about 28 weeks to provide information relative to hospital discharge and the return home.
- Alternating gynaecologist and midwife consultations and two additional midwife consultations, one before 24 weeks to prepare for birth, and one at about 28 weeks to provide information relative to hospital discharge and the return home.
- Alternating midwife and gynaecologist consultations. Also the GP can be involved in this alternating care pathway.
- Mainly midwife consultations added by 3 gynaecologist consultations for the ultrasounds.
- CenteringPregnancy-like groups, meaning that a small group of women receives health education, preceded or followed by an individual medical consultation.

This is probably not an exhaustive list.

Future parents can alternate gynaecologist and midwife consultations, however some do not alternate but visit them both in parallel, which leads to overconsumption of antenatal care.

Birth preparation does not cover all future parents and it takes many forms

There are plenty of initiatives providing birth preparation. They are mostly small scale, local and not connected.

> *"Sur le terrain, il y a beaucoup d'initiatives mais il est difficile de savoir qui fait quoi." (Midwife)*

Examples from our interview data are:

- E-learning webpages and leaflets
- Thematic group sessions provided by a midwife and ranging between 4 and 6 sessions spread over pregnancy, in private midwife practices or in hospital
- Thematic individual sessions provided by a midwife or physiotherapist
- Clinical follow-up coupled with up to four ONE TMS (travailleur medico-social) consultations. The intensity of the collaboration with ONE varies greatly between hospitals. K&G does not offer a similar antenatal follow-up, but visits mothers once at home in the last trimester. ONE offers home visits on request.
- Practical workshops to prepare the postnatal period.

It is likely that other formats exist, but were not reported by our interviewees.

Coordination and continuity of antenatal care are important but remain underdeveloped

In the course of the transition to parenthood, (future) parents consult different healthcare professionals. After each milestone (e.g. birth, discharge), these professionals change, but even within pregnancy, during birth, within the postnatal period at the maternity clinic and afterwards at home, they are cared for by several healthcare professionals.

> *"En effet, les futures mamans voient un ou plusieurs intervenants en prénatal puis elles voient d'autres intervenants à la maternité et*

encore d'autres intervenants à domicile. Il y a clairement un grand morcellement de la prise en charge. Il faudrait un lien plus fort entre le prénatal et le postnatal." (Midwife)

Problems caused by the shortening of postnatal hospital stays, spill over in antenatal care

Although this report is about antenatal care, postnatal care cannot be completely excluded because it highly relates to antenatal care. With the shortening of postnatal hospital stay, a number of problems occurred, which are consequential for antenatal care.

Our interviewees reported that nurses and midwives at maternity clinics are overloaded, because the same work needs to be done in a shorter timeframe by less staff since stays (after uncomplicated vaginal deliveries) are reduced to maximum 72 hours.

In addition the length of stay is not differentiated according to parity, while primis need more care and support during the first days after delivery.

Postnatal follow-up at home by a midwife is not systematically provided to all new parents

Our interviewees signalled that currently postnatal follow-up by a midwife, even after a short maternity stay, is not guaranteed. Especially in the southern part of the country only few independent midwives are available. One of our interviewees reported that in that area women are discharged as early as in the rest of the country, but receive no follow-up at home.

An ambiguous and overlapping division of tasks between antenatal care professionals results in interprofessional tensions

The division of tasks between antenatal care providers is unclear, resulting in interprofessional tensions. These interprofessional tensions seem to be region-specific.

Globally, gynaecologists remain the main antenatal care providers and the first point of contact for future parents. However, the shortening of maternity stay implies that future parents need more preparation before birth.

Hence, hospitals involved more and more midwives in antenatal care. In Flanders, it seems that gynaecologists were hesitant in integrating midwife consultations in the antenatal care trajectory, fearing a kind of substitution effect.

"Initieel was het de bedoeling om twee vroedvrouwen consultaties te hebben prenataal, maar dat was niet bespreekbaar voor de gynaecologen en is niet ingevoerd. In andere ziekenhuizen is dat wel gelukt. Twee vroedvrouwenconsultaties is geen overbodige luxe, gezien de grote hoeveelheid aan informatie die moet doorgegeven worden aan de toekomstige ouders." (Midwife)

In Flanders many midwives do not find a job. Physiotherapists in Flanders are solicited for specific pregnancy related problems (e.g. musculoskeletal or perineal problems).

Interviewees report a perceived shortage of gynaecologists in Brussels and Wallonia. Midwives seem to have a larger role to play in antenatal care. Collaboration between gynaecologists and midwives seems to be less tense. However, in these regions, physiotherapists who formerly had an important role to play in antenatal and postnatal care in hospitals, reported to be increasingly replaced by midwives, resulting in interprofessional tensions between midwives and physiotherapists.

Inadequate or absent quality indicators hamper the evaluation of the quality of antenatal and postnatal care (including birth preparation)

Several interviewees suggested that mortality is a rough and inadequate quality indicator for antenatal care, because it has reached a bottom level and shows little variability. This indicator could be supplemented by other indicators such as morbidity (operationalised for example by the number of newborns that needs admission to the neonatal unit), maternal satisfaction at discharge, and the number of breastfeeding mothers one week and one month after discharge.

Currently there is no quality control mechanism for antenatal and postnatal care provided by independent midwives. However, Flemish midwives can on a voluntary basis sign an agreement in which they agree on a number of criteria (e.g. follow clinical guidelines, not to discourage vaccination, to

transfer their data files to K&G, guarantee to do a home visit within 24 hours after discharge, newborn Guthrie test, feedback to the hospital). This 'Good practice label' for midwives is supported by many partners such as K&G and gynaecologists. However a national roll-out has been hampered by critique such that midwives are trained and have a licence which makes an additional quality label superfluous.

Future parents are not systematically informed about the existing supply of antenatal care

Future parents should be informed before pregnancy or in early pregnancy which services and antenatal care trajectories are possible and which healthcare professionals provide them.

The uptake of antenatal clinical guidelines is not generalised among gynaecologists

Antenatal clinical guidelines for low risk pregnancies are not accepted, nor implemented by all gynaecologists. For example still many unnecessary blood tests are carried out. While the clinical guideline for low risk pregnancies advises to limit the screening for toxoplasmosis to one test at the beginning of pregnancy, this is often done several times throughout pregnancy.

The adherence to clinical guidelines is difficult because of several reasons. From our interview data the following reasons emerged:

- Gynaecologists are used to this way of working, it functions well, and therefore they do not see why it should change.
- Gynaecologists perceive the guidelines as a threat to their professional identity and image.
- The attitude of court experts plays an important role: their advice may be in contradiction with the guidelines because of conflicts of interest, or because their scientific knowledge is outdated or insufficient (e.g. if a court expert has no experience in the field of the defendant).

One of our interviewees noted that the uptake of antenatal clinical guidelines for low risk pregnancies seems to be better among young gynaecologists compared to the older generation, because guidelines are more emphasised in the medical training program.

7.3.1.2. Pre- and interconception care, starting at young age

While the concept of preconception care has been enlarged to interconception care (encompassing the time interval between successive pregnancies) during the interviews, we will however limit this paragraph to preconception care.

The general message we received from our interviewees is that **preconception care is of utmost importance.** One of the expert gynaecologists argued that some risk factors can be identified and changed before pregnancy (e.g. cardio-vascular problems can be improved through sporting activities and the right medication dose before and during pregnancy). In addition, preconception care has the potential to prevent pregnancy related problems which are otherwise intergenerationally transmitted from mother to child (e.g. growth retardation or preeclampsia).

Despite these potential benefits of preconception care, it is in Belgium generally limited to the prescription of folic acid when a woman announces the discontinuation of contraception during a routine check-up done by gynaecologists or GPs. At best it also includes a blood sample and the identification of lifestyle risks.

There is no specific nomenclature code for preconception care for physicians, nor for midwives.

> *"Een preconceptie consult is heel waardevol en ontbreekt nu vaak. Het mag zich niet beperken tot het stopzetten van anticonceptie en een bloedonderzoek. Het is het uitgelezen moment om vrouwen te informeren over waar ze zoal moeten/kunnen op letten voor en tijdens de zwangerschap." (Psychologist)*

Our interviewees perceived the lack of preconception care as a missed opportunity in several ways:

1. Preconception care **reduces stress during pregnancy.** If well informed about the do's and don'ts before pregnancy, women worry less about health behaviours (e.g. alcohol use, medication use, sport activities) during pregnancy, especially in the time period in which they are still ignorant about being pregnant.
2. Preconception care is **time gained during pregnancy.** The time gain relates to health education, for example how to prepare for pregnancy, how to recognise being pregnant, to the promotion of healthy behaviours during pregnancy, but also to medical issues. For example, a blood sampling before conception can be very important in case of CMV infection, to determine when exactly the infection occurred. A blood sampling before conception is a kind of baseline measurement that facilitates risk evaluation during pregnancy.

   "Met preconceptiezorg maximaliseer je de kans om gezond door de zwangerschap te komen." (Gynaecologist)
3. Preconception care **allows an early anamnesis**, hence identification of social (e.g. employment, family situation), psychological (e.g. history of mental health problems, addictions) and medical risks (e.g. diabetes).

It is clear that the potential gain is the largest for disadvantaged groups.

According to the interviewees, preconception care should be more systematically offered, in a uniform way. It should not be limited to people at reproductive age, but could on the contrary start at an early age, e.g. integrated in health education at primary schools. The argument that was given is that attitudes (e.g. towards breastfeeding) and health behaviours (e.g. healthy eating habits) are being formed at young age. Also targeted awareness campaigns have been suggested.

Preconception care takes time. It does not matter which healthcare professional provides it, as long as it is provided.

"Le préconceptionnel prend du temps, et a peu d'impact au niveau des gynécologues, qui ont l'impression de perdre leur temps." (Gyneacologist)

"Vroedvrouwen kunnen een belangrijke rol spelen in de preconceptiezorg, maar kan evengoed door de huisarts gebeuren. Eender wie het doet, als het maar gebeurt." (Gynaecologist)

Finally, preconception care should be provided to couples, not only to the future mother. Partners have an important role to play in healthy pregnancies (e.g. partners' smoking behaviour is also harmful).

7.3.1.3. Digitalisation and information transfer in antenatal care

Many information transfer-related problems hamper an effective communication between healthcare professionals involved, as well as between healthcare professionals and parents. Regarding the interprofessional communication, the call for a unified electronic medical record accessible to all healthcare professionals involved has been repeated several times.

Information for parents should

- Be timely provided

Parents receive a lot of information. Especially during maternity stay, which takes only 72 hours at most, mothers are overwhelmed with information. Combined with fatigue, the overload of information is not effective. Therefore it is important to prepare the early postnatal period as much as possible before birth. Parents should get the right information at the right time, which means when they are the most receptive. However, if provided too early, information can also be lost (e.g. information about breastfeeding, care for the new born, red flags).

- Avoid duplicate and contradictory information

An electronic medical record would help care providers to avoid duplicate or contradictory information to parents. It could also be useful to remind parents of relevant information throughout pregnancy, progressively adding details.

- Lead to informed choices

Based on the information received, all parents should be able to make informed choices regarding antenatal, intrapartum and postnatal care.

Currently, they do not receive sufficient information about the possible care trajectories and possible (medical) interventions during birth (e.g. birthing position, but also obstetric interventions, when are they needed and what are the pros and cons).

7.3.1.4. Collaboration, communication and interprofessional tensions

Collaboration is highly valued by antenatal care providers, but they feel they lack the tools to establish solid collaborative networks. Note that collaborative efforts are very local, hence vary considerably, but in general antenatal care providers think that the quality of antenatal care would benefit from more intensive collaboration in more developed multidisciplinary networks. In what follows, we list what is missing and what hampers collaboration between antenatal care providers.

- Lack of multidisciplinary networks

Several interviewees emphasised that more collaboration is necessary, by preference in networks. In general these networks are non-existent or insufficiently developed, although we should note that substantial regional variation exists.

- Lack of communication, lack of trust, lack of collaboration

Interviewees stated that they need a communication tool, a tool for information transfer in order to establish collaborative networks. Antenatal care providers report that collaboration is difficult, because a communication tool is lacking. Lack of communication results in a lack of trust, hampering collaboration. A care provider illustrated this as follows: "*Often it is unclear what has been done during previous consultation. Because you do not know whether e.g. a blood sample has been taken or not, you decide to take one yourself, to be sure not to miss anything. And you recommend the mother: next time come to me straight away.*" (GP)

Communication between care providers often goes via the parents and the mother booklet, but this is ineffective, as it entails several problems, such as parents forgetting to bring the booklet and unreadable writings in the booklets.

- Incompatibilities between software

Interviewees report that the software programs supporting the electronic medical record used in hospitals and in private practices are incompatible.

- Tensions between ANC professions

Several interviewees addressed the tension between ANC professions, more specifically between gynaecologists and midwives, midwives and physiotherapists, and midwives and TMS. Several explanations have been cited.

  - Overlapping activities

Collaboration is hampered because activities of the professionals providing the antenatal care (more specifically gynaecologists, midwives, physiotherapists and TMS) show some overlap. Some services and activities are not the exclusive domain of one profession, although each profession has its own framework and puts its own emphases. The grey zones between gynaecologists and midwives, midwives and physiotherapists, midwives and TMS, however bring about a certain rivalry between these professions, which is detrimental to collaboration. The interprofessional tensions have a strong local character, they vary between institutions and they differ between the North and the South of the country. In Flanders, the tension between gynaecologists and midwives is most prominent, while in Brussels and Wallonia tension was reported between midwives and physiotherapists, and between midwives and TMS.

  - Lack of multidisciplinary collaboration

Joined care would be a way to learn about each other's activities and expertise, and build trusting relationships. Through multidisciplinary collaboration professionals could discover complementarity, but up until now this multidisciplinary work is limited to some local initiatives.

> *"Een goede samenwerking tussen gynaecologen en zelfstandige vroedvrouwen vergt vertrouwen. Wanneer men elkaar kent, en mekaars manier van werken kent, loopt de communicatie vlotter en worden problemen vermeden." (Gynaecologist)*

Some hospitals introduced midwife consultations as a reaction to the shortening of maternity stay. Although a lot of variation exists between hospitals, we found that gynaecologists needed time to integrate these midwife consultations in their daily practice, and experience midwife consultations as a useful complement to their antenatal follow-up.

> *"Dus, gynaecologen verwezen niet door naar de vroedvrouwenconsultatie. Men ervoer de vroedvrouw als concurrent en zag er het nut niet van in. Ze hebben dan gekeken welke gynaecologen niet of zelden doorverwijzen en hen aangesproken om hen te overtuigen. Nu zit men aan 90%, maar het heeft wel veel moeite gekost. Er is echt een mentaliteitswijziging nodig geweest. Initieel was het de bedoeling om twee vroedvrouwen consultaties te hebben prenataal, maar dat was niet bespreekbaar voor de gynaecologen en is niet ingevoerd. In andere ziekenhuizen is dat wel gelukt. Twee vroedvrouwenconsultaties is geen overbodige luxe, gezien de grote hoeveelheid aan informatie die moet doorgegeven worden aan de toekomstige ouders." (Pediatrician)*

In addition, some gynaecologists seem to experience midwives as pulling the more and more antenatal care domains (e.g. preconception care, ultrasounds, perineal rehabilitation, antenatal consultations) towards them.

> *"Les sages-femmes veulent tout faire: pédiatre, gynéco, échographie." (Gynaecologist)*

Linked to the previous findings other antenatal care professionals reported a difficult collaboration with gynaecologists. For example, after referral to a gynaecologist, patients do not return to their GP or midwife. A paediatrician noted that within the same hospital gynaecologists have no uniform way of working (e.g. some do one CMV screening during pregnancy, others do three screenings). Another paediatrician pointed out a lack of information transfer between gynaecologists and paediatricians.

- The financing system creates imbalances

Gynaecologists should be more valued rather than financially disadvantaged if they invest more time in their area of expertise. Interviewees did some suggestions of new financial mechanisms to stimulate multidisciplinary collaboration. For example the introduction of a perinatal care budget which each future mother can use to pay the care trajectory (or combination of healthcare professionals) of her choice. Another example was to pay a fee to the binome gynaecologist and midwife for a delivery they attended together or which was attended by the midwife only (with the gynaecologist standby or following from a distance, providing advice and or instructions). Another example was to finance multidisciplinary practices of gynaecologists and midwives working together to provide antenatal follow-up and birth preparation, possibly extended with other professionals such as physiotherapists or psychologists.

- Too many players in the field of antenatal care

Too many players does not only refer to the types of healthcare professionals involved in antenatal care, but also to the number of individuals in one profession. For example, there is a surplus of midwives, and the same can be expected for gynaecologists in the near future if the restrictions to the number of graduates are not revised.

7.3.1.5. The (changing) role of antenatal care providers

The midwife

- Changes in the role of the midwife due to shorter hospital stays

The shorter stay at the maternity ward led to a number of changes in the working conditions of midwives: the workload has increased, especially for hospital midwives, postnatal care shifted towards home, but in outpatient care there is a kind of vacuum in terms of manpower, competences, quality criteria and collaborative networks, and part of postnatal care shifted towards the antenatal period, but the necessary time and manpower is not yet attributed.

- The maternity ward has become an 'intensive care' ward

For hospital midwives working at the maternity ward, the workload has increased because women and newborns are discharged earlier, i.e.

within 72 hours after delivery. Therefore they must be cared for more intensively.

- Postnatal care shifted towards home

Shorter maternity stays automatically shift postnatal care to home. Subsequently the number of hospital midwives is perceived declining, while midwives providing home care are perceived rising. This change in demand for midwives implies changes in the planning of midwives, but also in their competences.

- Postnatal care shifted towards antenatal care

Shorter maternity stays imply less time for parent education during maternity stay, hence in order to offer high quality maternity care more preparation is needed before birth. This change requires a greater involvement of midwives in antenatal care.

- Midwifery training is inadequate

Midwives, but also gynaecologists, worry about the adequacy of the current competences of newly graduated midwives. Particularly this group is channelled towards outpatient care in response to shorter hospital stays, but they lack competences and experience to take up responsibilities in outpatient care. Currently, there is a mismatch between the needed and available midwifery profiles.

> *"De 3-jarige BA vroedkunde is absoluut niet voldoende om goeie vroedvrouwen af te leveren. Vroedvrouwen hebben grote verantwoordelijkheden (bijv. ze mogen voorschrijven) en deze nemen alleen maar toe. Momenteel heeft niet elke vroedvrouw die afstudeert ervaring met eerste lijn." (Midwife)*

> *"Sage-femme à domicile est une porte de sortie pour celles qui ne trouvent pas de job en hospitalier. Or, pour le moment les études ne sont pas faites pour que les sages-femmes soient opérationnelles à domicile à la sortie de l'école." (Midwife)*

> *"Vroedvrouwen die pas afgestudeerd zijn, zijn niet voorbereid op werken in de eerste lijn." (Midwife)*

- Large numbers of newly graduated midwives remain unemployed in the midwifery sector

The number of students in midwifery grows steadily, but still midwifery practices have vacant places which they are unable to fill with midwives experienced in outpatient care. At the other hand, in hospitals the number of midwives is perceived decreasing because of the shortening of hospital stay, while in fact more work has to be done in shorter time. Starting an independent practice can be a way out of unemployment for new graduated midwives, but without any experience (in outpatient care). In addition, midwives are no longer (since 1/10/2018) licenced to work as nurses. By consequence the range of the job opportunities is more limited.

> *"Un des effets pervers du raccourcissement, est que les sages-femmes fraichement diplômées ne trouvent pas de travail. Les courts séjours font diminuer le nombre de lits en maternité et donc diminuer le nombre de sages-femmes dans les équipes. (…) Les nouvelles diplômées se dirigent vers le secteur de la prise en charge du post-partum à domicile. Or, elles sont les moins expérimentées et cela pose problème. Il faudrait trouver une solution pour pallier ce problème comme par exemple, l'obligation de compagnonnage par une sage-femme plus expérimentée ou l'obligation d'avoir une expérience hospitalière avant de pouvoir faire du domicile." (Gynaecologist)*

- Midwives' income is insufficient

Midwives' income is insufficient. Especially for independent midwives it's difficult to make a living. Therefore some midwifery practices decided to withdraw from the convention with the INAMI – RIZIV and augment their prices.

> *"Le travail de sage-femme à domicile n'est pas rentable d'un point de vue financier." (Midwife)*

- Midwives need more background in evidence-based practice

To avoid non-evidence based messages such as the discouragement of vaccination, midwives need more background in evidence-based practice.

"De plus, il serait nécessaire d'inclure dans la formation une plus grande part d'EBP. Il est important que les sages-femmes puissent faire la différence entre ce qui est EBP et les 'fake news'." (Gynaecologist)

- The profession of midwife is not well known

Gynaecologists are the main care providers in Belgian maternity care. The services of midwives are little known both by healthcare professionals and the public. Women end up visiting a midwife not after referral, but after a previous experience or experiences of other women within their network.

"L'offre de service des sages-femmes est très mal connue des prestataires de soins et du public." (Midwife)

"Cependant, le premier point d'accès aux soins obstétricaux reste le gynécologue. Il constatera la grossesse par une prise de sang et une échographie. La sage-femme ne peut faire de confirmation de la grossesse que par une prise de sang. Le recours à une sage-femme ne se fait, dans ce cadre, que lorsque la patiente a déjà eu l'expérience d'un suivi par sage-femme ou a eu connaissance des services de maïeutique par des proches." (Midwife)

- The role of midwives expected by ANC providers

In the data from the interviews with antenatal care providers we identified what midwives are expected to do or be able to do. We list these expectations below:

  - Carry out an anamnesis
  - Alertness to detect social, psychological problems
  - Alertness to detect co-morbidities
  - Transfer information on social, psychological problems or co-morbidities to the relevant healthcare professionals (e.g. paediatrician, gynaecologist…)
  - Know when to refer to which healthcare professional
  - Carry out the glucose test
  - Lead women towards a midwife for postnatal follow-up
  - Lead women towards a paediatrician for a check-up of the newborn at day 5
  - Provide health promotion and education
  - Antenatal visits at home to prepare the postnatal follow-up
  - Postnatal follow-up at home
  - Provide preconception care
  - Provide health education
  - Anticipate the resources (not only financial) of future parents
  - Birth preparation
  - Preparation of the postpartum
  - Preparation of the transition to parenthood

The gynaecologist

In Belgium gynaecologists are the main healthcare professionals for women from preconception until postpartum (see chapter 5). Gynaecologists work mainly in secondary and tertiary care facilities. Patients have direct access to them. Gynaecologists' scope of practice includes the follow-up of all pregnancies whatever the level of risk.

Gynaecologists feel disadvantaged compared to midwives: their consultations are only partially reimbursed, while midwife consultations are fully reimbursed, and they are not allowed to make publicity for their services, while midwives are.

Belgian gynaecologists are suspicious of independent midwives whose role in antenatal care and delivery seems to be growing. For example, gynaecologists do not want to be held accountable for adverse birth outcomes if they were not involved from the onset of labour, such as in case independent midwives refer to gynaecologists when things go wrong during labour. For hospital midwives the situation is different. Although they can

have an important role during labour and delivery, they are always in communication with the gynaecologist. In this joined care model gynaecologists can anticipate potential problems. In addition, when gynaecologists and midwives work together in a team, they know each other, which facilitates trust relationships.

Gynaecologists are concerned about the outflow of newly graduated gynaecologists. If the number of newly graduated gynaecologists is not restricted, gynaecologists fear an oversupply, hence recently graduated gynaecologists won't find a place to practice. This concern has been supported by a study about the oversupply of gynaecologists in Flanders, carried out in 2018[ss]. The conclusion was that the next five years, about half of the graduated gynaecologists won't be able to practice their profession with 91 vacancies and 187 graduated gynaecologists.

The hospital/maternity ward

Maternity wards provide thematic birth preparation sessions. These sessions are mostly provided by hospital midwives and are often combined with a visit to the maternity ward. The content of these sessions varies between hospitals and differs from birth preparation offered by independent midwifery practices.

As a consequence of the shortening of the hospital stay after birth, maternity clinics also offer antenatal midwife consultations. The number of midwifery consultations is usually one or two (e.g. one in the first and one in the third trimester).

Finally, one interviewee mentioned women are also (increasingly) seen at the emergency department to be reassured about the health and wellbeing of the unborn child (by means of an ultrasound).

The physiotherapist

- The role of physiotherapists and their complementarity to midwifery care

The role of physiotherapists in antenatal care is characterised by a considerable **regional variation**. Some hospitals offer physiotherapy in the third trimester of pregnancy and the presence of a physiotherapist in the delivery room, depending on the needs or request of the mother.

The antenatal physiotherapy is different from and **complementary to the birth preparation provided by midwives**. Still – at least in the French speaking part of Belgium – there seems to be a kind of **competition between physiotherapists and midwives**. For example interviewees stated that midwives have taken over the role of the physiotherapist.

> *"Avec le temps, on observe de moins en moins de kinésithérapie prénatale. Cette activité est probablement reprise par les sages-femmes." (Physiotherapist)*

Physiotherapists feel disadvantaged compared to midwives, because physiotherapy is only available on prescription, physiotherapists have less nomenclature codes (e.g. no code for group sessions), the total number of ante- and postnatal sessions is limited to nine, women have to pay part of the price out of pocket, and physiotherapists have no nomenclature code for home visits. In addition they feel that their added value in antenatal (and postnatal) care is unknown, hence stays unrecognised both by other healthcare professionals and the general public. These issues are described in the next paragraphs.

Physiotherapy is **only accessible on prescription**, while the access to midwives is free, and the prescription encompasses **only nine sessions** for ante- and postnatal physiotherapy. Our interviewees however assert that

[ss] This research has been carried out by dr. T. De Vos and dr. B. Vergauwe, but was not (yet) published in a scientific journal. The findings have been reported in the popular media (e.g. De Morgen, 21/05/2018) and in professional magazines, for example De Artsenkrant (publication date: 22/05/2018) and De Specialist (vol. 124, publication date: 13/06/2018).

other nomenclature codes can be used to provide reimbursed ante- and postnatal physiotherapy. Also in case of a pathology, 18 additional sessions provided by physiotherapists are reimbursed. The nine sessions limit is well known by the public and women are inclined to save these sessions for the postpartum.

Another issue that was mentioned in the comparison with midwives is that a **midwife consultation is fully reimbursed**, while this is not the case for physiotherapy.

> *"Les sages-femmes ont une priorité par rapport aux kinésithérapeutes à cause de leur code INAMI." (Physiotherapist)*

> *"Er zijn 9 beurten voorzien onder het perinataal nomenclatuurnummer, maar in geval van een pathologie heeft men recht op 18 extra beurten. Vrouwen hebben de neiging om hun 9 beurten op te sparen voor na de bevalling (in functie van wegkrijgen buikje)." (Physiotherapist)*

Midwives have **additional nomenclature codes**, for example for group sessions and for being present in the delivery room. Both codes are inexistent for physiotherapists. If their presence is demanded in the delivery room no INAMI/ RIZIV fee may be charged.

> *"Par rapport aux sages-femmes, nous avons moins de codes INAMI et nous n'avons pas de code INAMI pour la présence en salle d'accouchement. Par contre au niveau de la rééducation périnéale, la kinésithérapie est vraiment un plus par rapport aux sages-femmes." (Physiotherapist)*

During our interview round a physiotherapist formulated the fear that midwives will take over the perineal rehabilitation. **Midwives can do home visits**, which is more comfortable for mothers who recently gave birth.

- Physiotherapists are underpaid and feel undervalued

The interviewed physiotherapists made clear statements about being underpaid in general, but for antenatal care in particular. The current nomenclature foresees a price of 22 euros for a half hour session.

Some physiotherapists decide to interrupt their conventions with INAMI – RIZIV, hence set a higher price for their services. However, this is achieved at the cost of abandoning other advantages: they no longer receive a telematics bonus, and their patients get less reimbursed. By consequence patients are doubly penalised in visiting a physiotherapist outside the convention: with a higher fee, and a lower amount of reimbursement, the final out-of-pocket payment is substantially higher.

> *"Il est important de revaloriser la kinésithérapie prénatale (et postnatale) via la revalorisation des honoraires INAMI." (Physiotherapist)*

Since 1/01/2015 the postgraduate training on pelvic rehabilitation and perinatal physiotherapy is mandatory in order to receive an accreditation to perform pelvic muscle exercises ("bijzondere beroepsbekwaamheid in de bekkenbodemreëducatie en perinatale kinesitherapie" – 'qualification professionnelle particulière en rééducation abdomino-pelvienne et kinésithérapie périnatale')[tt]; however this accreditation is not valued in terms of a higher wage, nor is it mandatory for providers of ante- and postnatal physiotherapy. By consequence the advantages coupled to this additional training are limited.

Apart from the positive feedback from patients, physiotherapists feel undervalued and unrecognised by other antenatal care providers. The physiotherapists we interviewed reported that gynaecologists or midwives only refer women with serious complaints, while a much broader group – if

[tt] Arrêté ministériel du 22 avril 2014 fixant les critères particuliers d'agrément autorisant les kinésithérapeutes à se prévaloir de la qualification professionnelle particulière en rééducation abdomino-pelvienne et kinésithérapie périnatale (MB. 08.08.2014) / Ministerieel besluit van 22 April 2014 tot vaststelling van de bijzondere erkenningscriteria waarbij de kinesitherapeuten gemachtigd worden zich te beroepen op de bijzondere beroepsbekwaamheid in de bekkenbodemreëducatie en perinatale kinesitherapie (BS. 08.08.2014)

not every pregnant woman – would benefit from the antenatal physiotherapy. Our interviewees attribute the lack of referrals to the ignorance of other care providers regarding the added value of physiotherapy during pregnancy. Still, according to one of our interviewees, antenatal physiotherapy facilitates the delivery, diminishes the likelihood of a caesarean section and facilitates anaesthesia. Also pain management was mentioned as crucial in the birth preparation.

> *"On a de bons retours des patients. La préparation est souvent vue comme une aide très précieuse pendant l'accouchement mais aussi pour le postnatal. Cependant ce n'est pas assez proposé par les gynécologues." (Physiotherapist)*

> *"Er is veel onwetendheid over wat kinesitherapeuten te bieden hebben tijdens de zwangerschap, zowel bij het publiek als bij andere zorgverleners." (Physiotherapist)*

> *"Gynaecologen geven de boodschap dat kiné niet nodig is. 'Ga sporten, dat is evengoed'. Dus er is een soort van miskenning van het nut van pre- en postnatale kiné, vanuit een gebrek aan kennis." (Physiotherapist)*

Although antenatal preparation by physiotherapists is complementary to the antenatal preparation provided by midwives, women do not tend to invest in both.

- Physiotherapy should ideally start during pregnancy

Physiotherapy is most effective if started during or even before pregnancy. Women seem to be missing especially awareness of the functioning of the pelvic floor. Antenatal physiotherapy consists of education relative to birthing positions, breathing, the treatment of postural problems and the preparation of the pelvic floor muscles during the final weeks of pregnancy.

> *"Goede postnatale kiné begint prenataal, zelfs preconceptioneel. Met andere woorden, kinesitherapeuten (met bijzondere beroepsbekwaamheid) kunnen ook preconceptioneel een meerwaarde bieden, vnl. in functie van voeding, beweging en bewustwording van de bekkenbodem." (Physiotherapist)*

Ideally a physiotherapeutic care path should start before pregnancy as part of preconception care (one or two consultations), should be integrated to antenatal care for all women, including women with a low-risk pregnancy (e.g. two to three consultations between 15 and 30 weeks of pregnancy, weekly after 30 weeks).

> *"Idealiter zou een zorgpad er als volgt uitzien: 1 à 2 consultaties bij kinderwens (dus preconceptie), 2 à 3 consultaties tussen de 15 en de 30 weken, wekelijkse consultatie vanaf 30 weken." (Physiotherapist)*

> *"Il faudrait 9 séances pour le prénatal et 9 séances pour le postnatal." (Physiotherapist)*

The paediatrician

The interviewed paediatricians considered the role of the paediatrician in antenatal care as limited. However, during pregnancy the paediatric consultation at day 5 should be announced, prepared, explained and organised. The necessity of this consultation should be clear for parents. Our interviewees signalled that if newborns were followed up by a midwife at home, parents may not consider the usefulness of a paediatric consultation on day 5.

The general practitioner

The general practitioner has to play a role as a primary care provider in addition to the midwife. His role as a family doctor is to provide continuity of care over the family members' life course. Hence GPs are involved in pregnancy, as they are in other milestones of the family life course, to the extent that it is consequential for the family members' (future) health (including mental health). However, the involvement of GPs is locally determined by other initiatives, such as the availability of a midwifery practice or an expert centre for maternity care (Expertisecentra Kraamzorg). Hence, there is a lot of regional variability.

> *"Het is zo'n belangrijk moment [de komst van een kindje] dat je dat als huisarts niet mag gemist hebben." (GP)*

GPs have an important role in the detection of pregnancy related risks, as they are familiar with the woman, couple or family, and often already built a trust relationship. For gynaecologists and midwives it is advised to ask women about the quality of the contact with their GP. In addition, gynaecologists can refer to the GP for health problems non-related to pregnancy.

Key messages

From the interviews with healthcare professionals we identified the following challenges:

- **Today, several antenatal care trajectories and combinations of healthcare professionals' services exist in parallel. However, future parents are not systematically informed about all the existing antenatal care trajectories and healthcare professionals' services. Yet, complete and objective information is a prerequisite for informed choices.**
- **Birth preparation does not cover all future parents and it takes many forms.**
- **Parents are insufficiently prepared for the postnatal period. Future parents tend to focus on the delivery, but overlook what comes after.**
- **Preconception care is of utmost importance because it has the potential to prevent pregnancy related problems (e.g. growth retardation or preeclampsia). In addition, it gains time and reduces stress during pregnancy, and allows an early identification of social, psychological and medical risks.**
- **Problems caused by the shortening of postnatal hospital stays spill over in antenatal care.**
- **An ambiguous division of tasks between antenatal care professionals engenders interprofessional tensions.**
- **Regarding the interprofessional communication the call for a unified electronic medical record accessible to all healthcare professionals involved has been repeated several times.**
- **The absence of quality indicators hampers the evaluation of the quality of antenatal and postnatal care, and birth preparation.**
- **The uptake of antenatal clinical guidelines is not generalised among gynaecologists.**

7.3.2. Brainstorm session with ANC stakeholders

7.3.2.1. Diagnostic phase

Core principles

From an organisational perspective

ANC must be:

- *Proportional universal*: This means that ANC must be delivered at the organisational level that is the most adequate in function of the mother's needs. Proportional universal means providing universal services at a scale and intensity proportionate to the needs. Therefore services must be universally available, hence not only for specific groups, and able to respond to the level of presenting needs.[146] According to this principle, *primary, secondary and tertiary ANC* must be clearly distinguished. Pregnant women must be referred to the right level of care according to their specific needs (i.e. primary care is directly accessible (family doctors, midwives, physiotherapists, etc.), secondary care is accessible after referral by healthcare providers, social workers, and/or public hospitals and finally tertiary care is dedicated to very specialised issues).
- *Accessible and approachable:* Everyone has the right and opportunity to access antenatal care. Whatever the nationality or the legal, social and economic status, care should be available for every pregnant woman.
- *Affordable:* This means decreasing overconsumption and tackling underconsumption. While some women seek more antenatal care than needed (overconsumption), other pregnant women are not even aware of the possibility to receive antenatal care (underconsumption), or start

ANC late in pregnancy. To make antenatal care more cost-efficient and more affordable, it is important to tackle the problem of over-and underconsumption.

- *Coordinated and integrated:* high quality ANC implies collaboration between antenatal care providers and smooth transitions between care levels.

From a professional perspective

Healthcare professionals should provide ANC encompassing *social, psychological, and medical aspects*. However, low-risk pregnancy should not be treated as a *pathology or a medical condition*. The ANC should focus on *an individual approach offering personalised and culture-sensitive care*. ANC should be woman-centred and not generalised or standardised.

Multidisciplinary and interdisciplinary collaboration and teamwork between caregivers is needed to ensure *the continuity of care* (in contrast with fragmentation) between pregnancy, delivery and postpartum. Women should feel and be supported at any given time as long as they need it.

ANC should not only be *safe* but also aiming to pursue the *best possible outcome* for both mother and child.

From a parents' perspective

ANC should promote the *conscious informed choices* and *empowerment* of parents. ANC should facilitate parents to make their own informed choices based on their own values and to choose their own care pathway. *Shared decision-making* should be promoted (e.g. for ANC testing).

ANC is *a window of opportunity*. Each pregnancy is an opportunity for the *personal development* for everyone but especially for vulnerable women.

Most important shortcomings in the current organisation of ANC

In this section, 'what is not optimal today' has been discussed.

Pregnancy and childbirth are generally perceived as a risk or disease

This perception of pregnancy and childbirth as a risk is culturally embedded and leads to *over-medicalisation*. The *physiological aspect of both pregnancy and childbirth* is neglected or ignored.

(Future) parents' knowledge about ANC is lacking

Firstly, there is a need for *preconception care*. Preconception care offers a window of opportunity for preventing pregnancy complications such as gestational diabetes, and providing newborns with a healthy beginning of life (e.g. by promoting the intake of folic acid, preventing alcohol use and smoking, etc.). In addition, vulnerabilities, not only medical but also psychological, social or economic, may be detected during a preconception consultation. However, vulnerable groups are the hardest to get in touch with. Early proactive measures should be rolled out to inform future parents about how to build a safe environment for a future pregnancy. Starting prevention on time is crucial.

Secondly, there is a need for *uniform and accessible information for all (future) parents*. A lot of information (brochures, etc.) is available for the public, but this information does not always reach its target group and when is does, the amount of information can be overwhelming. In addition, information provided by different sources can be contradictory and fragmented. Therefore timely information is needed, this means information should be provided when (future) parents are receptive and can use it immediately.

Thirdly, (future) parents are often not aware of the available ANC formats/providers, and do not know which ANC format/provider is the most appropriate for their care needs. The difference between *primary, secondary and tertiary care* is not always clear. Primary, secondary and tertiary ANC should be more connected.

Finally, (future) *parents are often not well prepared for parenthood. Parenthood education* should be promoted.

ANC is highly fragmented

Participants of the workshop stressed the current *fragmentation of ANC*. Paraphrasing a participant: everything exists in Belgium, the only thing we should do is multiplying connections. Indeed, all kinds of ANC and ANC providers are available, but not in an integrated way. To solve the fragmentation issue, mainly two actions have to be taken:

Firstly, an *integration of clinical care and psychosocial care (including prevention)* is needed. Specialised psychological support dedicated to pregnancy and childbirth related problems exists, but is not easy to find. More integrated networks-based care should make easier to answer specific care needs and refer (future) parents to the most appropriate care provider. Secondly, *continuity of care during pregnancy, birth and postpartum is still not acquired.* In order to have a seamless transition with timely (non-contradicting) information, more collaboration is needed between professionals and between professions.

Participants also mentioned the *lack of choice and access to some specific kinds of care*: for example few hospitals offer midwifery-led deliveries. Starting ANC late in pregnancy is another point of concern.

Also, fragmentation is not only seen in care provision but also in *healthcare insurance policies*. Some private insurances may lead to overconsumption (particularly in postnatal period).

Finally, *fragmentation* is present *in decision making*. Eight Ministers are implicated in Belgian healthcare (one at the federal level and 7 for the federated entities). There are a lot of regional differences, for example in the training program for midwives (3 years in Flanders, 4 years in Wallonia).

ANC seems unlimited and provision is insufficiently evidence-based

Currently ANC seems to be *unlimited*. For example, (future) parents believe the number of reimbursed consultations is unlimited. ANC provision (e.g. the use of antenatal testing) is insufficiently evidence-based.

Tensions between healthcare providers

Currently ANC provision is characterised by *tensions* between healthcare professionals, especially between *obstetricians and midwives*. One of the reasons is the *oversupply* in both professions. There is a *numerus clausus* for gynaecologists, but not so for midwives. In addition, the *midwifery training* is not uniform and not adequate to allow a greater autonomy of the midwives. It is reinforced by the lack of obstetrical guidelines with clear criteria to refer patients to other care providers. Currently, referring between care providers or care facilities is still not self-evident.

The role of physiotherapists in ANC is undervalued

In addition, the expertise of *physiotherapists* in pelvic rehabilitation and perinatal physiology is undervalued. During antenatal follow-up, gynaecologists and midwives do not often refer to physiotherapists, despite the installation of a specialised professional title (bijzondere beroepsbekwaamheid – qualification professionnelle particulière) in pelvic re-education and perinatal physiology. One of the reasons might be the difficulty to be identified by other healthcare professionals. Belgian sickness funds reimburse *9 physiotherapy sessions during the ante- and postnatal period, but in case of pathology 18 additional sessions are reimbursed.* Therefore, women save physiotherapy sessions for the postnatal period.

Paradox between personalisation and standardisation of care

The paradox between the demand for personalisation and standardisation could perhaps be alleviated by means of a basic minimal care package available for everyone, completed by additional modules in function of individual needs.

Isolated good practices available to a limited number of women

In Belgium plenty of good practices are observed and initiated by people with a lot of good will. However, these initiatives are small scale and isolated. In order to scale up good practices, they need to be reinforced by top-down decision-making and embedded in ANC networks, i.e. networks of ANC professionals working together and referring to each other.

Ideally a reinforcing loop is installed between bottom-up initiatives in the field and top-down policies.

Few registration of ANC related data

CEPIP and SPE collect data on childbirth, but very few data are collected during pregnancy.

Data exchange hampered by incompatibilities

Data exchange between ANC professionals is hampered by incompatibility of software and data systems. Efficient digital networks are needed. There are some promising initiatives, such as Vitalink, Réseau de Santé Bruxellois, Réseau de Santé Wallon and the digitalisation of the mother booklet.

Promise

If all the pain points were solved, the workshop participants believe that:

- Uniformity in antenatal care would be promoted.
- All information should be stored together (in the same database). This would lead to more uniformity in antenatal care and would enable more efficient and easier sharing of ANC information. ANC would be more structured and more efficient thanks to more collaboration and data exchange.
- Every pregnant woman would feel supported and more confident. Also vulnerable women would receive antenatal care as much and as long as needed.
- There would also be less rivalry between ANC professionals as care would be provided by multidisciplinary teams and information would be shared.
- Every pregnant woman would receive tailored and continuous care starting before conception and as long as needed in the postpartum.

Key Performance Indicators (KPIs)

Table 37 shows the KPIs chosen by the participants.

Table 37 – Key Performance Indicators

KPIs	Example of potential data sources	Note
Proportion of women receiving adequate ANC	AIM/IMA data	
Proportion of pregnant women who use more ANC procedures and services than recommended	AIM/IMA data	Thanks to a centralised database that is accessible for every caregiver a considerable decrease in the overconsumption of antenatal care can be expected. Need to get baseline data to compare the current situation with the future one.
Proportion of pregnant women who use less ANC procedures and services than recommended	AIM/IMA data	Need to get baseline data to compare the current situation with the future one.
Proportion of pregnant women receiving holistic management in antenatal care (e.g. preconception, psychosocial aspects)		
Proportion of preterm births	SPE, CEpiP	Baseline data available in SPE, CEpiP
Rate of maternal and foetal mortality and morbidity	SPE, CEpiP	Baseline data available in SPE, CEpiP
Proportion of satisfied parents	Qualitative interviews	
Proportion of HCP who capture electronic data Proportion of HCP who share information about patients electronically		On the one hand there will be more women having access to antenatal care, on the other hand, there will be less overconsumption since it can be carefully registered and easier to keep track of.

7.3.2.2. Value proposition

The purpose of the value proposition exercise is to make explicit and agree on the values healthcare professionals want to achieve for people, organisations and society, and from different perspectives: economic, medical, psychological and sociological aspects.

For the pregnant woman and her partner

- *Economic aspects*: no financial barriers should impede the access to ANC. Therefore, ANC must be affordable and the cost must be transparent. Future parents should be able to estimate costs in advance.
- *Medical aspects*: the right care has to be provided (evidence-based and proportional universal). Hence, process indicators must be defined and monitored such as breastfeeding (in numbers and duration), episiotomies, etc. (Future) parents should be informed about perinatal physiotherapy and pelvic floor rehabilitation.
- *Psychological aspects*: a better support must be provided to (future) parents to avoid post-partum depression, improve mother-child bonding, improve the transition to parenthood and prevent child abuse.
- *Social aspects*: the purpose of ANC is to foster the partner relationship, to ensure a successful transition to parenthood (happy mother, happy family, happy child) to enhance autonomy ('nulde ondersteuning') and trust in healthcare services/professionals.

For the individual caregiver

- *Economic aspects*: ANC professionals should have no financial disadvantage when referring patients to other healthcare professionals. Funding must be set up for maternity care assistance (kraamhulp – assistance maternelle).
- *Medical aspects*: ANC professionals should provide the same information to future parents, based on evidence-based guidelines.
- *Psychological aspects*: the risk of burn-out is a point of attention. Efforts are needed to reduce this risk.
- *Social aspects:* job satisfaction and work-life balance are the most important social aspects for ANC professionals.

For the organisation behind the caregiver

- *Economic aspects*: ANC could be organised more efficiently and used more appropriately. Therefore, adequate financing of ANC is crucial. Participants asked for a better nomenclature for midwives and physiotherapists and a remuneration that takes into account not only consultations but also collaboration, administration and waiting times.
- *Medical aspects*: a better use of primary care (midwives and gynaecologists) and of the different levels of care should be promoted as well as the collaboration between different disciplines.
- *Psychological aspects*: no information retrieved.
- *Social aspects*: one common view and team-spirit are needed.

At the societal level

- *Economic aspects*: society should help to ensure ANC to all pregnant women whatever their background. Financial leverage must be foreseen for prevention and social support during the antenatal period.
- *Medical aspects*: the social gradient in ANC should be eliminated and the rate of caesarean sections, morbidity and mortality must decrease.
- *Psychological aspects*: society must help to decrease relational problems.
- *Social aspects*: Parenthood should be more supported in society at large, e.g. no discrimination of pregnant women at work, allowing longer parental leaves for both women and men, promoting breastfeeding according the WHO guideline.

7.3.2.3. Discussion and conclusion

The main goals of ANC according to the workshop participants should be:

- offering a window of opportunity for personal development and prevention,
- offering universal services proportional to (future) parents' needs,
- striving for a decrease in medicalisation of pregnancy and childbirth by adapting the level of care to the woman's needs,
- providing continuous and integrated care from preconception to the postpartum thanks to multidisciplinary and interdisciplinary collaboration,
- providing cost-effective care,
- ensuring the best possible outcome for both mother and child,
- offering personalised and culture-sensitive care taking into account the standards of care published in evidence-based guidelines,
- informing (future) parents timely and enabling them to make conscious and informed choices.

The shortcomings of the current ANC provision can be summarised in inadequate consumption and fragmentation, each incorporating the perspective of (future) parents and ANC professionals (see Table 38).

Table 38 – Summary of the shortcomings of the current ANC system as identified by the workshop participants

Inadequate consumption of ANC	Fragmentation of ANC
(future) Parents	**(future) Parents**
• Perception of pregnancy and childbirth as a medical risk. • The perception that the number of ANC consultations is unlimited.	• Lack of knowledge and ANC literacy, hence ○ Need for preconception care ○ Need for preparation of the transition to parenthood ○ Need information on the ANC landscape (where to go for what kind of care)
Professionals	**Professionals**
• Very few data to monitor consumption of ANC. • Little compliance with antenatal care guidelines	• Lack of collaboration, networks and data exchange • Isolated good practices need to be supported and connected • Lack of adequate remuneration (e.g. for collaboration efforts, computerisation)

The method used to gather information allows to give a rapid and detailed reflexion on the ANC issues. However, only 7 stakeholders participated to this brainstorming exercise. This impedes the stimulation between participants and no controversy emerged although participants belonged to different professions and organisations active in ANC, mainly in Flanders.

To counter this disadvantage, the final text was submitted to a larger group of stakeholders and was discussed during a face-to-face meeting at the end of the project.

7.3.3. Brainstorm session to identify non-clinical interventions

As described in the method section (7.2.3), a brainstorm session with antenatal care professionals was organised to identify non-clinical interventions. These are presented in Table 39 may be offered to all pregnant women. However, all pregnant women do not need all these interventions. This is the reason why stakeholders foresee a psychosocial anamnesis aiming, among others, the assessment of woman's specific needs related to non-clinical interventions. Therefore for some interventions, a program can be set-up during the psychosocial anamnesis occurring in early pregnancy (i.e. during the first contact with a healthcare professional or as soon as possible after the pregnancy confirmation). This anamnesis may be performed by gynaecologists, midwives or social workers specialised in antenatal issues such as social workers from hospitals, K&G, ONE or Kaleido. During this anamnesis, identification of vulnerabilities has to be performed and supported by validated screening tools such as those developed in the project 'Born in Brussels'.

Pregnancy acceptance and the availability of a GP have to be discussed. Finally, information regarding the healthcare services available for pregnant women has to be shared to ensure informed choice.

Based on the specific needs identified during the psychosocial anamnesis, non-clinical interventions for each pregnancy trimester may be selected within the list reported in Table 39. During each trimester, interventions regarding birth preparation, parenthood education and pregnancy support may be offered. Some interventions are repeated across trimesters but the content of interventions is tailored to the progress of pregnancy and the needs of the future parents. In addition, some interventions may be offered only to specific subgroups of pregnant women (nulliparous women versus multiparous). Finally, the content of an intervention may need to be tailored to specific subgroups of pregnant women (e.g. breastfeeding interventions for women with or without previous breastfeeding experience or interventions related to adaptation of the new family structure).

Table 39 – Non-clinical interventions for pregnancy

At first contact with a healthcare professional or as early as possible		
Type of intervention	**Description**	**Comments**
Psychosocial anamnesis	Identification of vulnerabilities	Must be repeated at least once, frequency tailored to pregnant women's needs → if a kind of vulnerability is identified, create a network around the pregnant woman (e.g. framework proposed in the project 'Born in Brussels')
Psychosocial anamnesis	Informed choice of principal healthcare provider	Intervention has to be done regardless of who performs the first clinical consultation
Psychosocial anamnesis	Informed choice about antenatal preparation	Tailored to pregnant woman's specific needs
Psychosocial anamnesis	Availability of a GP	
Psychosocial anamnesis	Identification of woman's specific needs related to non-clinical interventions	
Psychosocial anamnesis	Pregnancy acceptance	Tailored to pregnant woman's specific needs
Parenthood education	Prevention of genital mutilations	Only for specific groups of women
During the first trimester		
Type of intervention	**Description**	**Comments**
Birth preparation	Development of the baby and evolution of the pregnancy	
Birth preparation	Information about warning signs	
Parenthood education	Information about administrative procedures: protection at work and issues regarding employment, maternity leave and motherhood support	
Parenthood education	Information about administrative procedures: social support	
Parenthood education	Information about administrative procedures: childcare / nursery	
Parenthood education	Information about feeding choice (breastfeeding versus bottle feeding)	
Parenthood education	Information about quality of (web-based) information sources	Give some external validated and evidence based information sources (electronic or not)
Pregnancy support	Information about sexuality during pregnancy	Tailored to pregnant woman's specific needs
Pregnancy support	Information about sexuality after delivery	Tailored to pregnant woman's specific needs
Pregnancy support	Lifestyle: nutrition, weight gain, medication, smoking, alcohol, sports, physical exercises and activities	Tailored to pregnant woman's specific needs
Pregnancy support	Information related to vaccination during the pregnancy	
Pregnancy support	Information about screening tests and informed choice	Tailored to pregnant woman's specific needs
Pregnancy support	Information about the importance of medical follow-up (e.g. ultrasound)	Tailored to pregnant woman's specific needs
Pregnancy support	Adaptation of medical jargon for lay people including explanation of clinical interventions	Tailored to pregnant woman's specific needs, can be repeated from the beginning to the end of the pregnancy, can be independent of a medical consultation, verify whether messages have been understood

During the second trimester		
Type of intervention	**Description**	**Comments**
Birth preparation	Pelvic floor muscle training and education including pelvic floor massage	Tailored to pregnant woman's specific needs after a pelvic floor muscle assessment according the most recent scientific evidence available
Birth preparation	Awareness of the body transformations during the pregnancy, the delivery and the postpartum including the functional consequences (e.g. related to working conditions)	
Birth preparation	Information about warning signs	
Parenthood education	Information about administrative procedures: child allowance, birth grant ('groeipakket')	
Parenthood education	Preparing the return home (including availability of a midwife for home visits, home environment, childcare equipment, actors and possibility of postnatal support)	
Parenthood education	Information related to postnatal care including K&G/ONE, physiotherapist and maternity care	Tailored to pregnant woman's specific needs
Parenthood education	Information related to the attachment bond including the foetal movement experience	
Parenthood education	Information about the newborn's needs	
Parenthood education	Information about the feeding choice (breastfeeding, bottle preparation)	
Pregnancy support	Information about oedema, posture exercises and proprioception	Tailored to pregnant woman's specific needs
Pregnancy support	Identification of pain related to fœtal position, posture pain, neck pain, biomechanic pain	Tailored to pregnant woman's specific needs
Pregnancy support	Information about psychological support during pregnancy	Tailored to pregnant woman's specific needs
Pregnancy support	Adaptation of medical jargon for lay people and how to deal with clinical interventions	Tailored to pregnant woman's specific needs, can be repeated from the beginning to the end of the pregnancy, can be independent of a medical consultation, verify whether messages have been understood
During the third trimester		
Type of intervention	**Description**	**Comments**
Birth preparation	Breathing exercises	
Birth preparation	Information about warning signs	
Birth preparation	Birth plan	Building realistic expectations for the future parents (e.g. according the hospital organisation or roles (presence or not of the father during the caesarean section)), to facilitate to cope with delivery. Topics covered in the birth plan should be related to both delivery and hospital stay.

Birth preparation	Information related to mental health impact or the emotional transformations of pregnancy, delivery and postnatal and possible care needs	
Birth preparation	Explanations related to the process of a physiological delivery (including when to go to the maternity ward, birthing position, pain management, introduction at the maternity ward, role of hormones during labour, importance of skin-to-skin contact…)	Tailored to pregnant woman's specific needs
Birth preparation	Information about medical interventions during the delivery and their potential consequences/risks.	
Birth preparation	Information about recovery of the pelvic floor and restart of physical activities (exercises) and sports	
Birth preparation	Information related to bonding with the newborn	
Parenthood education	Information about the newborn's needs	
Parenthood education	Information about the feeding choice (breastfeeding, positions to breastfeed, bottle preparation, breastfeeding at work)	
Parenthood education	Preparing the return home (including availability of a midwife for home visits, home environment, childcare equipment, baby's sleep rhythm, self-care (me-time, i.e. time dedicated to the mother))	Tailored to pregnant woman's specific needs
Parenthood education	Information related to postpartum care (recovery, mood variation, Guthrie test, when restart sport, when start postnatal physiotherapy sessions…)	
Parenthood education	Information about anticonception	
Parenthood education	Information about vaccination and screening tests for the baby during the postnatal period (e.g. deafness, bilirubin test...)	
Parenthood education	Analysis of parental empowerment (including fear of delivery) and social (family) support	
Parenthood education	Adaptation to the new family structure (place of the pregnancy, place of the baby within the family)	
Pregnancy support	Information of healthy motherhood and well-being	Tailored to gravida status
Pregnancy support	Identification of pain related to fœtal position, posture pain, neck pain, biomechanical pain	Tailored to pregnant woman's specific needs
Pregnancy support	Information about psychological support during pregnancy	Tailored to pregnant woman's specific needs
Pregnancy support	Information about psychological support during delivery	Tailored to pregnant women's specific needs
Pregnancy support	Adaptation of medical jargon for lay people and dealing with clinical interventions	Tailored to pregnant women's specific needs, can be repeated from the beginning to the end of the pregnancy, can be independent of a medical consultation, verify whether messages have been understood.

7.4. Conclusions

Key messages

Based on the face-to-face interview results:

- **The postpartum must be well prepared during pregnancy: future parents must know what to expect from hospital stay and their return home, they must know how to care for their newborn (including breastfeeding) and what kind of material they need for that, parents should identify the alarm signals and what to do in case they occur, postnatal follow-up at home should be scheduled in advance and a midwife should have visited the family before birth, parents must be aware that a paediatric check-up is needed at day 5, other services such as maternity home care assistance should be arranged in advance.**
- **One consultation is not enough to provide the information listed above. In addition to the clinical antenatal follow-up, the evaluation of needs, the identification of vulnerabilities and the preparation of the transition to parenthood (social and psychological aspects), at least two consultations are needed to prepare the postpartum (practical and informational aspects).**
- **Quality criteria are needed for clinical antenatal follow-up, childbirth preparation, parenthood education, preparation of the postpartum and postnatal follow-up.**

Based on the results of the professional face-to-face brainstorming:

- **In sum, the current organisation of ANC lacks structure and guidance, resulting in under- and overconsumption of care.**
- **Main shortcomings are the insufficient collaboration between care providers, lack of data sharing (lack of digitalisation and data recording) and a need for more detailed care pathways. In addition, (future) parents need timely and non-contradictory information.**
- **Top-down policies and regulations and bottom-up antenatal coordinated network could function in a mutually reinforcing way.**
- **All information should be stored together (in the same database).**
- **The main goals of ANC according to the workshop participants should be:**
- **offering a window of opportunity for personal development and prevention,**
- **offering universal services proportional to (future) parents' needs,**
- **striving for a decrease in medicalisation of pregnancy and childbirth by adapting the level of care to the woman's needs,**
- **providing continuous and integrated care from preconception to the postpartum thanks to multidisciplinary and interdisciplinary collaboration,**
- **providing cost-effective care,**
- **ensuring the best possible outcome for both mother and child,**
- **offering personalised and culture-sensitive care taking into account the standards of care published in evidence-based guidelines,**
- **informing (future) parents timely and enabling them to make conscious and informed choices.**

Based on the results of the nominal group regarding the need of non-clinical interventions in Belgium

- **A first contact as early as possible has to be organised to perform a psychosocial anamnesis, to give information to allow the parents to make an informed choice of principal healthcare provider and about antenatal prepration.**
- **During this first contact, assessment of the parents' specific needs for non-clinical interventions has to be performed to elaborate a tailored program based on the list of non-clinical interventions proposed in Table 39 and on the availibility of these interventions around the living place of the pregnant mother. It should be noted that the list of interventions mentionned in Table 39 must be considered as a tool box supporting the elaboration of the program and not as a exhaustive list of mandatory activites.**

8. ANTENATAL CARE PATHWAYS IN OTHER COUNTRIES

8.1. The Netherlands

8.1.1. The Dutch maternity care system

Levels of care

The Dutch maternity care system makes a clear distinction between three levels of care provision: primary, secondary and tertiary care. Because pregnancy, childbirth and puerperium are considered physiological processes, the follow-up of healthy women, with a physiological pregnancy, labour and post-partum period are mainly provided by self-employed primary care midwives who work in private practices.[147] GPs are responsible for about 0.5% of all births, mainly in rural areas (Source: Nivel, 2011).[148] The shift to secondary (general hospital) or to tertiary care (perinatology centres, of which eight are in the university medical centres) is required in case of complications, or specific requests such as pharmacological pain relief. Moreover, interventions such as augmentation of labour, continuous foetal monitoring or instrumental birth only take place in secondary or tertiary care.

Community midwives are independently operating professionals, working in their own community midwifery practices and playing the role of gatekeepers to specialist care. In 2015, there were 532 primary midwifery practices in the Netherlands.[148] Most primary care midwives work in group practices, with two or three colleagues.[148] Globally, 96% of the women get some care of a primary care midwife during pregnancy, labour or in the postpartum period. Midwifery practices cover a specified working area to guarantee timeliness care. They offer antenatal consultations during the week and have a midwife on call 24/7. During a shift (lasting 24 hours), a midwife combines both postnatal visits at home and antenatal care, at home or in the hospital. Nevertheless, around 5% of the Dutch midwives have a solo practice.[148] Often they have an agreement with a neighbouring practice to occasionally cover up for them in order to allow them to take some time off. Of midwives 17.2% is locum.[148]

These are mostly midwives who have just finished their education. In total 29.2% of all active midwives work in a hospital as a clinical midwife.[148]

Secondary and tertiary obstetricians are mostly organized by partnerships and are working in hospitals. At each level, healthcare professionals work autonomously while being complementary.

Practice qualification for midwifery

The principal entry to practice qualification for midwifery in the Netherlands is a four year midwifery degree.[147] On graduation midwives can opt for working as a primary care midwife providing all care for women with an uncomplicated pregnancy. Alternatively, midwives can opt for working within a hospital setting as a clinical midwife under the responsibility of an obstetrician. Clinical midwives provide midwifery care for women who experience complications or present risk factors that necessitate secondary care. Clinical midwives are skilled in additional tasks such as conducting continuous electronic foetal heart rate monitoring (EFM) and augmentation of labour. Clinical midwives deal with complicated pregnancy and birth, working under the responsibility of an obstetrician. A postgraduate education to qualify them to take on these "additional" tasks exists in the Netherlands and is expected to become mandatory in the near future.[147]

The List of Obstetric Interventions

In order to define the levels of risk and to determine which actor has to intervene, healthcare professionals refer to the List of Obstetric Indications (Verloskundige Indicatielijst or VIL), i.e. a comprehensive list of pre-existing, pregnancy and perinatal related disorders, which optimises the risk selection and referral. The composition of this list was based on best evidence or best practices.[149] The manual is a guideline, and health professionals have the option to make autonomous decisions. This document was established in dialogue with representatives of maternity care (the Royal Dutch Organization of Midwives (KNOV), the Dutch Society for Obstetrics and Gynaecology (NVOG), and the Dutch General Practitioners Association (LHV)) who agreed on indications for consultation and referral. This manual is the foundation for all agreements between individual midwives and obstetricians in Maternity Care Networks (in Dutch Verloskundige Samenwerkingsverbanden (VSVs)). Because a woman's risk status can change during pregnancy, labour or the postpartum period, she may be transferred at any stage from one level of care to the other.[150]

The VIL indicates which type of care is indicated, by the following subdivision:[148]

A the care of a primary care midwife is considered sufficient

B an obstetrician should be consulted

C the care has to be given by an obstetrician

D the natal care should be given in a hospital but can be supervised by a primary care midwife

Some examples of VIL-indications and disorders:

A Previous miscarriages, previous premature birth (>33 weeks), cystitis.

B Anaemia (<5.6mmol/l), pregnancy induced hypertension, psychiatric illnesses.

C Diabetes mellitus, >24 hours of ruptured membranes, meconium-stained liquor, multiple birth.

D Previous postpartum hemorrhage (>1000mL), previous retained placenta (manually removed).

A high risk status is based on the presence of a distinct (single) medical or obstetric risk factor for adverse outcomes.

In 2013, 85% of women started their pregnancy in midwife-led care and eventually 29% of all pregnant women gave birth in midwife-led care (Source: Stichting Perinatale Registratie Nederland).[147] While women can be referred back to primary care when appropriate, about 50% of pregnant women starting in midwife-led care are referred at some stage during pregnancy and start labour in secondary care. The number of referrals during labour has increased steadily during the past years from 15% in 2010 (Source: Stichting Perinatale Registratie Nederland, 2010) up to 23% in 2013 (Stichting Perinatale Registratie Nederland, 2013b).[147]

This rise is mainly a result of more referrals for non-urgent reasons, such as meconium stained liquor, the need for pain medication or failure to progress during the first stage of labour.[147]

Two critical remarks can be formulated towards the use of this List of Obstetric Indications. First of all, it only distinguishes "high-risk" and "low-risk" indications. A "moderate risk" indication does not formally exist at present whereas the need for epidural anaesthesia for pain relief and meconium stained amniotic liquor, could be regarded as "moderate risk".[147] All women who develop "moderate risk" indications during labour are currently classified as "high risk", and referral takes place to an obstetrician, which means that care is handed over. In daily practice the obstetrician often delegates the care to a clinical midwife.[147] Secondly, restricting the risk assignment on medical characteristics is more and more considered as insufficient since non-medical factors such as low income, lack of social support or non-Western ethnic descent were also proved to be associated with adverse birth outcomes (e.g. Small Gestational Age, preterm birth and low APGAR-score).[150] Moreover the accumulation of small to intermediate risk factors may also contribute to worse birth outcomes.

This situation led health researchers to develop a new antenatal risk scorecard, i.e. the Rotterdam Reproductive Risk Reduction scorecard (R4U).[150]

The Rotterdam Reproductive Risk Reduction scorecard (R4U)

To improve perinatal health, principally in socially deprived areas, the Rotterdam municipal council and health scientists of the Erasmus University Medical Centre launched a city-wide perinatal health program 'Ready for Baby'.[149] Within this comprehensive program, the Rotterdam Reproductive Risk Reduction scorecard (R4U) (Table 40) was developed to cover both medical and non-medical risks during pregnancy and childbirth and corresponding care pathways were created and piloted.

The R4U assesses clinical and non-clinical risks, allowing the estimation of a cumulative risk profile. The format of the scorecard is derived from the existing WIC program in the United States (WIC: Women, Infant and Children Program). Globally, risk factors were selected for their contribution to adverse perinatal outcomes in large perinatal cohort studies and grouped into 6 risk domains: (1) social, (2) ethnic descent and language barriers, (3) lifestyle, (4) healthcare behaviours, (5) general medical, and (6) obstetric. The left hand side of the R4U form encloses four domains: psychosocial and economic, communication and ethnicity, pregnancy onset, and lifestyle. The right hand side of the form covers the clinical risk items in the medical (e.g. psychiatry, cardiovascular) and the obstetrical domains.[151] A script was developed to R4U Script to assist caregivers in asking pregnant women about the presence of specific R4U risk factors.

Answer is mainly dichotomous (yes/no presence of risk); if a measure is continuous, a cut-off point (risk-threshold) is stated. After completion of the card, the positive answers can be summed into a domain score, and subsequently into an overall sum score. This sum score represents the accumulated risk for perinatal morbidity (preterm birth, small for gestational age, congenital anomalies); a setting-defined threshold of 'high risk' can be applied. When computerised, the R4U is an adaptive instrument (i.e., skips the non-relevant items) that automatically generates sum scores.[151]

The following principles guide the use of this scorecard: (a) non-clinical risk factors (including domestic violence, poor education, single parenthood, low income and serious debts, psycho-social problems, having a migrant background, or being a teenager with an unplanned pregnancy) are considered as independent risk factors, some of them leading for intervention or support; (b) while a single risk may require a specific intervention, accumulation of heterogeneous risks is considered as another pathway to perinatal morbidity (particularly Intrauterine growth restriction and prematurity), justifying the addition of risk scores even if not all factors are requiring prevention or treatment; (c) a high sum score is envisaged as an extra preventive opportunity; it is the total risk profile that defines the urgency of the case and enables the timely choice for particular preventive or curative strategies; (d) the built-in thresholds of high risk are relative and not normative, to allow the adaptation according to the available (preventive) resources; cut-offs at the individual risk level and the sum score level can be adapted; and (e) the assessment of the R4U should have minimal impact on the interaction with the pregnant woman.[151] A feasibility study evaluated the time to complete the R4U as less than 10 minutes in 80% of the cases.[151]

Table 40 – R4U scorecard

PRACTICE		CLIENT ID:		POSTAL CODE				DATE OF BOOKING VISIT:		DUE DATE:			US	☐
SOCIAL			**SCORE**		**ACTION**			**GENERAL MEDICAL**			**SCORE**		**ACTION**	
Social situation			YES	NO				**Diseases**			YES	NO		
Single mother								Chronic maternal illness						
Relational problems > 3 months								Consultation physician (last years)						
No social support								Surgery						
Only 1-2 persons for social support														
Domestic violence								**Medication**			YES	NO		
Youth healthcare interference last two years								Prescribed medication						
								Over-the-counter drugs						
Work and income	N/A		YES	NO				No preconceptional folic acid use						
Unemployed (> 3 months)														
Exposure to standing work								**Infectious diseases**			YES	NO		
Working hours > 32								Last 12 months (treated) sexually transmitted disease						
Net family income < 1000 euro								At risk of sexually transmitted disease						
Irredeemable financial debts								At risk of Toxoplasmosis						
Partner unemployed								No immunity Rubella						
Educational level			YES	NO				**Psychiatric**			YES	NO		
Low educational level (< 7 years) or illiterate								History of psychiatric admission or positive family history						
								(first degree relative)						
Living conditions			YES	NO				Ever used pyschiatric medication						
Housing problems								Current psychiatric problems						
Deprived neigbourhood														
Deprivation score (4 digit zipcode based)														

ETHNICITY					**OBSTETRIC**			
ETHNICITY	YES	NO			**History**	YES	NO	
Creole-Surinamese					Time to pregnancy >1 year			
Hindu-Surinamese					Nulliparous			
Antillian-Aruban					Recurrent miscarriage (2 or more)			
African					Preterm birth (< 37 weeks)			
Eastern European					Small for gestational age (< P10)			
Other non-Western					Major congenital anomalies			
Language/ Communication with client	YES	NO			Still birth (22 weeks - 7 days pp)			
Language barrier					Shoulder dystocia			
Only communication with translator					Instrumental delivery			
Mentally retarded					Primary caesarean section			
CARE					Secondary caesarean section			
General	YES	NO			Gestational diabetes			
No health insurance					Placental abruption			
					Manual placenta removal/ hemorrhage			
Family planning / age	YES	NO			(Pre)eclampsia or HELLP			
Unwanted pregnancy					Hemoglobinopathy			
Assisted reproduction					Jehovah's witness			
Teenage pregnancy					**Family**	YES	NO	
Advanced maternal age (>40 years)					Congenital anomaly in first or second degree relative			
Obstetric	YES	NO			Other indications of 'The List of Obstetric Indication'			
Start antenatal care after 14 weeks					**LABORATORY RESULTS**			
Start antenatal care after 24 weeks					Positive irregular antibodies			
					Hepatitis B			
LIFESTYLE					HIV			
Substance abuse N/A	YES	NO			Lues			
Preconceptional smoking					Chlamydia			
Smoking first trimester								
Smoking second trimester					**BENEFICIAL FACTORS**			
Preconceptional alcohol use								
Alcohol abuse first trimester								
Alcohol abuse second trimester					**FINAL RESULT**			
Preconceptional drug use					*Catergory*	*Max. score*	*Score*	
Drugs abuse first trimester					**SOCIAL**	13		
Drugs abuse second trimester					**ETHNICITY**	2		
					CARE	5		
Nutrition					**LIFESTYLE**	10		
Vegetarian, vegan or macrobiotic diet					**GENERAL MEDICAL**	11		
Insufficient intake of vegetables (not daily)					**OBSTETRIC**	16		
Insufficient intake of fruit (less than 1 or 2 daily)					**LABORATORY TESTS**	5		
Weight	YES	NO			**Total**	58		
BMI < 20								
BMI 30 - 40					**FOLLOW-UP**			
BMI > 40								
					R4U©Erasmus MC	23/11/2010	*version 2*	

Following this initiative, a nationwide study, 'Healthy Pregnancy 4 All' (HP4ALL), has been initiated. This ongoing project aims to investigate the effectiveness of a new systematic approach in antenatal healthcare on adverse pregnancy outcomes and efficacy of implementation. The team will implement and investigate the Rotterdam Reproductive Risk Reduction (R4U) scorecard and corresponding care pathways in 14 municipalities.

Free choice of birth place

A major pillar of the Dutch maternity system is the free choice of birth place, including home birth. Low-risk women may choose whether to give birth at home or in a hospital (outpatient clinic). A woman who makes the choice for a home birth will be assisted by her primary care midwife and a maternity assistant or an (obstetric) nurse who is employed by the hospital, this depends on local agreements. The midwife brings her own equipment, including a neonatal resuscitation set with oxygen while the insurance company provides a maternity box, which contains bed protectors, maternity pads, gauze and sterilizing alcohol amongst other necessities. If complications arise, the midwife will refer to an obstetrician or paediatrician. Every hospital in the Netherlands accepts these referrals from primary care midwives. Midwives use ambulances for transport in high risk situations.

The most common reasons to refer a woman to secondary care is the need for pharmacological pain relief and/or slow progress of the first stage (16.3% of all referrals), followed by meconium stained liquor (8.8%) and pre-labour rupture of membranes without contractions for more than 24 hours (4.1%) (See Perined Insight LVR 1 2015; https://www.perined.nl/producten/perined-insight). Of all referrals 1.9% is urgent.

Low-risk women who prefer to give birth at hospital leave the hospital in 2 to 4 hours after an uncomplicated birth. Women who have an increased obstetrical risk give birth in a hospital, without extra costs to themselves. A secondary or tertiary care professional will attend them during birth. This is either a clinical midwife, a general doctor or an obstetrician in training, who will call an obstetrician if complications arise.

However, despite the focus on primary care and renowned preference for home births in the Netherlands, the rate of home births decreased over time, from 30.3% of all births in 2000 to 13.1% in 2015. This decrease was related to a change in attitudes of Dutch women, who increasingly opt for the secure environment of the hospitals, the availability of different healthcare professionals and an easy access to pain relief (epidural).[152] Additionally, there is an increasing tendency to induce births (pregnancies of over 41 weeks, or women with high blood pressure) in order to prevent complications.[153]

Consequently, the use of obstetric hospital units by low-risk women was increasing. To offer an alternative for these women with uncomplicated pregnancies who refuse to give birth at home, birth centres were established. They complete the current supply of services by combining a home-like environment but the safety of a controlled service. Such centres can be located either freestanding, alongside or on-site of an obstetric ward. All structures have to easily refer the pregnant woman to an obstetric unit if complications arise and compromise the health of the mother or of the baby. Women with uncomplicated pregnancies can choose where they want to give birth, either at home, in a hospital or in a birth centre.

Finances and insurances

All citizens of the Netherlands are obliged to insure oneself for standard care including midwifery care. For an adult, the standard insurance is partly received through taxes. Additional to this the individual costs are around €1200 plus a mandatory contribution of €385 each year. Children are covered free of charge until the age of eighteen. Every midwifery practice has contracts with the different health insurances.[148]

Practices are free to arrange antenatal care following their own preferences or directives. The average number of consults is 10 to 12 times in one pregnancy, with distinction between in consult time of 10 to 45 minutes. Some practices add a home visit at around 35 weeks of pregnancy, which is recommended by the government without being financially compensated until now.

If care delivered by a midwife is only given for a part of the pregnancy, for example, due to miscarriage, change of midwife or referral to secondary care, that part of the pregnancy can be claimed by the health insurance. There are fixed prices for different care periods.[148]

If a low-risk woman opts for an outpatient birth she has to pay a contribution of about €300-400. Some health insurances cover this expense.[148]

Midwives obtain the following amounts for their given care (2017):

Antenatal € 487.05

Natal € 529.52

Postnatal € 294.18

Total: € 1310.75

These amounts are yearly adjusted by the Dutch Healthcare Authority

There is an additional budget for clients with poor socio-economic background. Whether the midwife can claim this extra amount (23%) is based on the zip code of the client.

The remuneration for natal care is always the same amount, independently of birth duration or whether the woman stays under the care of a midwife or is referred to an obstetrician. Natal care starts when the membranes rupture or when contractions have started.

The financial compensation given for postnatal care is non-variable, independently whether the midwife visits the client only once or several times. A visit is often scheduled every other day for eight to ten days after birth and takes between fifteen minutes and one hour to complete. The midwife works closely together with a maternity assistant during the postnatal period. A midwife who works fulltime will take care of the antenatal, natal and postnatal care of approximately 105 women annually.

8.1.2. Facts and figures

The Dutch model seems to be well organized, well-structured and also efficient. However, the first Euro-Peristat study (2003)[154] showed that in international perspective the Netherlands had one of the highest foetal and neonatal mortality (i.e. 7.4 and 3.5 per 1000 births, respectively) of all countries participating in the study.[155] Although the comparability of data from disparate countries was questionable, some concluded that the division between primary and secondary care could be responsible for the poor outcomes observed. Later on, the second Euro-Peristat study (2008) found that the Netherlands still had one of the highest foetal and neonatal mortality (i.e. 7.0 and 3.0 per 1000 births, respectively).[156] A secondary analysis of the Euro-PERISTAT data, correcting for methodological flaws, revealed that the Dutch perinatal mortality rate at term was lower, or comparable to, rates in a number of other European countries that have a majority of hospital birth rates; authors concluded that the relatively high perinatal mortality rate reported in the Netherlands is driven more by extremely preterm births than births at term. The Euro-PERISTAT data cannot be used to show that the Dutch maternity care system is unsafe.[157] Furthermore, a large nationwide cohort study of perinatal mortality and morbidity among low-risk planned home (n=466 112) and hospital births (n= 276 958) in the Netherlands found no difference in the risk of adverse perinatal outcomes.[158]

Despite this major correction, a steering committee has been commissioned in 2009 by the government (Stuurgroep Zwangerschap en Geboorte) to analyse the situation and to suggest improvements in the maternity care system. Since, there has been invested in better cooperation between the different caregivers and cases of perinatal mortality and severe morbidity have been discussed in audits to identify substandard care. To improve and guarantee the quality of care during pregnancy and childbirth, several measures have been adopted, including the introduction of preconception visits (2008) and the introduction of the 20-week ultrasound (anomaly scan). One of the main recommendations was to improve and restructure collaboration between all providers in maternity care by more integration in Maternity Care Networks.

Another recommendation was to examine the use of birth centres to improve perinatal outcomes, based on the hypothesis that birth centres might provide higher quality of care because they offer a better opportunity for more integrated care.[152]

A series of quality indicators was developed and measured to evaluate the performance of the maternity services. The Dutch Healthcare Performance report 2014 revealed favourable trends regarding antenatal, perinatal and postnatal care.[153] Focusing on perinatal care, following indicators were measured:

- Accessibility:
  - in 2012, 90.3% of women of childbearing age could reach the nearest midwife practice within 10 minutes by car, geographical accessibility of primary midwife practices being better in Randstad than in Zeeland and the northernmost provinces;
  - in 2011, 99.7% of women of childbearing age could be transported to hospital within 45 minutes by ambulance and 92 locations with an obstetric unit that were open 24 hours a day were spread throughout the country;
  - in 2011, 97.9% of women of childbearing age could reach a hospital maternity unit within 30 minutes by car.
- Quality:
  - The percentage of pregnant women that had their first antenatal visit before 10 weeks of pregnancy has risen from 35% (2005) to 81% (2012). This percentage has risen from 28% to 76% for women from deprived areas.

Moreover, the Dutch Ministry of Health (VWS) funded a nationwide study to obtain national safety figures for five types of primary care settings including midwifery practices. The number and types of safety incidents in midwifery care for low risk childbearing women were documented, using a mix-method approach, combining retrospective and prospective methods.[159] The retrospective component necessitated a review of 1,000 patient records while the prospective component involved the reporting of safety incidents across a period of two successive weeks by actively practicing midwives and practice assistants in 20 practices. Authors reported that a pregnant woman in primary midwifery care has a 8.6% probability to experience a safety incident (95% CI 4.8–14.4), with or without noticeable effects for the woman and her child; this probability lowered to a 2.5% probability of experiencing a safety incident with a noticeable effect (e.g. postpartum haemorrhage postpartum, 1500cc; arrival of the midwife at the beginning of the second stage of labour).[159] Results of this study showed patient risk assessment to generally be applied consistent with the Obstetric Manual. The most critical requests for help were appropriately handled, and the records showed correct and frequent check-ups during the antenatal, natal and postnatal care process. Domains found to be 'at risk' for causing a safety incident during midwifery care were the organisation of the urgent care process and risk assessment in treatment. Despite written procedures and appointments, midwives seem to hesitate to call in a non-call colleague when two urgent requests for help are received simultaneously. Another cause of safety incidence is the underestimation of the level of risk, based on the medical or obstetric histories of pregnant women. The presence of a previous small or large for gestational age did not induce a more frequent monitoring of foetal growth during the current pregnancy. Finally, the lack of intervention procedures taken by midwives to influence lifestyle habits such as smoking or inadequate diet during the pregnancy could also be responsible for the occurrence of safety incidents.[159]

8.1.3. Standard for Integrated Birth Care

To ensure the effectiveness of the networks and the more intensive use of lower echelons for low-risk women, the Netherlands have adopted the concept of integrated care in which pregnant women and their needs and preferences are central. Integrated care involves a coordinated and coherent set of services, which are planned, managed and delivered to individual service users through defined organizations and cooperating professionals.[160] Integrated care aims to provide a continuum of care for service users that crosses the boundaries of public health, primary, secondary, and tertiary care.

In 2016, the “Standard for Integrated Birth Care” (“Zorgstandaard Integrale Geboortezorg”) was developed by The College for Perinatal Care, describing all the required care and support needed from the preconception phase to 6 weeks after the birth and specifying in detail both the content of information, support and care activities, and the organization of birth care. In 2017, all Maternity Care Networks in the Netherlands are to have formulated how to implement this standard. In accordance with the standard ensuring that all future actions in obstetric care at a regional level match with each other and they must be integrated in protocols and care pathways (Netherlands Ministry of Health, Welfare and Sport [VWS], 2014).[152] In the plan, an “obstetric care provider” is BIG-registered,[uu] authorized to perform midwifery activities and may be a physician-assistant in gynaecology, gynaecologist, gynaecologist in training, physician assistant ‘clinical obstetrician’, clinical obstetrician, obstetrician, or a general practitioner who is obstetrically active.

The Dutch maternity care system needs to be adapted to enable such change. For example, from 2017, the payment system for maternity care allows bundled payment for both primary and secondary maternity care providers, an adjustment that will require more cooperation or even integration between both levels. The current system is characterized by two complementary but also sometimes contradictory themes: 1) risk selection of pregnant women for specialist care and 2) collaboration between primary and secondary caregivers. While the first theme outlines the domains and responsibilities necessary for determining the indications for specialist care, the second theme emphasises the importance of cooperation between healthcare professionals. Also, interprofessional and inter-organizational collaboration asks for the development of new clinical practices.[152]

Vision of Integrated Birth Care

The Steering Committee 'Pregnancy and birth' stated that the physiological approach and the more medical approach to pregnancy and birth should be balanced again. The ambition was formulated that everyone in the Netherlands would receive the best care in relation to pregnancy and birth, whereby (avoidable) calamities would be kept to a minimum. The basis for this was readily available, but on a number of points the care of pregnant women and her (unborn) child had to be improved. To realize this ambition, care should be organized more around mother and (unborn) child. Care providers are thereby serving the interests of mother and child. Even more than before, they would have to take into account the expectations and wishes of the pregnant woman, with her medical and psychosocial characteristics, and should support the pregnant woman in her intrinsic ability to experience a healthy pregnancy, delivery and maternity period. In these guidelines, which were not yet approved by all parties, a vision on integral birth care was further elaborated. This concerns the following matters:

- Central position for the pregnant woman and (unborn) child
- Adequate information and counselling
- One fixed point of contact
- An individual birth plan
- Multidisciplinary and cross-level collaboration
- Interprofessional birth care team

[uu] The BIG-register arises from the BIG Act (in Dutch: ‘Wet op de beroepen in de individuele gezondheidszorg’; Individual Healthcare Professions Act). The BIG-register gives clarity about the care provider’s qualifications and entitlement to practise.

Central position for the pregnant woman and (unborn) child

All professional groups, organizations and institutions that support the pregnant woman by delivering care should ensure that respect and safety guide all interventions. Together they should warrant optimal safety, availability and quality **from preconception through to young parenthood**, regardless of the chosen place of birth. Guaranteeing the respect of professional standards, care providers have to keep in mind that wishes and needs of the (pregnant) woman, her partner and their (unborn) child are central. The woman (and her partner) ultimately decides for herself. After being well informed and possibly being advised about her pregnancy and possible risks she also chooses how and where she wants to give birth: at home, in a birth centre, in an outpatient clinic or in a hospital.

Adequate information and counselling

The pregnant woman receives step-by-step information about what pregnancy and birth entails, which support is possible and what the effects of her pregnancy can be on daily life. Caregivers dedicate sufficient time for this and base themselves on evidence-based practice (EBP). Questions that are outside the care provider's field of knowledge or competences, for example regarding the reimbursement of certain types of care, insurances, home furnishings, financial and formal responsibilities in parenting, are referred to relevant authorities. The information provided is tailored to the information and care needs of the woman and her partner, their level of knowledge and the mastering of the Dutch language. The obstetric care provider checks whether the woman has also understood this information. It is recommended to use materials and applications that best suit their personal situation. She also receives comprehensible and written information, using user friendly leaflets or identification of (validated) interactive websites and pregnancy apps, so that she can read them again if necessary together with her partner or close relative(s).

One fixed point of contact

In order to further support her directing role, the pregnant woman will have one fixed contact person during the pregnancy. This professional is one of the obstetric care providers involved in the pathway, usually the midwife. This healthcare professional, renamed *the coordinating care provider*, ensures the interests of the pregnant woman, supports her self-management and ensures that integrated birth care is provided according to the individual birth care plan.

An individual birth care plan

In order to formalize the wishes and needs of a pregnant woman, the pregnant woman together with the coordinating care provider draw up an Individual Birth Care Plan, according to the principles of joint decision-making. This sets out all important aspects related to supervision and care for a future mother from the moment of childbirth up to and including the first six weeks after birth. The plan is set up according to the identified risks and describes all important steps and appointments that have to be scheduled during the pregnancy (information, laboratory and other clinical tests, division of responsibilities between care providers, etc.). In doing so, the personal situation is explicitly taken into account. The plan is the property of the pregnant woman.

Schedule of appointments and content

The KNOV consultation schedule does not distinguish nulliparous from multiparous (Table 41). The timing and the frequency of consultations are adjusted to the needs of the pregnant woman and the course of the pregnancy. To match the needs of the pregnant woman, the midwife discusses with her at the end of each consultation when the next consultation takes place. She also explains what will be discussed in the next consultation and asks the woman when she wants to come back. The midwife indicates when she wants to see the pregnant woman again and why. This procedure can lead to a variable number of consultations for multiparae than for nulliparae, but it is not an issue. If necessary, the midwife may suggest fewer but longer consultations.

Table 41 – Schedule of ANC appointments and content for pregnant women in the Netherlands

Periodicity	Nulliparous/parous	Content of the appointment – healthy pregnancy	Content of the appointment – organisational
Preconception consultation		***Information and support***: - Exploration of the care demand and (family) anamnesis of the woman and her partner - Health education - (if desired) health-promoting interventions such as folic acid supplementation, food hygiene, lifestyle advice (including smoking cessation, and the implications of recreational drug use and alcohol consumption in pregnancy), vaccinations against infections, obesity and overweight, change of medications, change in work conditions ***Specialist preconception consultation:*** If specific risk factors are identified during a general consultation, an additional specialist preconception consultation should be offered to the pregnant woman. This will focus on: - the nature, the severity and the treatability of diagnosed disorders and/or risk factors; - the potential influence of the pregnancy on the (future) health of the woman; - the impact of the disorders and/or risk factors for the course of the pregnancy and the development of the foetus; - and finally, on the likelihood that the future child may have a (hereditary or congenital) condition. ***Management of women with chronic diseases:*** Women with a chronic disorder are often already followed up by a specialized healthcare provider. It is important that this care provider is identified and contacted to discuss about the pregnancy wish of the woman and the required follow-up and adaptation of her management plan.	***Information and support***: Information about antenatal care; Information about antenatal screening and diagnosis If needed, referral to specialists (geneticist, social worker, psychologist…)

4-8 weeks (ideally before 9 weeks amenorrhea) if no preconception consult	***First contact to build a relationship of trust with the pregnant woman*** The guidance in this first phase is linked to the preconception consultation: risk assessment, general information and discussion of antenatal screening. - timely determination of the term date using the ultrasound and possible chorionicity in a multiple pregnancy; - adequate selection of pregnant women with an increased risk of complications - exploration of the care demand and (family) anamnesis of the woman and her partner ***Information and support***: folic acid supplementation, food hygiene, lifestyle advice (including smoking cessation, and the implications of recreational drug use and alcohol consumption in pregnancy), all antenatal screening including risks and benefits of the screening tests. The obstetric care provider provides information and answers (counselling and coaching). This includes work and lifestyle; pregnancy education; accessibility and calling advice, as well as the importance and timely organization of maternity care. ***Clinical tests:*** After full information and agreement with the pregnant woman, offer: - blood tests (for checking blood group and rhesus D status, glucose and screening for haemoglobinopathies, anaemia, red-cell alloantibodies, hepatitis B virus, HIV, rubella susceptibility and syphilis) - measure blood pressure, height and weight, calculate BMI - echography to determine the birth date	***First contact to build a relationship of trust with other care providers*** Evaluation of a need to plan a multidisciplinary consultation involving first line midwife, second line midwife and gynaecologist and potentially birth care professionals, GP, paediatrician, anaesthesiologist and public health collaborator Contact with the birth care team to create a network around the pregnant woman (share of responsibilities, determination of the coordinating care provider)

9-14 weeks	***Information and support***: pregnant woman is informed about the possibility to perform a combination test, that gives information about the risk that the baby has the Down's, Edward's or Patau's syndrome. The combination test gives risk calculation. If the risk is 1:200 or higher, the woman is subsequently offered a non-invasive prenatal test (NIPT), a chorionic villi sampling or an amniocentesis. These additional tests are always performed in a hospital that has a specific licence for this purpose. From 1 April 2017 woman can also choose for the non-invasive prenatal test (NIPT) as first screening test. Specific attention for medical and psychosocial aspects (sources of stress, physical complaints, relationship, family, work, psychosocial changes) ***Clinical tests:*** - Ultrasound to confirm the birth date - Screening Down syndrome and antenatal diagnostic - Blood exam including Hb/MCV	
16 weeks		During this phase (no later than week 16) the coordinating care provider and the pregnant woman jointly prepare a (first) Individual birth care plan. To this end, the pregnant woman receives information and counselling about the organization of obstetric and maternity care, freedom of choice, the creation of a patient individual record, transfer of information to other care providers and privacy.
20 weeks	A second antenatal test that women can choose is the 20 weeks ultrasound. This ultrasound screens the foetus on congenital abnormalities like a spina bifida and heart defects. The 20 weeks ultrasound examination is performed in a hospital that has a specific license for antenatal testing. For the 20 weeks ultrasound the costs are covered by the healthcare insurance. If the foetus suffers from a medical condition from which it will certainly die during or shortly after birth, or if it will be seriously handicapped, the parents have a choice to terminate the pregnancy until 24 weeks pregnancy.	

22-28 weeks	N	***Clinical tests:*** - measure and plot symphysis–fundal height ***Prophylaxis and interventions:*** anti-D prophylaxis to rhesus-negative women Pregnant women with an increased risk of diabetes gravidarum are advised to receive a screening between 24 and 28 weeks. At this moment the oral glucose tolerance test (OGTT) is recommended. During this phase the pregnant woman receives information about the physical complaints and symptoms that can occur in hypertensive disorders.	If the pregnant woman is a carrier of hepatitis B, a prescription for HbIg should be issued during this period, which should be administered to the newborn within 2 hours after delivery. At the latest during this period she will receive information about pregnancy courses, the preparation for the delivery (place, manner, posture, pain and possibilities for (drug) pain relieving) and the feeding of the newborn.
28-36 weeks	N/P		The pregnant woman receives again information and counselling about at least the preparation for the delivery (provisions, support), the delivery itself (place, manner, posture, pain and possibilities for (drug) pain relieving, the feeding of the newborn, the maternity period and - care, preparation for parenthood and practical matters, such as the declaration to the municipality, maternity leave, etc. During this phase home visits take place (before 32 weeks) to follow-up the pregnant woman. In addition, the antenatal home visit takes place around the 34th week in order to assess the environment in which the baby will arrive and to advise the future parents. The home visit offers the obstetric care provider the opportunity to get a good picture of the pregnant woman and her home situation (including psychosocial risks for mother and child).
36-40 weeks	N/P	***Prophylaxis and interventions:*** - for women whose babies are in the breech presentation or in the transversal position, offer external cephalic version.	***Information and support***: - preparation for labour and birth, including information about coping with pain in labour and the birth plan - vitamin K prophylaxis - newborn screening tests - postnatal self-care

		Clinical tests: - check position of baby (using US in case of doubt) - questions about the movements of the baby - questions about pre-eclampsia complaints + measure blood pressure and test urine for proteinuria	- confirmation of the birth place
41-42 weeks	If woman hasn't given birth	***Prophylaxis and interventions:*** - a membrane sweep should be offered - induction of labour should be offered ***Clinical tests:*** - questions about the movements of the baby - questions about pre-eclampsia complaints + blood pressure should be measured and urine tested for proteinuria - symphysis–fundal height should be measured and plotted	***Information and support:*** information should be given, with an opportunity to discuss issues and ask questions; verbal information supported by written information

Multidisciplinary and cross-level collaboration

In order to ensure that care for (future) pregnancy and birth in the future is as good and as coordinated as possible, a network approach has to be adopted. That fits better than the term 'chain'. A chain describes a fixed sequence of activities or organizations, while the term 'network' reflects the interactive nature of the intended care. A network of birth care is a coherent whole of actors or organizations that pursue a common goal with ever-changing efforts, namely the realization of the best achievable quality of birth care from a client's perspective.

Interprofessional birth care team

The interprofessional birth care team is a multidisciplinary team of all regional caregivers involved in care around the birth. The interprofessional birth care team is part of the Midwifery Partnership (VSV) and is jointly responsible on a regional level for the implementation policy regarding care for preconception, pregnancy, birth and postnatal period. In addition, the coordinating care provider, who primarily supervises the pregnant woman, can consult this team at all times in accordance with regional agreements or consult with the team (or individual members thereof).

The mutual cooperation between healthcare professionals is preferably supported by means of one digital file, the Perinatal Web Based File (PWD). The Individual Birth Care Plan forms the basis for the recording of the data. On the basis of legal requirements (such as the Quality Act for Healthcare Institutions) and national definitions, a set of quality indicators is drawn up and monitored for the entire birth care.

Joint decision-making and informed consent

Self-management and joint decision-making play an important role in the vision on integrated birth care. In all phases of the birth care process, there are many preferential decisions to be made, for example about whether or not a preconception consultation, choices concerning antenatal diagnosis, manner and place of birth, type of pain relieving treatment. These decisions are made in a shared dialogue between the pregnant woman and the care provider.

Joint decision-making is defined as the process in which the care provider and the client jointly reach decisions that best suit the client and her individual situation. This process involves the exchange of information, from care providers to the woman, from the woman to the care provider. This exchange should lead to a joint decision on the care to be delivered. Four phases can be distinguished in the decision-making process. First, the caregiver introduces the idea that there is a choice and alternative actions or options are possible. The care provider examines the extent to which the woman wants to be involved in the decision-making process. The healthcare provider then discusses all options and consequences of these options with the woman. Then the personal situation and preferences of the woman with regard to the possibilities discussed are mapped out.

Finally, a decision is made jointly. The ultimate decision-making power lies with the woman herself. If desired, the care provider involves the relatives.

Within the integral birth care, all care providers at all times respect the right of the woman to informed consent. On the basis of complete information, the woman makes informed choices regarding her pregnancy, delivery and maternity period. An inseparable part of informed consent is informed refusal: the right to refuse proposed treatments.

Particular attention for vulnerable women

Pregnant women with low health skills are not always optimally reached by birth care professionals. Several factors can be identified for this, including: lack of knowledge of the pregnant woman and care providers, thresholds (including financial, such as out-of-pocket payments), culturally determined habits around care, communication problems. A caregiver has to be aware that some pregnant women with low health skills are less self-reliant. It is important that the caregiver takes a proactive approach and takes the initiative to involve the pregnant woman in the care. Possible forms of support are: target group-specific information, additional prevention programs and intensification of care. If necessary, folders using figures and plain language specifically dedicated to women (and their partners) with lower health skills can be developed. Information given during group sessions organised by local networks, where future parents can share their questions and concerns with their peers have also an added-value.

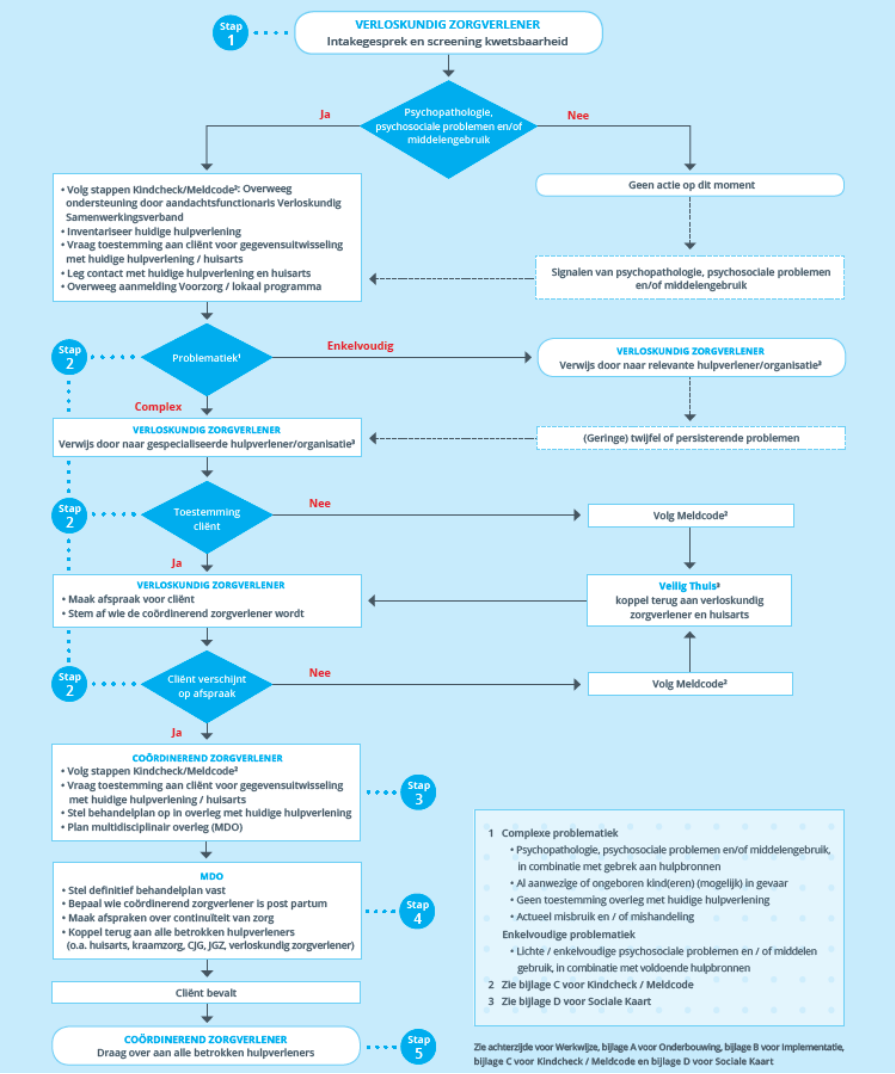
The guidance of pregnant women with low health skills requires more specific attention and also potential additional care.

The coordinating care provider fulfils an even more important role for this target group. Important points for attention are:

- Mapping the care demand.
- Detection and monitoring of risk factors.
- Intensification of psychosocial guidance. The frequency of psychosocial and psychiatric disorders among women with low health skills is higher than in regular populations.
- Give birth in a safe and pleasant place. If an unsafe, restless or unhygienic situation exists at home, a birth centre or hospital can be considered as a better alternative.
- Emphasis on the usefulness and necessity of maternity care. This is still underused by women with low health skills, partially due to financial thresholds.

The Regional Consortium Pregnancy and Birth Southwest Netherlands proposed a blueprint that supports the screening of all pregnant women in order to detect the vulnerable ones and to offer them a structured supportive organisation according to the complexity of the problems identified (Figure 43). The blueprint illustrates a standard pathway to identify and manage vulnerable pregnant women. This pathway is also suitable for structuring care outside the Southwest Netherlands region. To integrate the blueprint into daily care, a translation should be made into an 'operational pathway' at a local level.

Figure 43 – Blueprint Psychosocial care and cooperation with Veilig Thuis



This blueprint offers a flowchart to identify and support care to vulnerable pregnant women, in which both the structuring of care in pregnant women with psychosocial problems such as cooperation with Veilig Thuis (the advice and reporting centre for domestic violence and child abuse) is central.

Step 1 - The flowchart starts with the screening for a psychosocial pathology, psychosocial problems or use of substances (PPM), preferably with the aid of a screening instrument (Mind2Care, R4U or other instrument), before the 13rd week of pregnancy. If no PPM is established, there is no need for further action. If a PPM is detected during the screening or at a later time during care, the following actions need to be taken. If PPM is established, the healthcare practitioner performs the Kind Check assessing the safety of the unborn child and possibly other children within the family. Depending on the situation, the Report Code Domestic Violence and Child abuse has to be applied. The healthcare professional asks support within the midwifery Partnership (VSV).

Step 2 - The healthcare professional assesses the complexity of the problem; women with simple problems will be referred to relevant professional or organisation having a specific expertise. Women with complex or recurrent problems will be referred to professional or organisation specialised in the management of vulnerable women. Complex problems include PPM in combination with a lack of resources; direct danger for children; current substance abuse and/or maltreatment; and/or lack of permission to contact current support services. The agreement of the woman is essential to organise these referrals. Without her permission the Report Code applies.

Step 3 - In case of complex problems, the coordinating care provider (from the specialized organization) asks the pregnant woman her approval to contact the current care provider and the general practitioner, in order to establish together a management plan. In addition, the coordinating healthcare provider plans one multidisciplinary consultation (MDC). Step 3 also follows the rules dictated by the Kind Check and the Report Code.

Step 4 - A definitive management plan is adopted during the MDC, allowing to take agreements regarding the continuity of care.

Step 5 – After the delivery, the coordinating care provider ensures that all supportive services know what has to be done, including in any case its role for the follow-up of the postpartum.

8.2. The United Kingdom

8.2.1. Principles of antenatal care

The main principles of antenatal care aim to ensure the pregnant woman freedom for and respect for her own decisions, needs and concerns but also comfort and confidence in all healthcare givers with whom she will have a contact; this will encourage pregnant women to access and maintain contact with antenatal care services. The continuity of care should be guaranteed throughout the antenatal period. A system of clear referral paths should be established so that pregnant women presenting problems and requiring additional care could be managed and treated by the appropriate specialist teams. Proximity, accessibility of care and privacy should also be ensured as well as the opportunities to attend participant-led antenatal classes, including breastfeeding workshops.

Evidence-based information should be given in a form that is easy to understand and accessible to pregnant women with additional needs, such as physical, sensory or learning disabilities, and to pregnant women who do not speak or read English. Various forms of information are complementary such as audiovisual or touch-screen technology. Before performing any test, pregnant women should be informed about the purpose of the test, with a clear language and have sufficient time to make an informed decision. The right of a woman to accept or decline a test should be made clear.

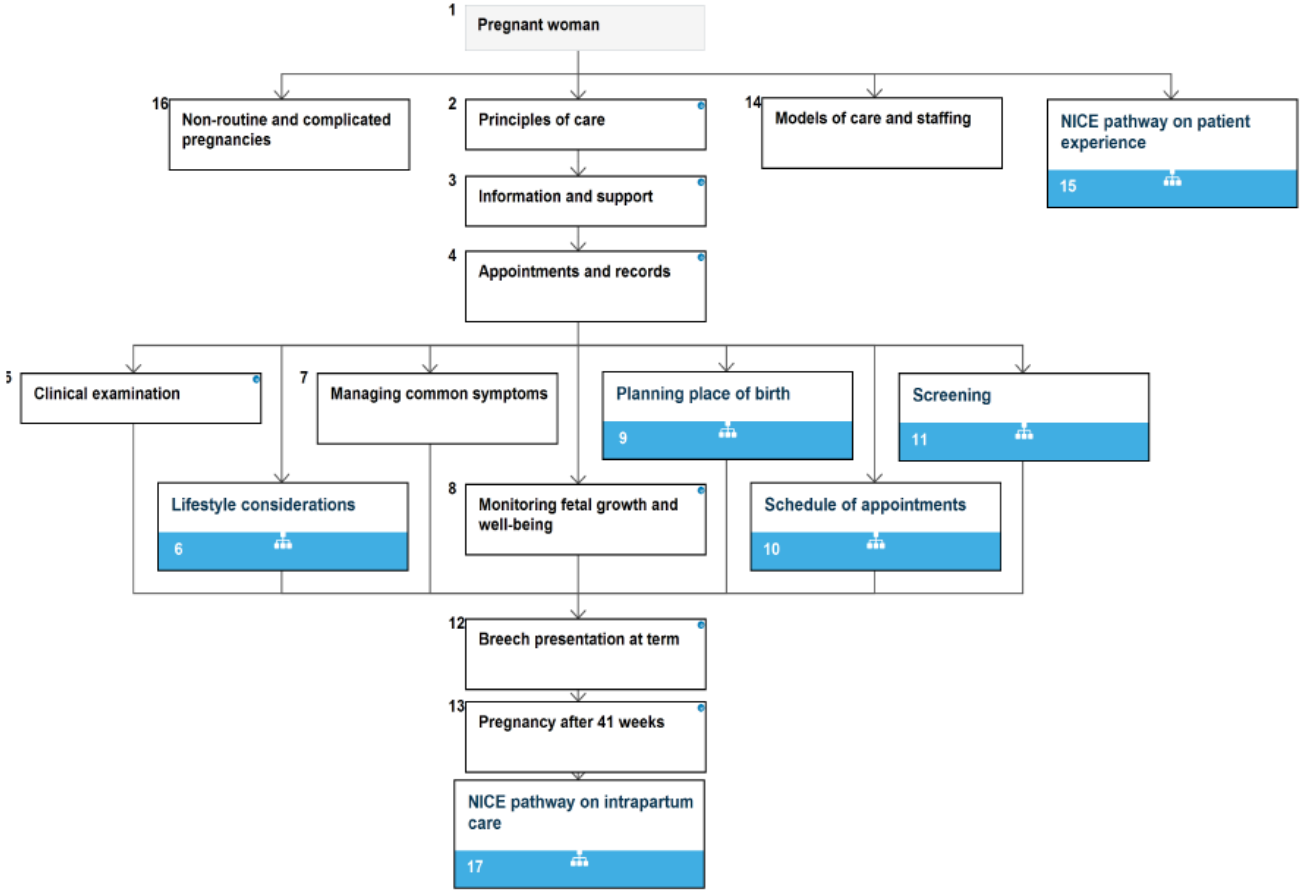
8.2.2. Levels of care

Because routine involvement of obstetricians in the care of women with an uncomplicated pregnancy at scheduled times does not appear to improve perinatal outcomes compared with involving obstetricians when complications arise, NICE recommends midwife- and GP-led models of care for women with an uncomplicated pregnancy.

8.2.3. Pathway for antenatal care

Besides the development of a national guideline antenatal care for uncomplicated pregnancies, NICE developed an interactive pathway to structure the follow-up of pregnant women with associated recommendations (Figure 44).

Figure 44 – NICE Pathways: Antenatal care for uncomplicated pregnancies overview



Source: NICE - Antenatal care for uncomplicated pregnancies overview (https://pathways.nice.org.uk/pathways/antenatal-care-for-uncomplicated-pregnancies; accessed on January 17, 2019)

Schedule of appointments and content

The number of scheduled appointments is variable. For a woman who is nulliparous with an uncomplicated pregnancy, a schedule of 10 appointments should be adequate. For a woman who is multiparous with an uncomplicated pregnancy, a schedule of 7 appointments should be adequate (Table 42).

Early in pregnancy, all women should receive appropriate written information about the likely number, timing and content of antenatal appointments associated with different options of care and be given an opportunity to discuss this schedule with their midwife or doctor.

Each antenatal appointment should be structured and have focused content. Longer appointments are needed early in pregnancy to allow comprehensive assessment and discussion.

Choice for a place of birth

In UK, 4 birth settings coexist: home, freestanding midwifery unit, alongside midwifery unit and obstetric unit (Table 43).

Table 42 – Schedule of ANC appointments and content for pregnant women in UK

Periodicity	Nulliparous/parous	Content of the appointment – healthy pregnancy	Content of the appointment – organisational
First contact		***Information and support***: folic acid supplementation, food hygiene, lifestyle advice (including smoking cessation, and the implications of recreational drug use and alcohol consumption in pregnancy), all antenatal screening including risks and benefits of the screening tests.	
10 weeks	N/P	***Information and support***: baby development during pregnancy, nutrition and diet, exercise, including pelvic floor exercises, further discussion of all antenatal screening and discussion of mental health issues. Identification of needs for additional care (medical risk factors and previous problematic pregnancies or births) ***Clinical tests:*** After full information and agreement with the pregnant woman, offer: - blood tests (for checking blood group and rhesus D status and screening for haemoglobinopathies, anaemia, red-cell alloantibodies, hepatitis B virus, HIV and syphilis), ideally before 10 weeks - urine tests (to check for proteinuria and screen for asymptomatic bacteriuria)	***Information and support***: place of birth, pregnancy care pathway, breastfeeding (workshops), participant-led antenatal classes. Plan pattern of care for the pregnancy. Information about and plan of future tests: - ultrasound scan to determine gestational age using: ○ crown–rump measurement between 10 weeks and 13 weeks 6 days ○ head circumference if crown–rump length is above 84 millimetres - Down's syndrome screening using: ○ 'combined test' at 11 weeks to 13 weeks 6 days ○ serum screening test (triple or quadruple) at 15 weeks to 20 weeks. - ultrasound screening for structural anomalies, normally between 18 weeks and 20 weeks 6 days.

16 weeks	N/P	***Information and support***: Review, discuss and record the results of all screening tests undertaken; reassess planned pattern of care for the pregnancy and identify women who need additional care Give information, with an opportunity to discuss issues and ask questions, including discussion of the routine anomaly scan. ***Clinical tests:*** - investigate a haemoglobin level below 11 g/100 ml and consider iron supplementation if indicated - measure blood pressure and test urine for proteinuria	Reassess planned pattern of care for the pregnancy and identify women who need additional care. Offer verbal information supported by antenatal classes and written information.
18-20 weeks	N/P	***Clinical tests:*** An ultrasound scan should be performed for the detection of structural anomalies. For a woman whose placenta is found to extend across the internal cervical os at this time, another scan at 32 weeks should be offered.	
25 weeks	N	***Information and support***: Give information, with an opportunity to discuss issues and ask questions. ***Clinical tests:*** - measure and plot symphysis–fundal height - measure blood pressure and test urine for proteinuria	Offer verbal information supported by antenatal classes and written information.
28 weeks	N/P	***Information and support***: Give information, with an opportunity to discuss issues and ask questions. ***Clinical tests:*** - a second screening for anaemia and atypical red-cell alloantibodies - investigation of a haemoglobin level below 10.5 g/100 ml and consider iron supplementation, if indicated - blood pressure measurement and test urine for proteinuria - measure and plot symphysis–fundal height ***Prophylaxis and interventions:*** - anti-D prophylaxis to rhesus-negative women	Offer verbal information supported by antenatal classes and written information

31 weeks	N	***Information and support***: Review, discuss and record the results of screening tests undertaken at 28 weeks. ***Clinical tests:*** - measure blood pressure and test urine for proteinuria - measure and plot symphysis–fundal height - give information, with an opportunity to discuss issues and ask questions	Offer verbal information supported by antenatal classes and written information Reassess planned pattern of care for the pregnancy and identify women who need additional care.
34 weeks	N/P	***Information and support***: Review, discuss and record the results of screening tests undertaken at 28 weeks. ***Clinical tests:*** - measure blood pressure and test urine for proteinuria - measure and plot symphysis–fundal height - give information, with an opportunity to discuss issues and ask questions ***Prophylaxis and interventions:*** - offer a second dose of anti-D to rhesus-negative women	Offer verbal information supported by antenatal classes and written information Reassess planned pattern of care for the pregnancy and identify women who need additional care.
36 weeks	N/P	***Prophylaxis and interventions:*** - for women whose babies are in the breech presentation, offer external cephalic version. ***Clinical tests:*** - measure blood pressure and test urine for proteinuria - measure and plot symphysis–fundal height - check position of baby	***Information and support***: - breastfeeding information, including technique and good management practices that would help a woman succeed, such as detailed in the UNICEF Baby Friendly Initiative - preparation for labour and birth, including information about coping with pain in labour and the birth plan - recognition of active labour - care of the new baby - vitamin K prophylaxis - newborn screening tests - postnatal self-care - awareness of 'baby blues' and postnatal depression.
38 weeks	N/P	***Information and support***: options for management of prolonged pregnancy. ***Clinical tests:*** - measure blood pressure and test urine for proteinuria - measure and plot symphysis–fundal height	

40 weeks	N	***Clinical tests:*** - measure blood pressure and test urine for proteinuria - measure and plot symphysis–fundal height
41 weeks	If woman hasn't given birth	***Information and support:*** information should be given, with an opportunity to discuss issues and ask questions; verbal information supported by written information. ***Prophylaxis and interventions:*** - a membrane sweep should be offered - induction of labour should be offered ***Clinical tests:*** - blood pressure should be measured and urine tested for proteinuria - symphysis–fundal height should be measured and plotted

Table 43 – Four types of birth settings in UK

Characteristics	Home	Freestanding midwifery unit	Alongside midwifery unit	Obstetric unit
Environment	Home is a familiar environment where a woman can receive all required standard care during labour and after the birth.	An environment typically designed to be 'home-like'. It is less likely that a woman will have to share facilities (such as a bathroom) with others, compared with giving birth in an obstetric unit. If a woman stays for postnatal care, she may be cared for on a ward with others.		The environment is more hospital-like. A woman is likely to have to share facilities with others. If a woman stays for postnatal care, she may be cared for on a ward with others.
Professionals required	In all settings: - there will be one midwife with a woman for most of her labour (one-to-one care) - another midwife will be called just before the birth - a maternity support worker may also be there.			
	No doctors will be present during labour or birth.			Doctors, including obstetricians and anaesthetists, are available if needed, but most women do not normally need to see them.
Professionals on demand	If a woman or her baby needs a doctor during labour or afterwards, the midwife will call an ambulance and take her to the obstetric unit. If the baby needs to be seen by a doctor after the birth, both the woman and her baby will be moved to a hospital with a neonatal unit.			If a woman or her baby needs a doctor during labour or afterwards, the doctor will be called to the woman's room.
Pain relief	The midwife can bring: - gas and air (Entonox) - an injectable opioid (such as diamorphine or pethidine).	The following are available: - gas and air (Entonox) - an injectable opioid (such as diamorphine or pethidine)		The following are available: - gas and air (Entonox) - an injectable opioid (such as diamorphine or pethidine) - epidural.

Source: National Institute for Health and Care Excellence. NICE guideline CG190 Intrapartum care (December 2014)

First of all, an assessment of medical conditions or situations in which there is increased risk for the woman or baby during or shortly after labour has to be performed, in order to advise the preferable use of an obstetric unit to reduce this risk.

Following this assessment, a discussion with the pregnant woman is required about these risks and the additional care that can be provided in the obstetric unit so that she can make an informed choice about planned place of birth.

Multiparous and nulliparous women at low risk of complications may choose any birth setting (home, freestanding midwifery unit, alongside midwifery unit or obstetric unit), and should be supported in their choice of setting wherever they choose to give birth.

Advantages and disadvantages should be clearly explained:

- For low-risk multiparous women: planning to give birth *at home* or *in a midwifery-led unit* (freestanding or alongside) is particularly suitable for them because the rate of interventions is lower and the outcome for the baby is no different compared with an obstetric unit.
- For low-risk nulliparous women: planning to give birth *in a midwifery-led unit* (freestanding or alongside) is particularly suitable for them because the rate of interventions is lower and the outcome for the baby is no different compared with an obstetric unit. If they plan birth at home there is a small increase in the risk of an adverse outcome for the baby.

To express a fully informed choice about the preferred place of birth, the pregnant woman has to obtain information about all local birth settings:

1. access to midwives, including the likelihood of being cared for in labour by a familiar midwife and the likelihood of receiving one-to-one care throughout labour (not necessarily being cared for by the same midwife for the whole of labour);
2. access to medical staff (obstetric, anaesthetic and neonatal);
3. access to pain relief, including birthing pools, Entonox, other drugs and regional analgesia.
4. the likelihood of being transferred to an obstetric unit (if this is not the woman's chosen place of birth), the reasons why this might happen and the time it may take.

8.3. France

8.3.1. Monitoring and referral of pregnant women according to identified risk situations: recommendations from HAS

In 2016, the Haute Autorité de Santé formulated professional recommendations in a document labelled “Monitoring and referral of pregnant women according to identified risk situations” (in French: Suivi et orientation des femmes enceintes en fonction des situations à risque identifies).[161]

The objectives of these recommendations are to improve the identification of risk situations that could complicate pregnancy and to adapt the monitoring and the follow-up accordingly.

These recommendations specify for each of the at-risk situations identified (before, during or at the beginning of pregnancy) the type of appropriate follow-up in terms of required health professionals and location of childbirth. They also describe the modalities of follow-up of pregnant women without complications.

8.3.2. Which situations are at risk?

On the basis of the scientific literature, a **non-exhaustive indicative list of situations at risk** has been established. It includes in particular:

- General risk factors (age, BMI), including family history (genetic diseases), social (divorce, mourning…) and environmental factors (exposition to teratogenic products);
- Toxic substances (alcohol, drugs);
- Pre-existing personal antecedents (trauma to the pelvis or spine, surgeries, cardiac pathologies, cerebral hemorrhage, aneurysm…);
- Gynecological history or other (caesarean section, preterm birth…);
- Personal history related to a previous pregnancy (gestational diabetes, recurrent urinary infections…);

- Medical risk factors (diabetes, arteria hypertension, thyroid diseases, epilepsy, asthma…);
- Infectious diseases (HIV, hepatitis B or C…);
- Gynecological and obstetrical risk factors (cervical cancer, vaginal infection, hemorrhage…).

These at-risk situations were considered independently of each other. In the event of an association of several risk situations, the cumulative level of risk must be considered on a case-by-case basis. For each of them, the corresponding level of risk has been defined in order to assign a type of follow-up (see Box 7) and an appropriate place of delivery (obstetrics units, possibly supplemented by a neonatology and neonatal resuscitation unit).

Which follow-up for which pregnancy?

Two different follow-up pathways (pathway A and pathway B) and two referral procedures (procedure A1 and procedure A2) were defined, relating to healthcare professionals to be involved (see Box 7).

Box 7 – Follow-up pathways and referral procedures

Pathway A: when pregnancy occurs without identified risk situations or when these situations are at low risk, the follow-up can be provided by a midwife or a doctor (general practitioner, medical gynaecologist or gynaecology-obstetrician) according to the choice of the pregnant woman.

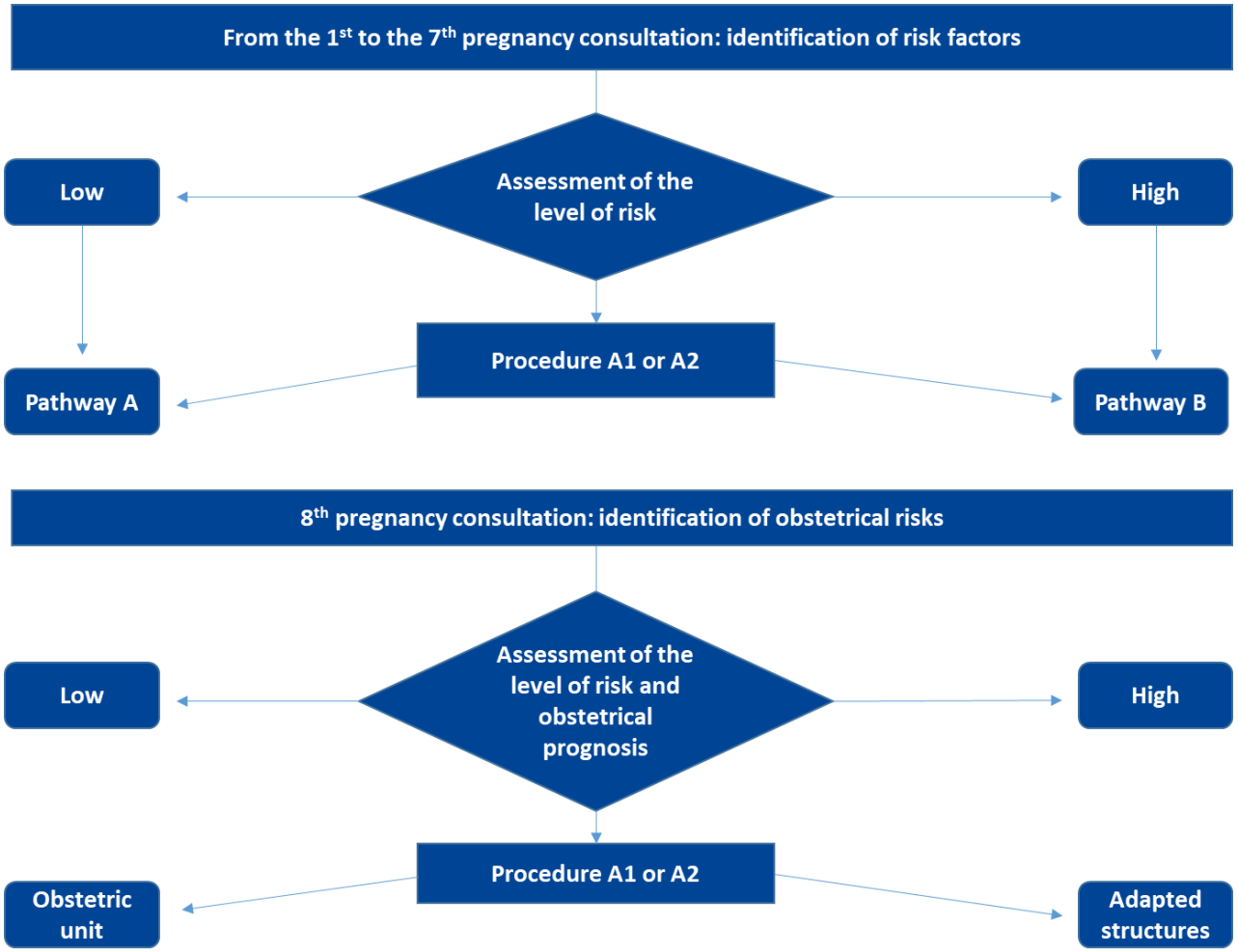
Procedure A1: the opinion of a gynaecology-obstetrician and/or another specialist is recommended.

Procedure A2: the opinion of a gynaecology-obstetrician is necessary. The additional opinion of another specialist may also be required.

Pathway B: when risk situations were identified, a regular follow-up must be ensured by a gynaecologist-obstetrician.

Depending on the risk situation, at the end of the request for an A1 or A2 procedure, if the risk is reversed or if the prognosis is favourable, the pregnancy is maintained in the original follow-up pathway (pathway A). Otherwise, if the risk is confirmed or if the course is unfavourable, the pregnancy is considered high risk and the follow-up corresponds to pathway B. This change may be transient and a return to a low-risk situation and follow-up in pathway A is possible. A decision tree is foreseen to refer the pregnant women to the adequate pathway and settings (Figure 45).

Figure 45 – Decision tree for the referral of pregnant women



Source: HAS 2016[161]

General practitioners and gynaecologists or midwives (primary healthcare providers) are responsible for assessing the level of risk of pregnant women and referring them to gynaecology-obstetricians (secondary healthcare providers) when required.

The pregnant woman is free to choose the health professional who follows her. She must be informed of the different follow-up peculiarities, in particular the field of competence of each of the professionals involved.

The HAS also recommends that a small number of health professionals is involved in the follow-up, preferably the same professional. Recommendations highlight the importance of the coordination and collaboration between all professional actors owing to avoid a multiplication of consultations and exams. A coordinator will ideally be identified to facilitate the organisation and the continuity of care as well as the interaction with the social sector and the support services and networks. He will also ensure that the birth plan formulated by the future parents regarding the progress of the pregnancy and birth is respected. The birth project includes the organisation of care, medical follow-up, preparation for birth and parenthood, childbirth arrangements, possibilities for follow-up during the postnatal period, including conditions for early maternity discharge and remedies in case of difficulties.

Moreover, the centralisation of all relevant information is needed either in the personal medical file or in a unique follow-up file (“carnet de suivi”) in the hands of the pregnant woman. An electronic medical file is also highly recommended.

Which healthcare setting for the delivery?

The choice of birth place is essentially a function of:

- the preferences of the woman or the couple;
- the place of residence and the available structures;
- the level of risk (maternal risk and foetal risk).

However, the range of available structures is relatively limited; all maternity hospitals have obstetrics units, possibly supplemented by a neonatology and neonatal resuscitation unit. The choice of one or the other structure will depend on the potential risks to the foetus and the mother. The 2005-2007 perinatal plan provided for the experimentation of birth houses, defined as a "place of care for pregnant women, from the beginning of their pregnancy until childbirth, under the exclusive responsibility of midwives, provided that the delivery is presented as a priori normal". To date, there is no legislative text relating to this type of structure in France.

Schedule of appointments and content

It is recommended that the first antenatal consultation take place before 10 weeks of amenorrhea. Current regulations require that pregnancy be declared before 15 weeks of amenorrhea and provide for 6 consultations (1 per month) from the first day of the 4th month of pregnancy until delivery. The current consultation schedule includes 7 consultations. Two possibilities can be proposed:

- either bring forward the 4th month consultation for a woman with a low-risk pregnancy and maintain the total number of consultations at 7;
- or add the early consultation (before 10 weeks) recommended by maintaining a monthly consultation starting in the 4th month, or a follow-up in 8 consultations in total.

In parallel with this medical follow-up, 8 sessions of preparation for birth and parenthood are systematically offered, the first being devoted to the individual or couple interview of the 1st trimester (known as "the 4th month") (see section 8.3.3).

Table 44 – Schedule of ANC appointments and content for pregnant women in France

Periodicity	Nulliparous/parous	Content of the appointment – healthy pregnancy	Content of the appointment – organisational
Preconception consultation		***Information and support***: - Exploration of the care demand and (family) anamnesis of the woman and her partner ***Preconception consultation and exams:*** - Prescribed exams: blood group (ABO, complete rhesus phenotypes) completed by a search for irregular agglutinins; toxoplasmosis and rubella - Proposed exams: HIV serology (at-risk population) - Search for risk factors related to chronic diseases (high blood pressure, diabetes) - Toxic products: information regarding effects of smoking, alcohol consumption, use of illicit products and teratogenic drugs - Prevention of neural tube closure defects - Gynaecological examination: Cervical smear for cervical dysplasia if older than 2 to 3 years	
First antenatal consultation (before 10 weeks)		***Clinical tests:*** Exams to be performed absolutely: - blood tests (for checking blood group and rhesus status, and screening for haemoglobinopathies, hepatitis B virus, toxoplasmosis, rubella and syphilis) - urine tests (for checking glycosuria and proteinuria) - measure blood pressure, height and weight - identification of pregnant women with an increased risk of complications and adaptation of related treatment when needed.	***Information and support***: Information on the overall course of pregnancy, childbirth, the schedule of antenatal consultations, the possible adaptation of working conditions (occupational physician), the duration of maternity leave, social rights related to pregnancy and breastfeeding. Plan pattern of care for the pregnancy. Information about and plan of future tests: - Down's syndrome screening using: • 'combined test' at 11 weeks to 13 weeks 6 days • serum screening test (triple or quadruple)

	Exams to offer systematically: - blood tests (HIV 1 and 2) - echography (between 11 and 13 weeks + 6 days) Exams to be performed potentially: - urine tests (bacteriuria) - blood tests (screening for anaemia) - cervical smear for cervical dysplasia if older than 2 to 3 years ***Information and support***: folic acid supplementation, food hygiene, lifestyle advice (including smoking cessation, and the implications of recreational drug use and alcohol consumption in pregnancy).	
Second antenatal consultation (before 15 weeks)	***Clinical tests:*** - Measurements of blood pressure, weight, uterine height; if possible, foetal heart sounds; - Glycosuria and proteinuria; - Serology of toxoplasmosis in case of negativity of the previous result; - Rubella serology in case of negativity of the previous result (up to 18 weeks of amenorrhoea); - Propose screening for foetal chromosomal abnormalities: 2nd trimester markers in the absence of combined screening in the 1st trimester.	- Establish the declaration of pregnancy and set the expected date of delivery; - Systematically propose an individual or couple interview and look for possible stress factors and any form of insecurity (precariousness, emotional insecurity within the couple or family): Expression of the expectations and needs of the woman and the couple; identification of situations of vulnerability, signs of domestic violence and referral to possible specialized support (social, psychological, etc.) or a network of listening and support for parents; information on the potential resources in the close environment; secure links with partners in the most appropriate perinatal network; - Advise participation in birth and parenthood preparation sessions (collective or individual) by explaining their objectives
Third antenatal consultation (4th month)	***Clinical tests:*** Exams to be performed absolutely: - Glycosuria and proteinuria; - Serology of toxoplasmosis in case of negativity of the previous result Exams to offer systematically: - Screening for asymptomatic urinary tract infections	

	Exams to be performed potentially: - ECBU if antecedents of bacteriuria or diabetes or positive tests	
Fourth antenatal consultation (5th month)	***Clinical tests:*** Exams to be performed absolutely: - Glycosuria and proteinuria; - Serology of toxoplasmosis in case of negativity of the previous result Exams to offer systematically: - Echography - Screening for asymptomatic urinary tract infections Exams to be performed potentially: - ECBU if antecedents of bacteriuria or diabetes or positive tests	-
Fifth antenatal consultation (6th month)	***Clinical tests:*** Exams to be performed absolutely: - Glycosuria and proteinuria; - Check rhesus D status, - Serology of toxoplasmosis in case of negativity of the previous result - Blood count Exams to offer systematically: - Screening for asymptomatic urinary tract infections Exams to be performed potentially: - ECBU if antecedents of bacteriuria or diabetes or positive tests	-
Sixth antenatal consultation (7th month)	***Clinical tests:*** Exams to be performed absolutely: - Glycosuria and proteinuria; - Serology of toxoplasmosis in case of negativity of the previous result Exams to offer systematically: - Echography	-

	- Screening for asymptomatic urinary tract infections Exams to be performed potentially: - ECBU if antecedents of bacteriuria or diabetes or positive tests	
Seventh antenatal consultation (8th month)	***Clinical tests:*** Exams to be performed absolutely: - Glycosuria and proteinuria; - 2nd check blood group and rhesus D status, - Serology of toxoplasmosis in case of negativity of the previous result Exams to offer systematically: - Vaginal sampling with streptococcus B test (between 35 and 38 SA) - Screening for asymptomatic urinary tract infections Exams to be performed potentially: - ECBU if antecedents of bacteriuria or diabetes or positive tests	-
Eighth antenatal consultation (9th month)	***Clinical and obstetrical exam:*** - Weight, blood pressure, search for urinary functional signs. - Measurement of uterine height, heart sounds and foetal movements, uterine contractions, foetal presentation (ultrasound inspection in case of doubt) - Glycosuria and proteinuria; - Serology of toxoplasmosis in case of negativity of the previous result; - ECBU if antecedents of bacteriuria or diabetes ***Information:*** - Information related to the delivery, practical organisation, rendez-vous if post-term	***Check the family environment, the safety conditions of the mother and her baby:*** - Information on possible adapted interventions and proposal for a possible coordinated intervention by a social worker, the GP, the paediatrician, the psychologist, etc.

8.3.3. *Preparing for birth and parenthood: recommendations from Haute Autorité de Santé*

In 2006, the HAS formulated professional recommendations in a document labelled "Preparing for birth and parenthood" (in French: Préparation à la naissance et à la Parentalité [PNP]).[162] These guidelines promote an earlier start to preparation for birth and parenthood, and a broader approach to parent support and to improving the skills of women and their partners in health issues.

The objectives of these guidelines are to guide healthcare professionals:

- To prepare couples for the birth of their child and return home, through educational sessions suited to the needs and expectations of the future parents;
- To support parents-to-be, especially those who are vulnerable, to increase parent-child bonding;
- To provide information on parenting: building family relationships; the material, educational and emotional needs of the growing child;
- To encourage an adequate coordination among the relevant professionals and with the pregnant woman, from the antenatal to the postnatal period.

To provide support, 4 key time points are foreseen:

1. An **early interview** for individuals or couples offered as soon as pregnancy is confirmed
   a. the interview will take place during the 1st trimester of pregnancy (midwife or doctor); the father-to-be is encouraged to participate;
   b. must not replace the first antenatal consultation with a medical professional;
   c. aims to identify information needs, define parenting skills to be developed, assess the pregnant woman's general health, screen for vulnerability, and give all required information regarding local available healthcare facilities, role of professionals, alternative local antenatal and parenthood classes, in order to finalise the birth plan.
2. **Antenatal classes** between the initial interview and the birth, using a structured program offered to individuals or groups, encouraging an active participation.
3. **Support in the maternity unit** between birth and hospital leave, in order to give support, information and identifying any need for further support at home; this guidance can be provided individually or in group (thematic sessions).
4. **Postnatal support** (if mother and baby have left the clinic early, if specific needs identified during pregnancy or recognised after the birth, or at the parents' request): to provide support for baby care and breastfeeding, to check for postnatal depression, and to perform specific postnatal tests.

The first interview is the ideal moment to set up the coordination between all professionals involved to ensure consistent care and to share information and procedures in order to pass on information. This is also crucial to identify vulnerability factors. This interview aims to screen the following factors:

- Relationship problems, within the couple or not, leading to social isolation
- Difficult obstetric history: previous complicated or painful pregnancy or birth
- Domestic violence
- Stress, anxiety, sleep disturbance
- Depressive episodes
- Addiction (alcohol, tobacco, drugs and medicines)
- Precariousness, social risks (illness, unemployment, changes in family structure: children, single parent or marriage breakdown)
- Birth with high psychological and emotional risk (illness, malformation or handicap)

In France, 8 antenatal sessions of 45 minutes (minimal duration) are reimbursed by the health insurance system; among these sessions, individual or couple interviews are financed according to a specific nomenclature (Order of 11 October 2004 amending the general nomenclature of professional acts). These antenatal sessions are individual or in group, with the exception of the 1st trimester interview, which has to be conducted individually or with the couple. All the group sessions need to be open for fathers. The number of participants for group sessions needs to be adapted to the content of the sessions and has to foster the active participation of pregnant women. The duration and the frequency of the sessions are not arbitrarily imposed.

When the pregnant woman or the couple faces social or psychological difficulties, supportive measures have to be proposed:

- When use of drugs, alcohol and tobacco is identified: encourage cessation of their consumption and refer the woman to a specialized consultation aiming the withdrawal and the social support as a whole.
- Faced with a situation of precariousness or social risk: a support needs to be offered to women (or couples) both for care and accommodation: "adults relay", "women relays", support network, interpreter, shelter houses for parent-child dyad, social workers, free hotline for legal advice.
- In situations of domestic violence: a networking of professionals needs to be activated around the woman and the couple: midwife and paediatric nurse, family doctor, psychologist, etc. Information and useful contacts can be sought on the website of the Ministry of Social Affairs (www.sante.gouv.fr/htm/actu/violence/).
- For women with sensory or motor disabilities or illness or coming from a foreign country: to facilitate a normal functioning (accessibility to premises, clarity, simplicity and understanding of information, interpreter, etc.).
- For parents who wish to be accompanied in their parental function: networks for listening, helping and accompanying parents (www.familles.org).

A lot of useful tools and guides are available (including an interview guide to be used during the antenatal classes and to identify vulnerable women/couples as well as specific objectives and content of antenatal sessions).[162]

8.4. Ireland

8.4.1. Current situation: maternity service provision

Maternity services in Ireland are principally hospital based, with over 99% of births occurring within a hospital setting. There are 19 maternity hospitals/units throughout the country, characterised by variable sizes (from <1 500 births to >9 000 births/year in 2014).

The services currently available to women are:

- **Consultant led service**: Service provided in a maternity hospital/unit by a multidisciplinary team led by a consultant obstetrician.
- **Combined care**: *The Maternity and Infant Care Scheme* provides an agreed programme of care to a pregnant woman and her newborn for up to six weeks after birth. The care is shared between the GP and the hospital/DOMINO (Domiciliary In and Out) services. The woman attends her GP for a fixed number of antenatal visits as well as additional visits depending on clinical needs. The woman also attends her GP for postnatal visits for both herself and her baby. A very large proportion of women choose combined care (reliable data are lacking).
- **Midwife-led units**: These units are dedicated to low risk women in two hospitals (Cavan and Drogheda), and are co-located with a consultant-led unit. The service is planned, managed, coordinated and delivered by midwives and covers the whole spectrum from antenatal to postnatal period. Care is delivered in the community and in an alongside midwife-led unit. While situated close to the labour ward, the unit has a discrete identity. In 2014, 288 and 121 births were recorded in Drogheda and Cavan respectively. This represents approximately 7.9% of all births in Drogheda and Cavan and 0.6% of all births in Ireland that year.

- **DOMINO (Domiciliary In and Out)**: This service is available in a limited number of hospitals and usually within confined geographical boundaries/distances. While the model differs from hospital to hospital, the service is generally provided by a team of hospital based community midwives who care for women throughout pregnancy, birth and during the postnatal period. Antenatal appointments can take place either in the hospital or in a community setting. The woman generally transfers home within 12-24 hours after the birth. The community midwife continues to look after mother and baby for the first few days at home. In total, 2 297 DOMINO births were recorded in 2014, accounting for 3.35% of total births.
- **Early Transfer Home Scheme**: A scheme available in a number of hospitals dedicated to mothers who wish to leave hospital within a few hours after giving birth. Postnatal care is provided by a team of community midwives in the woman's home.
- **Home births**: The National Maternity Hospital and University Hospital Waterford offer a very limited home birth service to low risk women, owing to the collaboration with self-employed community midwives (SECM). Approximately 20 SECM have signed Memoranda of Understanding (MOU) with the Health Service Executive to provide planned home birth services to eligible women. SECMs are bound by the terms of the MOU and are indemnified under the Clinical Indemnity Scheme operated by the State Claims Agency. The SECM is the primary carer for the woman throughout her pregnancy and for up to 14 days postnatally. Home births account for approximately 0.2% of births in Ireland.

These last years, a number of reports have highlighted the need for development and improvement in Irish maternity services. Various factors, including demographic, lifestyle and medical co-morbidities, contribute to an increasing complexity of maternity care. Despite this, perinatal and maternal mortality rates decreased these last years and remain low. Numerous challenges remain: the proportion of complex pregnancies is increasing, caesarean section rates are increasing, the proportion of low birth weight babies and preterm births are growing and breastfeeding rates stay low.

All of these factors influence the maternity service provision. The maternity services need to respond to the gradually complex population needs in order to provide safe, evidence-based, accessible care to all mothers, babies and their families in Ireland.

8.4.2. Set-up of a National Maternity Strategy

On 30th April 2015, the Minister for Health established the National Maternity Strategy Steering Group to advise on the development of the strategy for the coming 10 years. The missions of the Group were to develop a National Maternity Strategy which covers preconception, antenatal, intrapartum, postnatal and neonatal care provided across acute, primary and community settings (generally spanning the period from up to three months before conception and until six weeks after birth). This first National Maternity Strategy, "Creating a Better Future Together", provides a clear vision and direction as to how Irish maternity services will be developed, improved and made safer over the coming years. The aim of the Strategy is to ensure that every woman will be able to access the right level of care, from the right professional, at the right time and in the right place, based on her personal needs. Consequently, it proposes a new model of integrated care comprising three care pathways.[163]

Vision for maternity services

The vision for maternity services, articulated in this Strategy, is a country where:

"*Women and babies have access to safe, high quality care in a setting that is most appropriate to their needs; women and families are placed at the centre of all services, and are treated with dignity, respect and compassion; parents are supported before, during and after pregnancy to allow them give their child the best possible start in life*".[163]

To realise this vision, four strategic priorities are acknowledged:[163]

- A Health and Wellbeing approach is agreed to ensure that babies get the best start in life. Mothers and families are supported and empowered to improve their own health and wellbeing;

- Women have access to safe, high quality, nationally consistent, woman-centred maternity care;
- Pregnancy and birth are recognised as normal physiological processes; consequently as safety is ensured, a woman's choice is facilitated;
- Maternity services are properly resourced, reinforced by strong and effective leadership, management and governance arrangements, and delivered by a skilled and competent workforce, in partnership with women.

Moreover, pregnancy and birth are considered as an opportunity window during which women have a unique opportunity to focus on their health and wellbeing. Information and support offered at the really beginning of the pregnancy or before by maternity services are seen as the drivers to adopt positive lifestyle behaviours as to support behaviour changes (reducing lifestyle behaviours with harmful effects such as smoking and drinking, as well as increasing protective measures such as immunisation, improved nutrition and physical activity).

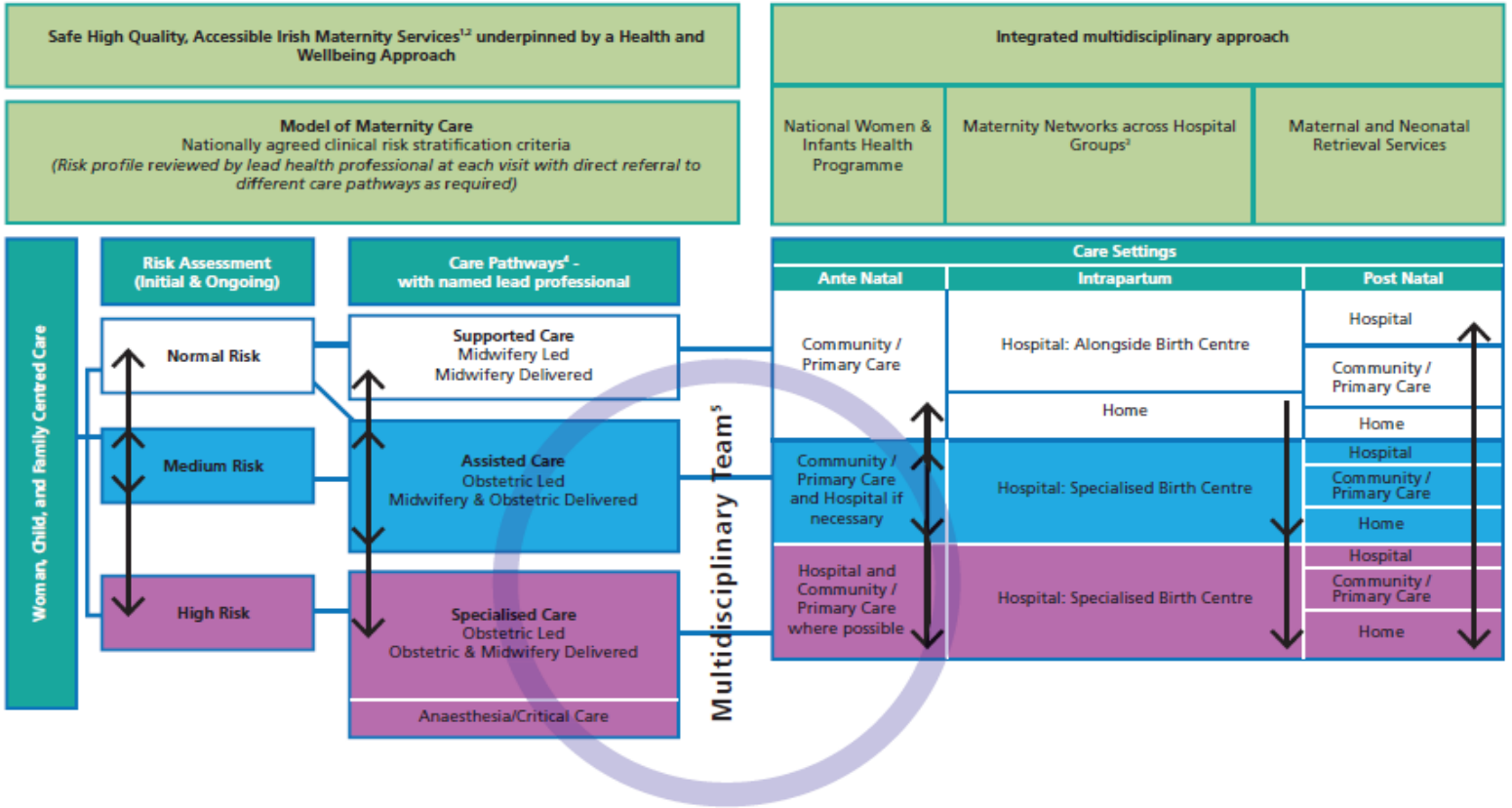
Whereas maternity care is currently mainly consultant led and hospital based, the Strategy recommends another approach that is woman-centred, and provide integrated, team based care, with women seeing the most appropriate professional, based on her personal needs. In this model, every woman will have a dedicated lead healthcare professional who will have overall clinical responsibility for her care.

In addition, while all pregnant women require some level of support, some need more specialized care; this implies that the integrated care model allows for the use of the lowest level of complexity, while having the ability and capacity to provide specialized and complex care, quickly, as needed, while ensuring patient safety at each stage. Patient safety is the first and the overriding principle to be respected. The second principle to guarantee is the continuity of care(r). The Strategy proposes the development of a community midwifery service where hospital midwives, working as part of a multidisciplinary team, provide antenatal and postnatal care in the community.[163]

The Strategy classifies pregnant women/babies into three risk groups; normal-risk, medium-risk (requiring a higher level of oversight), and high-risk (requiring a more intensive level of care, either throughout or at a particular stage of care). Across all risk levels there is the potential need for an increased level of care and the importance of a seamless transfer between pathways of care is recognised (Figure 46).[163]

A choice of pathway of maternity care will be available based on this risk profile. A woman will be supported to make an informed choice with regard to her care pathway and will have her care delivered by a particular team. All care pathways should support the normalisation of pregnancy and birth.

Figure 46 – Recommended model of maternity care in Ireland



1 In line with the overriding safety principle, a risk based approach will be utilised. Practice will be evidence-based using national clinical guidelines and audit, and quality improvement approaches will be adopted.
2 Each birth centre should have access to an immediate emergency team response for clinical deterioration.
3 For high risk and complex women or babies specialist services outside the network may be required.
4 Within each of these care pathways, women can also avail of a shared model of care with the GP, as provided for by the Maternity and Infant Care Scheme.
5 Spanning the acute, primary and community sectors, modern maternity services are multi-disciplinary in nature, and as such require the involvement of a range of health professionals. The input of the wider multidisciplinary team will be co-ordinated by the lead healthcare professional.

Source: Department of Health. Creating a better future together - National Maternity Strategy 2016-2026. Ireland: 2016. Available from: https://health.gov.ie/wp-content/uploads/2016/01/Final-version-27.01.16.pdf

The care pathways can take three different forms:[163]

- **Supported Care**: This care pathway is intended for normal-risk mothers and babies, with midwives leading and delivering care within a multidisciplinary framework. Responsibility for the coordination of a woman's care will be assigned to a named Clinical Midwife Manager, and care will be delivered by the community midwifery team, with most antenatal and postnatal care being provided in the community and home settings. The woman can choose with her healthcare professional with regard to the birth setting, which may be in an Alongside Birth Centre in the hospital, or at home. A woman may need to transfer, either temporarily or permanently, to another model of care because of an emerging risk. She may also choose to transfer to another care pathway, e.g. if she wants an epidural, or if she chooses to be under the care of an obstetrician.
- **Assisted Care**: This care pathway is intended for mothers and babies considered to be at medium risk, and for normal risk women who choose an obstetric service. Care will be led by a named obstetrician and delivered by obstetricians and midwives, as part of a multidisciplinary team. Responsibility for the coordination of a woman's care will be assigned to a named obstetrician, and care will be delivered by obstetricians and midwives, as part of a multidisciplinary team. Care will be provided across both the hospital and community, and births will take place within a hospital setting in a Specialised Birth Centre.
- **Specialised Care**: This care pathway is intended for high-risk mothers and babies and will be led by a named obstetrician, and will be delivered by obstetricians and midwives, as part of a multidisciplinary team. Care will, in the main, be provided in the hospital, and births will take place in the hospital, in a Specialised Birth Centre. In this pathway, possible antenatal care should be provided in the community.

Within each of the three risk pathways, a support from health and social care professionals may be required including physiotherapists, dietitians and medical social workers. Women with a previous history of a mental health disorder should be identified early to ensure that the right support is offered. Moreover, vulnerable families should be targeted for additional supports. The input of the wider multidisciplinary team will be coordinated by the lead healthcare professional.

The first antenatal visit should be undertaken by week 12. At the first antenatal visit, a standardised risk and needs assessment will be undertaken to define and ensure that the appropriate level of support and care is provided. At each subsequent contact with the maternity services, a woman's risk and needs profile will be reviewed to confirm that the appropriate level of support and care is provided. As far as possible, antenatal care will be provided in community based settings.

Impact of the Strategy on workforce and training

The changes recommended with the Strategy will have a significant impact on workforce requirements.[163] There is a clear need for an effective collaboration and partnership between the decision makers at the different levels to define the staffing requirement arising from the new model of care, and prepare a workforce plan to progressively build capacity in the maternity services workforce. Workforce planning will encompass obstetricians and midwives, but also apply across the entire multidisciplinary team. The training needs associated with the implementation of the new model of care should be carefully analysed to ensure that the current and future maternity workforce have the necessary skills and competencies to deliver safe high quality maternity care in different settings.

8.5. Sweden

This chapter was written with the helpful support of Inga-Maj Andersson (RN, MN, PhD), Programme Officer, The National Board of Health and Welfare, Stockholm

8.5.1. The Swedish Healthcare system

The responsibility for health and medical care in Sweden is shared by the central government, county councils and municipalities. The Health and Medical Service Act regulates the responsibilities of 20 county councils and 290 municipalities. The role of the central government is to establish principles and guidelines, and to set the political agenda for health and medical care. It does this through laws and ordinances or by reaching agreements with the Swedish Association of Local Authorities and Regions (SALAR), which represents the county councils and municipalities.[164]

There is no hierarchical relation between municipalities, county councils and regions. Around 90 per cent of Swedish county council work concerns health care, but they also deal with other topics such as culture and infrastructure. Each county council must provide citizens with good-quality health and medical care, and works to promote good health for the entire population.[164]

In Sweden, there is a mix of publicly and privately owned healthcare facilities, but they are all publicly funded. Primary care is provided by over 1 100 primary care units, of which 42% are private, although the ownership structure differs widely between regions. The share of private primary care providers has increased rapidly in recent years. Public and private physicians (including hospital specialists) and other health workers are predominantly salaried employees.[164]

8.5.2. Accessibility and equality

The vast majority of doctors in Sweden are specialists, and the medical staff is unequally distributed across the country. GPs account for only 15% of all physicians, a share that is considerably lower than in most EU countries. Northern regions of Sweden, but also generally rural areas, have difficulties recruiting GPs. The lack of medical staff in certain geographical and medical specialist areas, notably GPs in rural areas, has contributed to an increasing market of locum physicians and nurses, employed by staffing companies specialising in health, which has had a negative impact on both staff costs and continuity of care for patients.[165]

In 2014, the fees for consulting a primary care physician varied between SEK 100–300 (EUR 11–33), for an outpatient hospital specialist between SEK 200–350 (EUR 22–37), and per day of hospitalisation for an adult between SEK 80–100 (EUR 9–11). There is a cap of SEK 1 100 (EUR 120) over 12 months on cost-sharing for health services and a separate cap for prescribed medicines, which are fully funded by the patient up to SEK 1 100 (EUR 120) per year, after which the copayment decreases step-wise until reaching the ceiling of SEK 2 200 (EUR 240). Cost-sharing exemptions apply for children, adolescents, pregnant women and older people.[165]

Services are easily accessible and there is no fee for antenatal care. Antenatal clinics are located on major transportation routes and often in community centres or in a larger medical building offering other medical or social services. An antenatal clinic in Stockholm should offer the same services and same quality of care as an antenatal clinic in any rural area. A majority of ANC operates in the public healthcare system subsequently only a minor part of ANC is a private enterprise. However, private ANC increased between 2010 (16.9%) and 2013 (23.8%).[166] In cities such as Stockholm, private and public antenatal centres coexist. Similar standard services are offered, services are free in all centres and providers are all paid the same rates by the government. Private antenatal centres are privately owned and managed but still publicly financed. Private antenatal care, however, is not available in all parts of Sweden and many rural areas have only one public antenatal clinic.[166]

8.5.3. Structure of antenatal care

In Sweden there are approximately 115 000 births annually. Maternity care is positioned within the primary care system (83.1%), are publicly financed and provided to all residents, on the basis of need. As other types of care, maternity care are characterized by a high level of accessibility, good quality, and freedom of choice for the individual. Antenatal care in Sweden is free and operated primarily through community-based public health clinics. The uptake is 99% in Sweden.[167, 168]

In 2018, there are 42 delivery hospitals, responsible for between 500 and 8 500 deliveries annually. In theory there is a free choice of birth place but if the woman wants a home-birth she has to find, contact and pay a midwife by herself (personal communication from Inga-Maj Andersson). About 100 of 115 000 deliveries yearly in Sweden are planned home-births, the rest take place in a general hospital. Two of the 20 county councils/regions are funding home-births under certain requirements. Besides the hospitals, around 560 ANC clinics provide antenatal care. Since early 1980s, antenatal care has been organised in defined Maternal Health Care Areas (MHCA), and these usually include all ANC in the geographical catchment area of a specified hospital. In each MHCA, an ANC team – an antenatal care obstetrician and an antenatal care coordinator (a midwife) – are responsible for evaluating and improving ANC quality, providing local clinical guidelines, and offering continuing education for ANC midwives and physicians.[168]

There is no preferred model of care in Sweden but teamwork and task-sharing between obstetricians and midwives is crucial for the quality of peri- and postnatal care (personal communication from Inga-Maj Andersson).

8.5.4. Roles and responsibilities of midwives

In Sweden, birth is viewed as a natural process and women are recognised as inherently capable of giving birth. Midwives are the primary providers of health care during pregnancy, independently responsible for surveillance of uncomplicated pregnancies. Midwives are employed in antenatal care centres, hospital labour and birth units, and postpartum units. Some midwives combine part-time jobs in both antenatal care and labour and birth units but most are employed in only one area at a time. Currently, the work assignments for midwives in antenatal care include: a) surveillance of pregnancy, b) parental support and birth preparation, c) individual contraceptive counselling, d) prevention of sexually transmitted infections (STI), e) public outreach work to prevent unplanned pregnancies and prevention of STI on a community level, f) cervical cancer screening tests, and g) counselling on lifestyle habits.[169]

Since 1955, the midwife's responsibility was progressively widened and the contents of midwife checks was extended: the midwife weighed the women, tested the urine for protein and glucose and measured blood pressure. Today a Medical Basic Program is followed by midwives to check physical status during pregnancy. In case of medical complications during pregnancy an obstetric expertise is usually required which are normally provided by the Department of women´s health at a hospital or a clinic in the area. There is also a psychosocial or psychological basic program with aims to facilitate for the midwife to follow the psychological change, support the family's adaptation to the new situation and identify any need for support.

The national guidelines published in 2008 recommend a minimum of eight visits during pregnancy.[170] During a normal pregnancy, women have between 8 and 12 visits to a midwife depending on the woman´s needs with more visits normally taking place during the second trimester. The one-to-one-model is predominantly adopted since pregnant women typically see the same midwife for the majority of their antenatal care.

A detailed schedule including content and the recommended examinations at each visit is described in the local clinical guidelines for MHCA. The focus of the first visit is primarily physiological assessment and history taking and occurs around week 10-12. New patient visits are typically 1-1.5 hours and follow-up visits are generally scheduled for 30 minutes in both private and public antenatal clinics. The second visit with the antenatal midwife occurs around week 24 with one visit every two to three weeks for the rest of the pregnancy. In 2008, an early visit was added for women as soon as they learn they are pregnant. These are information and education sessions which may be held individually or in groups.[166] During the antenatal care, no superfluous exam is performed; for example, women are not weighed at each visit, ultrasound is only performed twice during pregnancy to determine gestational age, detect multiple pregnancies, and screen for foetal

anomalies. The second trimester ultrasound scan is generally performed by specially trained midwives.[169] There is no routine visit to a medical doctor. However, the midwife can always refer the pregnant woman to more specialized care if needed.[171] Women with chronic disease, regular medication, drugs or alcohol abuse, obesity (BMI > 30), heavy psychosocial situation, older than 40 years or with a complicated obstetric background are assessed and handled by an obstetrician or GP with specialist competence.

This strategy, however, emphasises an individual plan of care for each pregnant woman with regard to medical and psychosocial risk factors as well as taking into account the pregnant woman's own lifestyle habits and wishes.[170] Identifying previous psychiatric history and/or current treatment for psychiatric disorder in early pregnancy also helps establish an individual plan of care for the pregnant woman. The Edinburgh Postnatal Depression Scale (EPDS) is validated for use as a screening instrument during pregnancy. However, the EPDS is mainly used on indication and not as a universal screening tool in Swedish antenatal care. The AUDIT protocol is used as a screening instrument during the first ANC visit to identify pregnant women who report harmful drinking habits before pregnancy.

Additional assignments for midwives in ANC are parental support, family planning and prescription of contraceptives, performing the national, population-based screening programme for cervical cancer and public outreach work. Midwives also manage different patient-related administrative systems.

8.5.5. Childbirth and parent education classes

In many antenatal clinics an education in parenthood is offered to the woman and her partner. Even if most focus is on pregnancy and what will happen during delivery there is also information about breastfeeding, the new-born child and postnatal period. Nevertheless, it has been concluded that presently there is a gap in the continuity of care during the first two weeks after delivery, a period in which women lack advice on where to go with their questions and worries. A national website, 1177, with information to pregnant women and mothers written by experts on evidence-based knowledge is available (https://www.1177.se/Stockholm/Other-languages/Engelska/).

Antenatal education classes help prepare parents for birth and life with a new baby. Most classes include five to ten hours of instruction and information focusing on labour, birth, pain relief, possible complications, and breastfeeding. Following national guidelines, they also discuss resources available to parents such as family counsellors and social insurance benefits. Some classes also offer a tour of the hospital birth ward. There is usually one additional class a few weeks after the birth to discuss baby care. Typically, these classes are offered in the evenings or on a weekend in two to three hour blocks of time. In many areas, material has been condensed into fewer classes. Classes are designed to go beyond simply preparing couples for birth and parenthood. Social support is a specific goal. Antenatal clinics arrange post-partum groups so new parents can meet others whose children were born about the same time. The antenatal clinic typically sets up several meetings with speakers and information and then the mothers often continue to meet on their own.[166]

Many Swedish hospitals have adjoining 'hotels' where new mothers and their partners may stay for two or three days (with all meals included) after a birth so nurses can monitor the mothers and provide postnatal care for newborns.

8.5.6. Midwifery education

Midwifery is an academic discipline offered at 12 Swedish universities as specialist training for registered nurses. That is, all midwives educated in Sweden are also nurses. In addition, these midwives can prescribe contraceptives to healthy women.

8.5.7. Figures and challenges

In 2016, 119 794 women gave birth in Sweden, and 43% were nulliparous. Since 2001, the proportion of deliveries carried out with caesarean sections varied between 16 and just above 17%. In 2016, the proportion was 17.6%. Although most caesarean sections are performed for medical reasons, the hospital's catchment area, the procedures for planned caesarean sections and the distribution of mothers with low and high risk of complications also play an important role.[172] T

The maternal mortality ratio in Sweden is currently very low, i.e. 6.0 per 100 000 live born children (1988-2013).[169]

Even if the maternal mortality in Sweden is low there are other failings in obstetric care today. A recently conducted survey found that the postnatal period from the delivery to the first visit at child health care (the period of the first two weeks after delivery), is a period when mothers do have many questions but they do not know whom to ask (personal communication from Inga-Maj Andersson).

For the period 2015–2021, the Swedish government initiated and is currently implementing an extensive initiative on women's health to strengthen skills supply in maternity care and provide extra resources to initiatives for women's health in primary care, particularly in socio-economically disadvantaged areas (personal communication from Inga-Maj Andersson). The major part of the initiative consists of an extensive agreement between the Government and The Swedish Association of Local Authorities and Regions, SALAR. All of Sweden's municipalities, county councils and regions are members of SALAR which represents and acts on their initiative. Briefly, the agreement allows county councils and regions to decide upon and choose which efforts they consider to be most beneficial in achieving the following goals:

- A clear care-chain. It should be clear to the family what happens before, during and after a pregnancy.
- Developed and strengthened postnatal care.
- Preventing birth injuries, and in case of complications, the provision of proper care and support.
- A midwife or other person with relevant qualifications available during the delivery.
- Room for parents both before and after childbirth, especially for those who have a long way to the nearest obstetric clinic.
- Evidence-based knowledge and knowledge support available to the staff to prevent, diagnose and treat maternal injuries.
- Good conditions for research.

The government has also commissioned The National Board of Health and Welfare to investigate the need for and produce national guidelines for antenatal care as well for delivery, postnatal and neonatal care. Focus is on psychological illness and fear of birth, perineal tears and sphincter ruptures, breastfeeding and complications related to breastfeeding as well as continuity of care (personal communication from Inga-Maj Andersson).

8.6. Finland

This chapter was written with the helpful support of Mika Gissler, Research Professor, THL National Institute for Health and Welfare, Information Department Services, Helsinki, Finland, and Maija Jakobsson (MD, PhD), Helsinki University Central Hospital, Department of Obstetrics and Gynaecology

8.6.1. Structure of antenatal care

In Finland, the 311 municipalities are in charge of providing maternal and child health care services (primary care and specialised health care through central hospital districts). This means that there is no uniform system of providing these services, but there is a great variation between the models. The most common are combining maternal and child welfare centres and midwife-led maternal and reproductive health centres. Municipalities have a strong autonomy for the service provision.

Maternal welfare clinics have both physicians and public health nurses/midwives. There should be one public health nurse/midwife per 76 pregnant women and one physician per 600 pregnant women. The basic training is required for public health nurse, midwife and physician (licence to practice according to national legislation, equivalent to EU directive for nurse, midwife and physician).

The recommended timing and content of the antenatal care are given in national recommendations. If required, the pregnant woman will be referred to other specialists (e.g. psychologist, nutritionist) or to specialised health care in hospital. These recommendations also cover the need for a birth care plan to set out all important aspects related to supervision and care for a future mother.

8.6.2. Accessibility and equity

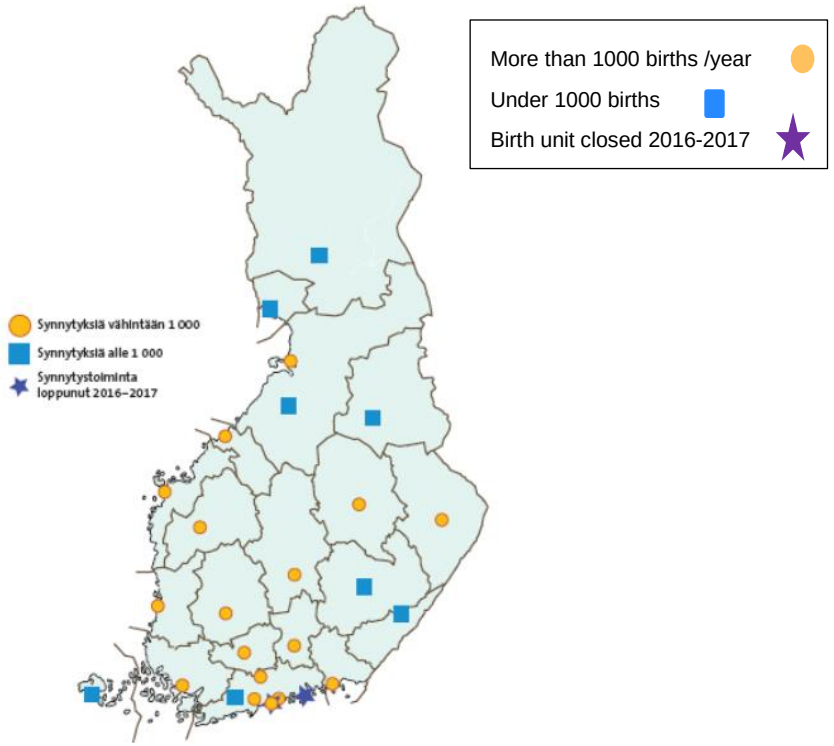
Maternity hospitals have been closed during the last ten years in all Nordic countries having as consequence an increased number of births per hospital during the last ten years (from 1700 in 2006 to 2000 births in 2016 per maternity hospital for Finland).

There are no midwife-led units in Finland. 99.6% of all deliveries are in the 24 maternity hospitals, which are publicly owned and run. There are no private hospitals providing birth services. Planned homebirths are rare (50/year). There are few private midwives who assist in home deliveries, but they are not covered by the public health insurance.

In principle women may select any hospital, but in practice the nearest one is the most common choice due to the long distances between maternity hospitals (see Figure 47).

All care during pregnancy and childbirth is free in primary care. For specialised care (including childbirth) a service fee is set up (https://stm.fi/en/client-fees). For example for hospital outpatient visit maximum 41.20 € per visit for persons 18 years or more and for hospital inpatient visit 48.90 € per day. Also medication costs are reimbursed.[173] There are also upper limits for all medical costs and for all medication costs per year for those who need services most.

Figure 47 – Geographical repartition of maternity hospitals in Finland (2017)



8.6.3. Roles and responsibilities of midwives

There are current care guidelines for gestational diabetes and for preterm birth. For others, there are no official guidelines, but there is a public website "Woman's house at Health Village" (https://www.terveyskyla.fi/naistalo/raskaus-ja-synnytys), which includes extensive information for the public audience. This website includes also pages accessible for the professionals (requires authorisation), and there is extensive information on care practices, safety guidelines, referrals, and recommendations for midwives, gynaecologists and obstetricians.

There are special guidelines for fear of childbirth, for women with substance abuse and for recent migrants and ethnic minorities, asylum seekers and undocumented migrants (including Female Genital Mutilation), and victims of sexual assault or other violence.

8.6.4. Facts and figures

The country has a comprehensive registration system for reproductive health. The National Institute for Health and Welfare delivers statistics on pregnant women, deliveries and newborns at national level, by hospital district, and by type of hospital.

In 2017, 50 854 children were born in Finland, 5.1% less than in 2016. The number of infants born has been in a continuous decline since 2011.

In total 16.7% of all deliveries ended in caesarean section in 2017. This is more than ever during the 30 years of statistics. The increase has, however, been slow, since the percentage was 16 already two decades ago.

The mean age of pregnant women has increased in recent years. In 2017, the mean age of all pregnant women was 30.9 years and the mean age of women in their first pregnancy was 29.2 years. Both were higher than ever before during the 30 years of statistics. Of all pregnant women, 22.5% were over the age of 35. The proportion of under-20s of all pregnant women has, instead, decreased: it was 1.4% in 2017.

8.7. Conclusions: Common characteristics of ANC between countries

Key messages

INTEGRATED BIRTH CARE

- Vision
  - Central position for the pregnant woman, her partner and (unborn) child
  - Adequate information and counselling: based on EBP, sufficient time devoted to these activities, and supporting material
  - One fixed point of contact during pregnancy, i.e. the coordinating care provider or dedicated lead healthcare professional (midwife, obstetrician, GP…)
  - An individual birth care plan according to the principles of joint-decision making
  - Informed consent: On the basis of complete information, the woman makes informed choices regarding her pregnancy, delivery and maternity period. An inseparable part of informed consent is informed refusal: the right to refuse proposed treatments
- The integrated care model allows for the use of the lowest level of complexity, while having the ability and capacity to provide specialized and complex care, quickly, as needed, while ensuring patient safety at each stage
- Patient safety is the first and the overriding principle to be respected.
- The continuity of care(r) has to be guaranteed.
- Proximity, accessibility of care and privacy should be ensured.

- Integrated care involves a coordinated and coherent set of services, which are planned, managed and delivered to individual service users through defined organizations and cooperating professionals (network approach)
- Integrated care aims to provide a continuum of care for service users that crosses the boundaries of public health, primary, secondary, and tertiary care
- Interprofessional birth care team whose collaboration is supported by means of one digital file
- Covered period: from the preconception phase to 6 weeks after birth
- A set of quality indicators is drawn up and monitored for the entire birth care.

CARE PATHWAYS FOR DIFFERENT LEVELS OF RISKS WITH A SYSTEM OF CLEAR REFERRAL PATHS

Three levels of care provision:

- Primary care: GP's and midwives preferred for uncomplicated pregnancies (gatekeepers)
- Secondary care: general hospitals
- Tertiary care: perinatology centres or university medical centres
- Pregnant women/babies are classified into three risk groups; normal-risk, medium-risk (requiring a higher level of oversight), and high-risk (requiring a more intensive level of care, either throughout or at a particular stage of care).
- A seamless transfer between pathways of care is planned

When to refer pregnant women to other levels of care?

- The risk selection and referral is based on a list of pre-existing, pregnancy and perinatal related disorders
- The presence of a distinct (single) medical or obstetric risk factor for adverse outcomes leads to a high risk status
- Additionally, non-medical factors are taken into account (low income, lack of social support or non-Western ethnic descent)

Particular attention for vulnerable women (dedicated pathways)

- Screening of all pregnant women in order to detect the vulnerable ones: psychosocial pathology, psychosocial problems or use of substances (PPM), preferably with the aid of a screening instrument, before the 13rd week of pregnancy
- Referral to adequate services:
  - Women with simple problems will be referred to relevant professionals or organisations having a specific expertise
  - Women with complex or recurrent problems (PPM in combination with a lack of resources; direct danger for children; current substance abuse and/or maltreatment; and/or lack of permission to contact current support services) will be referred to professionals or organisations specialised in the management of vulnerable women
- Target group-specific information given during group sessions (CenteringPregnancy)
- Additional prevention programs
- Intensification of care: detection and monitoring of risk factors, intensification of psychosocial guidance
- Creation of specific pathways by type of vulnerabilities (drugs consumption, mental incapacity, teenagers, insured, asylum seekers, STIs…)

CHARACTERISTICS AND CONTENT OF ANC

Preconception visit

- General consultation: Exploration of the care demand and anamnesis, health education and health-promoting interventions
- Specialist preconception consultation: if specific risk factors are identified or women presented with chronic disease(s)

Antenatal consultations: Schedule of appointments and content

- Different models:
  - No difference between nulliparous and multiparous, the average number of consults is 10 to 12 times in one pregnancy
  - Schedule of 10 appointments for nulliparous with an uncomplicated pregnancy and 7 appointments for a multiparous with an uncomplicated pregnancy
  - 8 antenatal sessions of 45 minutes (minimal duration)
  - The timing and the frequency of consultations are adjusted to the needs of the pregnant woman and the course of the pregnancy
- Early in pregnancy, all women receive appropriate written information about the likely number, timing and content of antenatal appointments associated with different options of care and be given an opportunity to discuss this schedule with their midwife or doctor.
- Each antenatal appointment is structured and has focused content:
  - Evidence-based clinical guidelines are available, including recommendations relative to screening and diagnostic tests, prophylaxis and specific interventions to perform
  - During each appointment, a combination of clinical tests, prophylaxis, interventions, information and support is offered
  - Inclusion of home visits (before 32 weeks and around the 34th week)
- Some practices add a home visit at around 35 weeks of pregnancy
- Delivered either individually or in groups

Free choice of birth place (discussed during ANC)

- After an assessment of medical conditions or situations in which there is increased risk for the woman or baby during or shortly after labour, a discussion with the pregnant woman is required about these risks and the additional care that can be provided in the obstetric unit so that she can make an informed choice about planned place of birth.
- Advantages and disadvantages of all birth settings should be clearly explained (access to midwives and medical staff, access to pain relief, the likelihood of being transferred to another birth setting).
- Home birth with the possibility to refer a woman to secondary care if needed (e.g. for pharmacological pain relief and/or slow progress of the first stage, meconium stained liquor or prelabour rupture of membranes without contractions for more than 24 hours)
- Birth centres, located either freestanding, alongside or on-site an obstetric ward
- Outpatient clinic
- Obstetric hospital units

APPENDICES

APPENDIX 1. LITERATURE SEARCH

Appendix 1.1. PICO for search strategy

PICO	
P (Patient)	Expecting parents – pregnant women
I (Intervention)	Non-clinical intervention aiming to prepare childbirth or to provide parenthood education
C (Comparison)	Usual care
O (Outcome)	Health outcomes such as breastfeeding, mental health, obstetrical outcomes, health behaviours
S (Study design/Settings)	Systematic reviews and Guidelines

Appendix 1.2. Search strategies used for non-clinical interventions

Appendix 1.2.1. Medline @ Ovid – Systematic reviews search

Medline @Ovid	
Date	2018-09-14
Database	Medline via OvidSp
Segments	Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to September 13, 2018>

Search Strategy

Row	Query	Hits
1	prenatal education/	162
2	(expectant adj3 (education* or class or classes)).ti,kw,kf.	69

3	((antenatal or prenatal) adj3 (education* or class or classes)).ti,kw,kf.	396
4	(childbirth adj3 (education* or class or classes)).ti,kw,kf.	288
5	1 or 2 or 3 or 4	832
6	prenatal care/ed	10
7	exp parturition/ed	48
8	6 or 7	58
9	5 or 8	885
10	prenatal care/	24652
11	exp parturition/	14896
12	((prenatal or antenatal) adj3 care).ti,kw,kf.	5328
13	childbirth.ti,kw,kf.	5650
14	parturition.ti,kw,kf.	3085
15	10 or 11 or 12 or 13 or 14	45624
16	Patient education as topic/	80297
17	Health Promotion/	67187
18	Health Knowledge, Attitudes, Practice/	97984
19	Information Seeking Behavior/	1802
20	Parenting/	14383
21	Counseling/	33336
22	Communication/	76903
23	Computer-assisted instruction/	11239
24	exp Education/	748403
25	Educational Measurement/	34514
26	counseling.ti,kw,kf.	14996
27	education.ti,kw,kf.	154218

28	teach*.ti,kw,kf.	60243
29	advi*.ti,kw,kf.	15509
30	inform*.ti,kw,kf.	118578
31	16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30	1070486
32	15 and 31	7243
33	9 or 32	7485
34	limit 33 to yr="2008-current"	3633
35	limit 34 to systematic reviews	189
Note	Results exported from line 17 for SR and line 29 for all studies	

Appendix 1.2.2. Medline @ Ovid RCT and primary studies

Medline @Ovid	
Date	2018-12-20
Database	Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to December 19, 2018>

Search Strategy

Row	**Query**	**Hits**
1	*prenatal education/	124
2	(expectant adj3 (education* or class or classes)).ti,kw,kf.	69
3	((antenatal or prenatal) adj3 (education* or class or classes)).ti,kw,kf.	406
4	(childbirth adj3 (education* or class or classes)).ti,kw,kf.	292
5	2 or 3 or 4	733
6	5 and prenatal education/	54
7	5 not medline.st.	206
8	1 or 6 or 7	332
9	*prenatal care/ed	3

10	exp *parturition/ed	26
11	9 or 10	29
12	8 or 11	361
13	limit 12 to yr="2008-current"	284
14	prenatal education/	174
15	(expectant adj3 (education* or class or classes)).ti,kw,kf.	69
16	((antenatal or prenatal) adj3 (education* or class or classes)).ti,kw,kf.	406
17	(childbirth adj3 (education* or class or classes)).ti,kw,kf.	292
18	14 or 15 or 16 or 17	853
19	prenatal care/ed	10
20	exp parturition/ed	48
21	19 or 20	58
22	18 or 21	906
23	prenatal care/	24951
24	exp parturition/	15132
25	((prenatal or antenatal) adj3 care).ti,kw,kf.	5437
26	childbirth.ti,kw,kf.	5748
27	parturition.ti,kw,kf.	3153
28	23 or 24 or 25 or 26 or 27	46289
29	Patient education as topic/	80859
30	Health Promotion/	67890
31	Health Knowledge, Attitudes, Practice/	99629
32	Information Seeking Behavior/	1874
33	Parenting/	14616
34	Counseling/	33571

35	Communication/	77683
36	Computer-assisted instruction/	11320
37	exp Education/	755130
38	Educational Measurement/	34889
39	counseling.ti,kw,kf.	15217
40	education.ti,kw,kf.	156473
41	teach*.ti,kw,kf.	60947
42	advi*.ti,kw,kf.	15665
43	inform*.ti,kw,kf.	120735
44	29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43	1082449
45	28 and 44	7344
46	22 or 45	7596
47	limit 46 to yr="2008-current"	3744
48	limit 47 to systematic reviews	196
49	remove duplicates from 48	189
50	limit 22 to yr="2008-current"	481
51	47 not 50	3263
52	*prenatal education/	124
53	(expectant adj3 (education* or class or classes)).ti,kw,kf.	69
54	((antenatal or prenatal) adj3 (education* or class or classes)).ti,kw,kf.	406
55	(childbirth adj3 (education* or class or classes)).ti,kw,kf.	292
56	53 or 54 or 55	733
57	56 and prenatal education/	54
58	56 not medline.st.	206
59	52 or 57 or 58	332

60	*prenatal care/ed	3
61	exp *parturition/ed	26
62	60 or 61	29
63	59 or 62	361
64	randomized controlled trial.pt.	472447
65	controlled clinical trial.pt.	92795
66	randomized.ti,ab.	462031
67	placebo.ti,ab.	199068
68	clinical trials as topic/	185450
69	randomly.ti,ab.	302348
70	trial?.ti.	255854
71	64 or 65 or 66 or 67 or 68 or 69 or 70	1216220
72	exp animal/ not humans/	4523070
73	71 not 72	1119643
74	47 and 73	444
75	remove duplicates from 74	440
Note	Results from lines 13 and 75 were exported for screening.	

Appendix 1.3. Search strategies used for prenatal education

Appendix 1.3.1. Medline @ Ovid

Medline @Ovid	
Date	2018-11-18
Database	Medline provided by OvidSp
Segments	Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to November 16, 2018>

Search Strategy

Row	Query	Hits
1	prenatal education/	172
2	(expectant adj3 (education* or class or classes)).ti,kw,kf.	69
3	((antenatal or prenatal) adj3 (education* or class or classes)).ti,kw,kf.	403
4	(childbirth adj3 (education* or class or classes)).ti,kw,kf.	290
5	1 or 2 or 3 or 4	846
6	prenatal care/ed	10
7	exp parturition/ed	48
8	6 or 7	58
9	5 or 8	899
10	prenatal care/	24875
11	exp parturition/	15082
12	((prenatal or antenatal) adj3 care).ti,kw,kf.	5402
13	childbirth.ti,kw,kf.	5721
14	parturition.ti,kw,kf.	3124
15	10 or 11 or 12 or 13 or 14	46099
16	Patient education as topic/	80724

17	Health Promotion/	67707
18	Health Knowledge, Attitudes, Practice/	99248
19	Information Seeking Behavior/	1857
20	Parenting/	14569
21	Counseling/	33522
22	Communication/	77479
23	Computer-assisted instruction/	11302
24	exp Education/	753527
25	Educational Measurement/	34800
26	counseling.ti,kw,kf.	15175
27	education.ti,kw,kf.	155896
28	teach*.ti,kw,kf.	60745
29	advi*.ti,kw,kf.	15625
30	inform*.ti,kw,kf.	120196
31	16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30	1079506
32	15 and 31	7312
33	9 or 32	7561
34	limit 33 to yr="2008-current"	3709
35	limit 34 to systematic reviews	193
Note		

Appendix 1.3.2. Embase @ Embase.com

Embase @Embase.com	
Date	2018-11-18
Database	Embase via Embase.com

Search Strategy

Row	Query	Hits
#1	'childbirth education'/exp	**367**
#2	(expectant NEAR/3 (education* OR class OR classes)):ti	**69**
#3	((antenatal OR prenatal) NEAR/3 (education* OR class OR classes)):ti	**384**
#4	(childbirth NEAR/3 (education* OR class OR classes)):ti	**167**
#5	#1 OR #2 OR #3 OR #4	**874**
#6	'prenatal care'/de	**36622**
#7	'birth'/exp	**23691**
#8	((prenatal OR antenatal) NEAR/3 care):ti	**4105**
#9	childbirth:ti	**5721**
#10	parturition:ti	**3113**
#11	#6 OR #7 OR #8 OR #9 OR #10	**67448**
#12	'patient education'/exp	**105302**
#13	'health promotion'/de	**89094**
#14	'attitude to health'/de	**103974**
#15	'information seeking'/de	**2660**
#16	'child parent relation'/exp	**81994**
#17	'parenting education'/exp	**1075**
#18	'counseling'/exp	**150380**
#19	'teaching'/exp	**87604**

#20	'education'/exp	**1358046**
#21	counseling:ti	**15097**
#22	education:ti	**132722**
#23	advi*:ti	**17182**
#24	inform*:ti	**124959**
#25	teach*:ti	**68690**
#26	#12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25	**1751185**
#27	#11 AND #26	**12775**
#28	#5 OR #27	**13105**
#29	#28 AND [2008-2018]/py	**7510**
#30	#29 AND ('meta-analysis'/exp OR 'meta-analysis' OR 'systematic review'/exp OR 'systematic review')	**225**
#31	#30 NOT [medline]/lim	**56**
Note		

Appendix 1.3.3. Cochrane Database of Systematic Reviews

Cochrane @Wiley	
Date	2018-11-18
Database	Cochrane Database of Systematic Reviews, DARE – database of reviews of effects, NHS Economic evaluation database, all through Wiley.

Search Strategy

Row	**Query**	**Hits**
#1	[mh ^"prenatal education"]	33
#2	(expectant NEAR/3 (education* or class or classes)):ti	2
#3	((antenatal or prenatal) NEAR/3 (education* or class or classes)):ti	92
#4	(childbirth NEAR/3 (education* or class or classes)):ti	22

#5	#1 or #2 or #3 or #4	136
#6	[mh ^"prenatal care"/ED]	0
#7	[mh "parturition"/ED]	3
#8	#6 or #7	3
#9	#5 or #8	138
#10	[mh ^"prenatal care"]	1269
#11	[mh "parturition"]	360
#12	((prenatal or antenatal) NEAR/3 care):ti	225
#13	childbirth:ti	333
#14	parturition:ti	24
#15	#10 or #11 or #12 or #13 or #14	2011
#16	[mh ^"Patient education as topic"]	8017
#17	[mh ^"Health Promotion"]	5002
#18	[mh ^"Health Knowledge, Attitudes, Practice"]	5371
#19	[mh ^"Information Seeking Behavior"]	39
#20	[mh ^"Parenting"]	1066
#21	[mh ^"Counseling"]	3722
#22	[mh ^"Communication"]	2016
#23	[mh ^"Computer-assisted instruction"]	1149
#24	[mh "Education"]	28867
#25	[mh ^"Educational Measurement"]	1532
#26	counseling:ti	3116
#27	education:ti	7489
#28	teach*:ti	2538
#29	advi*:ti	981

#30	inform*:ti	4468
#31	#16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30	46244
#32	#15 and #31	508
#33	#9 or #32	582
#34	#33 with Cochrane Library publication date Between Jan 2008 and Jan 2018	343
Note	This search gave us 9 citations from cochrane systematic reviews database and 333 Clinical Trials from CENTRAL	

Appendix 1.4. Inclusion criteria

Table 45 – Inclusion and exclusion criteria for the literature search

Inclusion criteria	Exclusion criteria
Countries : Europe, North America, Australia and New-Zeland	Women belonging to specific subpopulation (e.g. low-income pregnant women, African American, Aboriginal community, reservation-based American Indian mothers, military mothers …)
General population pregnant women	High risk pregnancies
Low risk pregnancies	Interventions dedicated to pregnant women with specific risk factors (asthma, obesity or overweighed, diabetes, smokers, incarcerate pregnant women, women experiencing violence, or alcohol addiction, comorbidities such as HIV, cardiovascular diseases, …)
Design : Review and RCT	Design : Economic evaluation or cost effectiveness study, quality evaluation of intervention programmes
Health outcome	Satisfaction or other non-health related outcome
Language : French; Dutch, English	Interventions aiming to train health professionals
	Home birth
	Oral health
	Adolescent
	Trials already discussed in a retrieved review

APPENDIX 2. SELECTION OF LOW-RISK PREGNANCIES IN AIM-IMA DATABASE

Appendix 2.1. Selection of pregnancies based on nomenclature codes for deliveries

Table 46 – Nomenclature codes for deliveries

Nomenclature code	Label in French	Label in Dutch
422225	Surveillance et exécution de l'accouchement par une accoucheuse pendant un jour ouvrable	Toezicht op en de uitvoering van de verlossing door een vroedvrouw, op een werkdag
423500	Surveillance et exécution de l'accouchement par une accoucheuse durant le week-end ou un jour férié	Toezicht op en de uitvoering van de verlossing door een vroedvrouw, in het weekend of op een feestdag
422656	Accouchement effectué per une accoucheuse à domicile pendant un jour ouvrable	Verlossing verricht door een vroedvrouw thuis, op een werkdag
422671	Accouchement effectué par une accoucheuse dans le cadre d'une hospitalisation de jour pendant un jour ouvrable	Verlossing verricht door een vroedvrouw in het kader van een daghospitalisatie op een werkdag
423651	Accouchement effectué par une accoucheuse à domicile durant le week-end ou un jour férié	Verlossing verricht door een vroedvrouw thuis, in het weekend of op een feestdag
423673	Accouchement effectué par une accoucheuse dans le cadre d'une hospitalisation de jour durant le week-end ou un jour férié	Verlossing verricht door een vroedvrouw in het kader van een daghospitalisatie, in het weekend of op een feestdag
423010	Accouchement normal ou dystocique y compris les honoraires pour l'anesthésie éventuelle, à l'exclusion des anesthésies effectuées par les médecins spécialistes en anesthésie	Normale of ingewikkelde verlossing, inclusief het honorarium van de eventuele anesthesie, met uitsluiting van de anesthesieën door de geneesheren, specialisten voor anesthesie
423021	Accouchement normal ou dystocique y compris les honoraires pour l'anesthésie éventuelle, à l'exclusion des anesthésies effectuées par les médecins spécialistes en anesthésie	Normale of ingewikkelde verlossing, inclusief het honorarium van de eventuele anesthesie, met uitsluiting van de anesthesieën door de geneesheren, specialisten voor anesthesie
424012	Accouchement normal ou dystocique, y compris les honoraires pour l'anesthésie éventuelle, à l'exclusion des anesthésies effectuées par les médecins spécialistes en anesthésie	Normale of ingewikkelde verlossing inclusief het honorarium voor de eventuele anesthesie, met uitsluiting van de anesthesieën door de geneesheren, specialisten voor anesthesie

424023	Accouchement normal ou dystocique, y compris les honoraires pour l'anesthésie éventuelle, à l'exclusion des anesthésies effectuées par les médecins spécialistes en anesthésie	Normale of ingewikkelde verlossing inclusief het honorarium voor de eventuele anesthesie, met uitsluiting van de anesthesieën door de geneesheren, specialisten voor anesthesie
424093	Accouchement par opération césarienne	Verlossing door keizersnede
424104	Accouchement par opération césarienne	Verlossing door keizersnede

Appendix 2.2. Exclusion of high risk-pregnancies

Table 47 – ATC codes for co-morbidities detection

ATC codes	DDD* threshold	Co-morbidity
A10A / A10B	> 30[$]	Diabetes
C02 / C03 / C04 / C07 / C08/ C09	> 180[$]	Hypertension
B01A	> 90	Thrombosis
B02BD	> 0	Coagulation disorders
R03AA / R03AB / R03AC / R03AH / R03AK / R03BA / R03DC01 / R03DC03	> 80[$]	Asthma
L04AA11 / L04AA12 / L04AA13 / L04AA17 / A07EC01 / A07EC02	> 0	Rheumatoid Arthritis, Crohn's Disease, Ulcerative Colitis
J05AE / J05AF / J05AG/ J05AX	> 0	HIV
L03AB04 / L03AB05 / L03AB10 / J05AB04	> 0	Chronic hepatitis B and C
L03AB07 / L03AB08 / L03AX13	> 0	Multiple sclerosis
N03	> 0	Epilepsy
H03	> 90	Thyroid diseases
L04AA01 / L04AA05 / L04AA06 / L04AA10	> 0	Immunosuppression after organ transplantation
R03	> 80[$]	Respiratory disorders
N04 / N05	> 0	Neurological disorders
N06 / N07	> 90	Neurological disorders

** DDD: Defined daily dose is the assumed average maintenance dose per day for a drug used for its main indication in adults.*[174]
[$] The thresholds were fixed based on the findings of KCE report 266[175]

Table 48 – Nomenclature codes for diabetes passport or convention

Nomenclature code	Label in French	Label in Dutch
102852	Suivi d'un patient diabétique de type 2 selon le protocole de soins établi par le Comité de l'assurance	Opvolging van een patiënt met diabetes mellitus type 2 volgens het zorgprotocol opgemaakt door het Verzekeringscomité
109594	Maisons médicales : Suivi d'un patient diabétique de type 2 selon le protocole de soins établi par le Comité de l'assurance	Medische huizen: Opvolging van een patiënt met diabetes mellitus type 2 volgens het zorgprotocol opgemaakt door het Verzekeringscomité
107015	Honoraires forfaitaires payables au médecin généraliste pour la première année d'un trajet de soins conclu avec un bénéficiaire atteint de diabète sucré de type 2	Forfaitair honorarium betaalbaar aan de huisarts voor het eerste jaar van een zorgtraject-contract gesloten met een rechthebbende met een diabetes mellitus type 2
107052	Honoraires forfaitaires payables au médecin généraliste pour les deuxième, troisième et quatrième années d'un trajet de soins conclu avec un bénéficiaire atteint de diabète sucré de type 2	Forfaitair honorarium betaalbaar aan de huisarts voor het tweede, derde en vierde jaar van een zorgtraject-contract gesloten met een rechthebbende met een diabetes mellitus type 2
107030	Honoraires forfaitaires payables au médecin spécialiste pour la première année d'un trajet de soins conclu avec un bénéficiaire atteint de diabète sucré de type 2	Forfaitair honorarium betaalbaar aan de geneesheer-specialist voor het eerste jaar van een zorgtraject-contract gesloten met een rechthebbende met een diabetes mellitus type 2
107074	Honoraires forfaitaires payables au médecin spécialiste pour les deuxième, troisième et quatrième années d'un trajet de soins conclu avec un bénéficiaire atteint de diabète sucré de type 2	Forfaitair honorarium betaalbaar aan de geneesheer-specialist voor het tweede, derde en vierde jaar van een zorgtraject-contract gesloten met een rechthebbende met een diabetes mellitus type 2

Table 49 – Nomenclature codes for midwifery session dedicated to high-risk pregnancy

Nomenclature code	Label in French	Label in Dutch
422870	Séance individuelle d'obstétrique en cas de grossesse à risque sur prescription d'un médecin spécialiste en gynécologie-obstétrique, à domicile, pendant un jour ouvrable	Individuele verloskundige zitting thuis in geval van een risicozwangerschap op voorschrift van een geneesheer specialist in de gynaecologie-verloskunde, op een werkdag
428175	Séance individuelle d'obstétrique en cas de grossesse à risque sur prescription d'un médecin spécialiste en gynécologie-obstétrique, en milieu hospitalier, pendant un jour ouvrable	Individuele verloskundige zitting in het ziekenhuismilieu in geval van een risicozwangerschap op voorschrift van een geneesheer specialist in de gynaecologie-verloskunde, op een werkdag

428190	Séance individuelle d'obstétrique en cas de grossesse à risque sur prescription d'un médecin spécialiste en gynécologie-obstétrique, en-dehors du domicile et du milieu hospitalier, pendant un jour ouvrable	Individuele verloskundige zitting niet bij de patiënt thuis en buiten het ziekenhuismilieu in geval van een risicozwangerschap op voorschrift van een geneesheer specialist in de gynaecologie-verloskunde, op een werkdag
422892	Séance individuelle d'obstétrique en cas de grossesse à risque sur prescription d'un médecin spécialiste en gynécologie-obstétrique, à domicile, durant le week-end ou un jour férié	Individuele verloskundige zitting thuis in geval van een risicozwangerschap op voorschrift van een geneesheer specialist in de gynaecologie-verloskunde, in het weekend of op een feestdag
428212	Séance individuelle d'obstétrique en cas de grossesse à risque sur prescription d'un médecin spécialiste en gynécologie-obstétrique, en milieu hospitalier, durant le week-end ou un jour férié	Individuele verloskundige zitting in het ziekenhuismilieu in geval van een risicozwangerschap op voorschrift van een geneesheer specialist in de gynaecologie-verloskunde, in het weekend of op een feestdag
428234	Séance individuelle d'obstétrique en cas de grossesse à risque sur prescription d'un médecin spécialiste en gynécologie-obstétrique, en-dehors du domicile et du milieu hospitalier, durant le week-end ou un jour férié	Individuele verloskundige zitting niet bij de patiënt thuis en buiten het ziekenhuismilieu in geval van een risicozwangerschap op voorschrift van een geneesheer specialist in de gynaecologie-verloskunde, in het weekend of op een feestdag
422074	Séance individuelle d'obstétrique en cas de grossesse à risque sur prescription d'un médecin spécialiste en obstétrique. Le nombre, la fréquence et le lieu de ces séances prénatales sont explicitement mentionnés sur la prescription par le médecin spécialiste	Individuele verloskundige zitting ingeval van risicozwangerschap op voorschrift van een geneesheer, specialist voor verloskunde. Het aantal, de frekwentie en de plaats van deze zittingen worden door de geneesheer specialist uitdrukkelijk op het voorschrift vermeld

Table 50 – Nomenclature codes for the necessary presence of a paediatrician at delivery

Nomenclature code	Label in French	Label in Dutch
474515	Présence effective dans la salle d'accouchement à la fin du travail et au moment de la naissance et prise en charge du nouveau-né en cas de grossesse à risque et sur prescription du médecin accoucheur, du médecin spécialiste en pédiatrie, par nouveau-né	Effectieve aanwezigheid in de verloskamer aan het einde van de weeën en op het ogenblik van de uitdrijving en ten laste neming van de pasgeborene, in geval van risicozwangerschap, op voorschrift van de verloskundige, van een geneesheer voor kindergeneeskunde, per pasgeborene
474526	Présence effective dans la salle d'accouchement à la fin du travail et au moment de la naissance et prise en charge du nouveau-né en cas de grossesse à risque et sur prescription du médecin accoucheur, du médecin spécialiste en pédiatrie, par nouveau-né	Effectieve aanwezigheid in de verloskamer aan het einde van de weeën en op het ogenblik van de uitdrijving en ten laste neming van de pasgeborene, in geval van risicozwangerschap, op voorschrift van de verloskundige, van een geneesheer voor kindergeneeskunde, per pasgeborene

Appendix 2.3. Clinical follow-up of the pregnancy

Table 51 – Nomenclature codes for midwifery care consumption (follow-up of the pregnancy)

Nomenclature code	Label in French	Label in Dutch
422030	Première séance individuelle d'obstétrique à domicile	Eerste individuele verloskundige zitting thuis
428094	Première séance individuelle d'obstétrique en milieu hospitalier	Eerste individuele verloskundige zitting in het ziekenhuismilieu
422052	Séance individuelle d'obstétrique à domicile	Individuele verloskundige zitting thuis
428131	Séance individuelle d'obstétrique en milieu hospitalier	Individuele verloskundige zitting in het ziekenhuismilieu
428153	Séance individuelle d'obstétrique en-dehors du domicile et du milieu hospitalier	Individuele verloskundige zitting niet bij de patiënt thuis en buiten het ziekenhuismilieu
428116	Première séance individuelle d'obstétrique en-dehors du domicile et du milieu hospitalier	Eerste individuele verloskundige zitting niet bij de patiënt thuis en buiten het ziekenhuismilieu

Table 52 shows the list of procedures performed by gynaecologists (i.e. the following disciplines: 034 – interns/residents in gynaecology obstetrics, 340 – specialists in gynaecology obstetrics, 341 – specialists in gynaecology obstetrics and pathology anatomy, 369 – specialists in gynaecology obstetrics and radiotherapy, 146 – specialists in surgery and gynaecology obstetrics and 978 – specialists in nuclear medicine and gynaecology obstetrics).

To ensure completeness, non-specific codes provided by gynaecologists were added. The impact on the care consumption is presumed to be marginal.

Table 52 – Nomenclature codes for consumption of care provided by a gynaecologist* (follow-up of the pregnancy)

Nomenclature code	Label in French	Label in Dutch
102012	Consultation au cabinet par un médecin spécialiste autre que ceux cités aux nos 101275, 102034, 102071, 102093, 102115, 102130, 102152, 102174, 102196, 102211, 102255, 102270, 102314, 102351, 102734, 102896, 103456	Raadpleging in de spreekkamer door een ander geneesheer-specialist dan die, vermeld onder de nrs. 101275, 102034, 102071, 102093, 102115, 102130, 102152, 102174, 102196, 102211, 102255, 102270, 102314, 102351, 102734,102896 en 103456
102535	Consultation au cabinet par un médecin spécialiste accrédité autre que ceux cités aux nos 101290, 102292, 102336, 102373, 102550, 102572, 102594, 102616, 102631, 102653, 102675, 102690, 102712, 102756, 102874, 102911 et 103471	Raadpleging in de spreekkamer door een ander geaccrediteerde geneesheer-specialist dan die, vermeld onder de nrs. 101290, 102292, 102336, 102373, 102550, 102572, 102594, 102616, 102631, 102653, 102675, 102690, 102712, 102756, 102874, 102911 en 103471

To ensure completeness, codes designed for other disciplines but performed by gynaecologists were added		
102034	Consultation au cabinet par un médecin spécialiste en médecine interne, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de inwendige geneeskunde, inclusief een eventueel schriftelijk verslag
102071	Consultation au cabinet par un médecin spécialiste en pédiatrie, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de kindergeneeskunde, inclusief een eventueel schriftelijk verslag
102093	Consultation au cabinet par un médecin spécialiste en cardiologie, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de cardiologie, inclusief een eventueel schriftelijk verslag
102115	Consultation au cabinet par un médecin spécialiste en gastro-entérologie, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de gastro-enterologie, inclusief een eventueel schriftelijk verslag
102130	Consultation au cabinet par un médecin spécialiste en pneumologie, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de pneumologie, inclusief een eventueel schriftelijk verslag
102152	Consultation au cabinet par un médecin spécialiste en rhumatologie, rapport écrit obligatoire au médecin traitant inclus	Raadpleging in de spreekkamer door een geneesheer-specialist in de reumatologie, inclusief een verplicht schriftelijk verslag aan de behandelende arts
102174	Consultation au cabinet par un médecin spécialiste en neurologie	Raadpleging in de spreekkamer door een geneesheer-specialist in de neurologie
102196	Consultation au cabinet par un médecin spécialiste en psychiatrie, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de psychiatrie, inclusief een eventueel schriftelijk verslag
102211	Consultation au cabinet par un médecin spécialiste en neuropsychiatrie, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de neuropsychiatrie, inclusief een eventueel schriftelijk verslag
102550	Consultation au cabinet par un médecin spécialiste en médecine interne accrédité, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de inwendige geneeskunde geaccrediteerd, inclusief eventueel schriftelijk verslag
102572	Consultation au cabinet par un médecin spécialiste en pédiatrie accrédité, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de kindergeneeskunde geaccrediteerd, inclusief een eventueel schriftelijk verslag
102594	Consultation au cabinet par un médecin spécialiste en cardiologie accrédité, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de cardiologie geaccrediteerd, inclusief een eventueel schriftelijk verslag

102616	Consultation au cabinet par un médecin spécialiste en gastro-entérologie accrédité, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de gastro-enterologie geaccrediteerd, inclusief een eventueel schriftelijk verslag
102631	Consultation au cabinet par un médecin spécialiste en pneumologie accrédité, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de pneumologie geaccrediteerd, inclusief een eventueel schriftelijk verslag
102653	Consultation au cabinet par un médecin spécialiste en rhumatologie accrédité, rapport écrit obligatoire au médecin traitant inclus	Raadpleging in de spreekkamer door een geneesheer-specialist in de reumatologie geaccrediteerd, inclusief een verplicht schriftelijk verslag aan de behandelende arts
102675	Consultation au cabinet par un médecin spécialiste en neurologie accrédité	Raadpleging in de spreekkamer door een geaccrediteerde geneesheer-specialist in de neurologie
102690	Consultation au cabinet par un médecin spécialiste en psychiatrie accrédité, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de psychiatrie geaccrediteerd, inclusief een eventueel schriftelijk verslag
102712	Consultation au cabinet par un médecin spécialiste en neuropsychiatrie accrédité, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de neuropsychiatrie geaccrediteerd, inclusief een eventueel schriftelijk verslag
102734	Consultation au cabinet par un médecin spécialiste en dermato-vénéréologie, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de dermato-venereologie, inclusief een eventueel schriftelijk verslag
102756	Consultation au cabinet par un médecin spécialiste en dermato-vénéréologie accrédité, y compris un rapport écrit éventuel	Raadpleging in de spreekkamer door een geneesheer-specialist in de dermato-venereologie geaccrediteerd, inclusief een eventueel schriftelijk verslag

Table 53 – Nomenclature codes for consumption of care provided by a GP during pregnancy

Nomenclature code	Label in French	Label in Dutch
101010	Consultation au cabinet par un médecin généraliste sur base de droits acquis	Raadpleging in de spreekkamer door een huisarts op basis van verworven rechten
101032	Consultation au cabinet par un médecin généraliste	Raadpleging in de spreekkamer door een huisarts
101076	Consultation au cabinet par un médecin généraliste accrédité	Raadpleging in de spreekkamer door een geaccrediteerde huisarts
103110	Visite par un médecin généraliste sur base de droits acquis	Bezoek door een huisarts op basis van verworven rechten
103132	Visite par le médecin généraliste	Bezoek door de huisarts
104215	Visite effectuée entre 18 heures et 21 heures par le médecin généraliste	Bezoek afgelegd tussen 18 en 21 uur door de huisarts
104230	Visite effectuée entre 21 heures et 8 heures par le médecin généraliste	Bezoek afgelegd tussen 21 en 8 uur door de huisarts
104252	Visite effectuée un samedi, un dimanche ou un jour férié, entre 8 heures et 21 heures, par le médecin généraliste	Bezoek afgelegd zaterdags, zondags of op een feestdag, tussen 8 en 21 uur, door de huisarts
104274	Visite au domicile du malade effectuée par le médecin généraliste agréé au cours d'un jour férié, c'est-à-dire depuis la veille de ce jour férié à 21 heures jusqu'au lendemain de ce jour à 8 heures	Bezoek bij de zieke thuis, afgelegd door de erkende huisarts op een feestdag, dat wil zeggen vanaf daags vóór die feestdag om 21 uur tot daags na die feestdag om 8 uur
104510	Visite effectuée entre 18 heures et 21 heures par un médecin généraliste sur base de droits acquis	Bezoek afgelegd tussen 18 en 21 uur door een huisarts op basis van verworven rechten
104532	Visite effectuée entre 21 heures et 8 heures par un médecin généraliste sur base de droits acquis	Bezoek afgelegd tussen 21 en 8 uur door een huisarts op basis van verworven rechten
104554	Visite effectuée un samedi, un dimanche ou un jour férié entre 8 heures et 21 heures par un médecin généraliste sur base de droits acquis	Bezoek afgelegd zaterdags, zondags of op een feestdag tussen 8 en 21 uur door een huisarts op basis van verworven rechten
104576	Visite au domicile du malade effectuée par le médecin généraliste avec droits acquis au cours d'un jour férié, c'est-à-dire depuis la veille de ce jour férié à 21 heures jusqu'au lendemain de ce jour à 8 heures	Bezoek bij de zieke thuis, afgelegd door de algemeen geneeskundige met verworven rechten op een feestdag, dat wil zeggen vanaf daags vóór die feestdag om 21 uur tot daags na die feestdag om 8 uur

Appendix 2.4. Birth preparation

Table 54 – Nomenclature codes for birth preparation provided by midwives

Nomenclature code	Label in French	Label in Dutch
422096	Préparation individuelle à domicile	Individuele voorbereiding thuis
428374	Préparation individuelle en milieu hospitalier	Individuele voorbereiding in het ziekenhuismilieu
428396	Préparation individuelle en-dehors du domicile et du milieu hospitalier	Individuele voorbereiding niet bij de patiënt thuis en buiten het ziekenhuis
422111	Préparation collective de 2 à 5 femmes enceintes, en milieu hospitalier, par femme enceinte	Collectieve voorbereiding van 2 tot 5 zwangere vrouwen in het ziekenhuismilieu, per zwangere vrouw
428411	Préparation collective de 2 à 5 femmes enceintes, en-dehors du domicile et du milieu hospitalier, par femme enceinte	Collectieve voorbereiding van 2 tot 5 zwangere vrouwen niet bij de patiënt thuis en buiten het ziekenhuismilieu, per zwangere vrouw
422133	Préparation collective de 6 à 10 femmes enceintes, en milieu hospitalier, par femme enceinte	Collectieve voorbereiding van 6 tot 10 zwangere vrouwen in het ziekenhuismilieu, per zwangere vrouw
428433	Préparation collective de 6 à 10 femmes enceintes, en-dehors du domicile et du milieu hospitalier, par femme enceinte	Collectieve voorbereiding van 6 tot 10 zwangere vrouwen niet bij de patiënt thuis en buiten het ziekenhuismilieu, per zwangere vrouw

Table 55 – Nomenclature codes for birth preparation provided by physiotherapists

Nomenclature code	Label in French	Label in Dutch
561595	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (prestation effectuée au cabinet du kinésithérapeute, situé en dehors d'un hôpital ou d'un service médical organisé)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (verstrekking verricht in de praktijkkamer van een kinesitherapeut, gelegen buiten een ziekenhuis of een georganiseerde medische dienst)
561610	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (prestation effectuée au cabinet du kinésithérapeute, situé dans un hôpital)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (verstrekking verricht in de praktijkkamer van een kinesitherapeut, gelegen in een ziekenhuis)

561632	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (prestation effectuée au cabinet du kinésithérapeute, situé en dehors d'un hôpital dans un service médical organisé)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (verstrekking verricht in de praktijkkamer van een kinesitherapeut, gelegen in een georganiseerde medische dienst buiten een ziekenhuis)
561654	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (prestation effectuée au domicile du bénéficiaire)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (verstrekking verricht bij de rechthebbenden thuis)
561676	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 20 minutes (prestation effectuée au domicile ou en résidence communautaires, momentanés ou définitifs, de personnes handicapées ou pour des bénéficiaires y séjournant)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 20 minuten heeft (verstrekking verricht in een tijdelijke of definitieve gemeenschappelijke woon- of verblijfplaats van mindervaliden of voor rechthebbenden die er verblijven)
561702	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (prestation effectuée au bénéficiaire hospitalisé)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (verstrekking verricht aan in een ziekenhuis opgenomen rechthebbenden)
561713	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (prestation effectuée dans des centres de rééducation fonctionnelle conventionnés - ambulant)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (verstrekking verricht in revalidatiecentra met een overeenkomst - ambulant)
561724	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (prestations effectuée dans des centres de rééducation fonctionnelle conventionnés – hospitalisé)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (verstrekking verricht in revalidatiecentra met een overeenkomst – gehospitaliseerd)

Table 56 – General nomenclature codes (not specific to pregnancy) – physiotherapy

Nomenclature code	Label in French	Label in Dutch
560011	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au cabinet du kinésithérapeute, situé en dehors d'un hôpital ou d'un service médical organisé)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (verstrekkingen verricht in de praktijkkamer van een kinesitherapeut, gelegen buiten een ziekenhuis of een georganiseerde medische dienst)
560055	Lorsque la séance 560011 ne peut être attestée compte tenu des limitations prévues au § 10 du présent article : séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au cabinet du kinésithérapeute, situé en dehors d'un hôpital ou d'un service médical organisé)	Als de zitting 560011 niet mag worden geattesteerd, rekening houdende met de in § 10 van dit artikel vastgestelde beperkingen: individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen verricht in de praktijkkamer van een kinesitherapeut, gelegen buiten een ziekenhuis of een georganiseerde medische dienst)
560114	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au cabinet d'un kinésithérapeute, situé dans un hôpital)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen verricht in de praktijkkamer van een kinesitherapeut, gelegen in een ziekenhuis)
560151	Lorsque la séance 560114 ne peut être attestée compte tenu des limitations prévues au § 10 du présent article : séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au cabinet d'un kinésithérapeute, situé dans un hôpital)	Als de zitting 560114 niet mag worden geattesteerd, rekening houdende met de in § 10 van dit artikel vastgestelde beperkingen : individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heft (Verstrekkingen verricht in de praktijkkamer van een kinesitherapeut, gelegen in een ziekenhuis)
560210	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au cabinet d'un kinésithérapeute, situé en dehors d'un hôpital dans un service médical organisé)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen verricht in de praktijkkamer van een kinesitherapeut, gelegen in een georganiseerde medische dienst buiten een ziekenhuis)

560254	Lorsque la séance 560210 ne peut être attestée compte tenu des limitations prévues au § 10 du présent article : séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au cabinet d'un kinésithérapeute, situé en dehors d'un hôpital dans un service médical organisé)	Als de zitting 560210 niet mag worden geattesteerd, rekening houdende met de in § 10 van dit artikel vastgestelde beperkingen individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen verricht in de praktijkkamer van een kinesitherapeut, gelegen in een georganiseerde medische dienst buiten een ziekenhuis)
560313	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au domicile du bénéficiaire)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen, verricht bij de rechthebbenden thuis)
560350	Lorsque la séance 560313 ne peut être attestée compte tenu des limitations prévues au § 10 du présent article : séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au domicile du bénéficiaire)	Als de zitting 560313 niet mag worden geattesteerd, rekening houdende met de in §10 van dit artikel vastgestelde beperkingen: individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen, verricht bij de rechthebbenden thuis)
560501	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées aux bénéficiaires hospitalisés)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen verricht aan in een ziekenhuis opgenomen rechthebbenden)
560534	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées dans des centres de rééducation fonctionnelle conventionnés)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen, verricht in revalidatiecentra met een overeenkomst)
560652	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au cabinet du kinésithérapeute, situé en dehors d'un hôpital ou d'un service médical organisé)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen verricht in de praktijkkamer van een kinesitherapeut, gelegen buiten een ziekenhuis of een georganiseerde medische dienst)
560770	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heef (Verstrekkingen

	globale moyenne de 30 minutes (Prestations effectuées au cabinet du kinésithérapeute, situé dans un hôpital)	verricht in de praktijkkamer van een kinesitherapeut, gelegen in een ziekenhuis)
560895	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au cabinet du kinésithérapeute, situé en dehors d'un hôpital dans un service médical organisé)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen verricht in de praktijkkamer van een kinesitherapeut, gelegen in een georganiseerde medische dienst buiten een ziekenhuis)
561013	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées au domicile du bénéficiaire)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen, verricht bij de rechthebbenden thuis)
561245	Séance individuelle de kinésithérapie dans laquelle l'apport personnel du kinésithérapeute par bénéficiaire atteint une durée globale moyenne de 30 minutes (Prestations effectuées aux bénéficiaires hospitalisés)	Individuele kinesitherapiezitting waarbij de persoonlijke betrokkenheid van de kinesitherapeut per rechthebbende een globale gemiddelde duur van 30 minuten heeft (Verstrekkingen verricht aan in een ziekenhuis opgenomen rechthebbenden)

APPENDIX 3. QUALITATIVE RESEARCH TOOLS

Appendix 3.1. Patient interviews

Appendix 3.1.1. Informed consent

Information essentielle à votre décision de participer

Introduction

Nous vous demandons de pouvoir collecter des informations relatives à vos coordonnées postales, téléphoniques et le cas échéant électroniques auprès de votre (vos) prestataire(s) de soins.

Hormis l'interview relative à vos attentes et votre vécu pendant la période prénatale, aucune autre procédure ne vous sera proposée.

Avant que vous n'acceptiez de participer à cette étude, nous vous invitons à prendre connaissance de ses implications en termes d'organisation, avantages et risques éventuels, afin que vous puissiez prendre une décision en toute connaissance de cause. Ceci s'appelle donner un « consentement éclairé ».

Veuillez lire attentivement ces quelques pages d'information et poser toutes les questions que vous souhaitez à l'investigateur ou à la personne qui le représente (voir section contact).

Ce document comprend 3 parties : l'information essentielle à votre prise de décision, votre consentement écrit et des informations complémentaires (annexes) qui détaillent certaines parties de l'information de base.

Si vous participez à cette recherche, vous devez savoir que :

- Cette étude est mise en œuvre après évaluation par le comité d'éthique Erasme-ULB.
- Votre participation est volontaire et doit rester libre de toute contrainte. Elle nécessite la signature d'un document exprimant votre consentement. Même après l'avoir signé, vous pouvez arrêter de participer en informant l'investigateur. Votre décision de ne pas ou de ne plus participer à l'étude n'aura aucun impact sur vos relations avec vos prestataires de soins.
- Les données recueillies à cette occasion sont confidentielles et votre anonymat est garanti lors de la publication des résultats.
- Une assurance a été souscrite au cas où vous subiriez un dommage lié à votre participation à cette recherche.
- Vous pouvez toujours contacter l'investigateur ou un membre de son équipe si vous avez besoin d'informations complémentaires.

Un complément d'informations sur vos « Droits de participant à une étude» est apporté en annexe 1.

Objectifs et déroulement de l'étude

Cette étude est organisée par le Centre Fédéral d'Expertise des Soins de Santé. Elle a pour objectif d'améliorer la prise en charge des femmes enceintes en Belgique en étudiant, notamment, les attentes et le vécu des parents pendant la période prénatale. Elle consistera à investiguer lors d'une interview le parcours de prise en charge prénatale, depuis la confirmation de la grossesse à la dernière consultation prénatale. Votre carnet de grossesse sera d'une grande aide pour vous permettre de vous remémorer les différentes étapes parcourues pendant les 9 mois de grossesse. Le nombre de consultations, le type de prestataires de soins rencontrés pendant la période prénatale, les informations reçues par les prestataires de soins, les temps d'attente éventuels, les relations avec les différents prestataires de soins, la préparation à la naissance sont autant de thématiques qui seront abordées lors de l'interview.

Nous vous proposons de participer à cette étude parce que votre gynécologue ou votre sage-femme vous a identifié parmi les participantes potentielles, dans le cadre de votre suivi de grossesse à faible risque.

Cette étude devrait inclure 24 couples, 12 néerlandophones et 12 francophones.

Pour pouvoir participer à l'étude vous devez être âgée entre 18 et 40 ans, parler le français ou le néerlandais, avoir accouché depuis 4 à 12 semaines. Votre grossesse ne doit pas avoir présenté de risques particuliers.

Votre participation à l'étude durera environ 1h30 le temps de l'interview. Cette dernière se déroulera à votre domicile ou dans un lieu choisi par vos soins.

L'investigateur vous demandera également de remplir un questionnaire court qui décrira votre contexte familial.

Remplir ce questionnaire vous prendra 5 minutes lors de l'interview et pourra être complété en collaboration avec votre partenaire et/ou l'interviewer.

Aucune demande d'information additionnelle ne vous sera demandée après l'interview.

Description des risques et bénéfices

Aucun risque, en termes de santé, ne peut être lié à votre participation à cette étude. Si toutefois vous ressentez un inconfort durant l'interview, nous vous invitons à l'interrompre immédiatement et à prendre contact avec votre médecin généraliste ou votre sage-femme. Si cet inconfort survient après l'interview, nous vous invitons également à prendre contact avec votre médecin généraliste pour en discuter avec lui.

De même, vous ne devez pas vous attendre à des bénéfices personnels du fait de votre participation à l'étude. Sachez seulement que votre participation nous permettra de mieux comprendre les points forts et les points faibles de l'organisation des soins prénatals en Belgique et donc de proposer de meilleures prises en charge à l'avenir.

Retrait de consentement

Votre participation est volontaire et vous avez le droit de retirer votre consentement à participer à l'étude pour quelque raison que ce soit, sans devoir vous justifier.

Si vous participez à cette recherche, nous vous demandons :

- De collaborer pleinement à son bon déroulement.
- De ne rien masquer comme information au sujet de votre état de santé, de médicaments que vous prenez ou de symptômes que vous ressentez qui pourrait rendre l'interview inconfortable pour vous.
- De vous munir de votre carnet de grossesse pour l'interview.
- D'être accompagnée, si possible, de votre partenaire.

Contact

Si vous avez besoin d'informations complémentaires, mais aussi en cas de problème ou d'inquiétude, vous pouvez contacter l'investigateur (Mme Stordeur, Sabine) ou un membre de son équipe de recherche (Mme Benahmed, Nadia) au numéro de téléphone suivant (02/ 287-33-22).

Attentes et vécu des parents pendant la période prénatale

Consentement éclairé

Participant

Je déclare que j'ai été informée de la nature de l'étude, son but, sa durée, et ce que l'on attend de moi. J'ai pris connaissance du document d'information et des annexes à ce document.

J'ai eu l'occasion de poser toutes les questions qui me sont venues à l'esprit et j'ai obtenu une réponse satisfaisante à mes questions.

J'ai compris que ma participation à cette étude est volontaire et que je suis libre de mettre fin à ma participation à cette étude sans que cela ne modifie mes relations avec mes prestataires de soins.

J'ai compris que des données me concernant seront récoltées pendant toute ma participation à cette étude et que l'investigateur et le promoteur de l'étude se portent garants de la confidentialité de ces données.

Je consens au traitement de mes données personnelles selon les modalités décrites dans la rubrique traitant de garanties de confidentialité (page 4/6).

J'accepte / n'accepte pas **(biffer la mention inutile)** que les données de recherche récoltées pour les objectifs de la présente étude puissent être traitées ultérieurement pour autant que ce traitement soit limité au contexte de la présente étude.

J'ai reçu une copie de l'information au participant et du consentement éclairé.

Nom(s), prénom(s),
Date

Signature du volontaire (et le cas échéant, de son partenaire)

Investigateur

Je soussigné, … , investigateur, confirme avoir fourni oralement les informations nécessaires sur l'étude et avoir fourni un exemplaire du document d'information au participant.

Je confirme qu'aucune pression n'a été exercée pour que le candidat accepte de participer à l'étude et que je suis prête à répondre à toutes les questions supplémentaires, le cas échéant.

Je confirme travailler en accord avec les principes éthiques énoncés dans la « Déclaration d'Helsinki », dans les « Bonnes pratiques Cliniques » et dans la loi belge du 7 mai 2004, relative aux expérimentations sur la personne humaine.

Nom, prénom, date et signature de l'investigateur

Annexe « Droits et protection du participant »

Comité d'Ethique

Cette étude a été évaluée par un Comité d'Ethique indépendant, à savoir le Comité d'Ethique Erasme-ULB, qui a émis un avis favorable. Les Comités d'Ethique ont pour tâche de protéger les personnes qui participent à une étude clinique. Ils s'assurent que vos droits en tant que patient et en tant que participant à une étude clinique sont respectés, qu'au vu des connaissances actuelles, l'étude est scientifiquement pertinente et éthique.

En aucun cas vous ne devez prendre l'avis favorable du Comité d'Ethique comme une incitation à participer à cette étude.

Participation volontaire

Avant de signer, n'hésitez pas à poser toutes les questions que vous jugez utiles. Prenez le temps d'en parler à une personne de confiance si vous le souhaitez.

Votre participation à l'étude est volontaire et doit rester libre de toute contrainte: ceci signifie que vous avez le droit de ne pas y participer ou de vous retirer sans justification même si vous aviez accepté préalablement d'y participer. Votre décision ne modifiera en rien vos relations avec l'investigateur.

Si vous acceptez de participer à cette étude, vous signerez le formulaire de consentement éclairé. L'investigateur signera également ce formulaire et confirmera ainsi qu'il vous a fourni les informations nécessaires sur l'étude. Vous recevrez l'exemplaire qui vous est destiné.

Garantie de confidentialité

Votre participation à l'étude signifie que vous acceptez que l'investigateur recueille des données vous concernant et les utilise dans un objectif de recherche. Les interviews sont enregistrées et retranscrites mot à mot. Lors de la retranscription, toutes données d'identification et de contact seront effacées. Après publication du rapport, les enregistrements seront détruits.

Vous avez le droit de demander à l'investigateur quelles sont les données collectées à votre sujet et quelle est leur utilité dans le cadre de l'étude. Vous disposez d'un droit de regard sur ces données et le droit d'y apporter des rectifications au cas où elles seraient incorrectes[vv].

L'investigateur a un devoir de confidentialité vis à vis des données collectées.

Ceci veut dire qu'il s'engage non seulement à ne jamais divulguer votre nom dans le cadre d'une publication ou d'une conférence mais aussi qu'il prendra toutes les mesures indispensables à la protection de vos données (protection des documents sources, code d'identification, protection par mot de passe des bases de données créées)[ww]. Les données personnelles collectées ne contiendront pas d'association d'éléments qui puissent permettre de malgré tout vous identifier[xx]. L'investigateur et son équipe seront les seuls à pouvoir faire le lien entre les données de recherche et votre identité[yy].

L'investigateur utilisera les données collectées dans le cadre de l'étude à laquelle vous participez mais souhaite également pouvoir les utiliser dans le cadre d'autres recherches menées dans le même contexte.

Assurance

Dans une étude observationnelle, le seul risque éventuel serait une faille dans les mesures prises pour protéger la confidentialité des renseignements à caractère privé vous concernant. Le promoteur assume, même sans faute, la responsabilité du dommage causé au participant (ou à ses ayants droit) et lié de manière directe ou indirecte à la participation à cette étude. Dans cette optique, le promoteur a souscrit un contrat d'assurance (Ethias, nr de police 45.403.095, Voos Virginie. Rue des Croisières 24 à 4000 Liège Tel : 04 220 36 08) [zz].

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vv Ces droits vous sont garantis par la loi du 8 décembre 1992 (amendée par la loi du 11 décembre 1998) suivie de la directive 95/46/CE du 24 octobre 2002 qui protège la vie privée et par les droits des patients définis par la loi du 22 août 2002.

ww En pratique, il constituera 2 bases de données différentes. L'une contiendra des données identifiantes comme vos nom, prénom, numéro de téléphone, numéro de dossier à l'hôpital et un code d'identification qu'il créera. L'investigateur ou un membre de son équipe seront les seuls détenteurs de cette première base de données. Votre code d'identification sera utilisé dans la 2de base de données en regard de tous les résultats expérimentaux recueillis pendant votre participation à l'étude. Cette 2de base de données peut être conservée indéfiniment. Ces 2 bases de données seront conservées séparément et seront protégées par un mot de passe. Si l'investigateur confie vos données pour traitement statistique, seule la seconde base de données sera confiée à cette tierce personne.

xx La base de données contenant les résultats de l'étude ne contiendra donc pas d'association d'éléments comme vos initiales, votre sexe et votre date de naissance complète (jj/mm/aaaa).

yy L'intégrité dans la recherche scientifique suppose que les résultats d'une recherche puissent être vérifiés, même après publication des résultats. Il est recommandé de conserver le lien entre données de recherche et identité du participant au moins 5 ans après la publication des résultats. Pour les essais cliniques (études sur médicaments), la loi oblige à conserver ce lien durant 20 ans.

zz Conformément à l'article 29 de la loi belge relative aux expérimentations sur la personne humaine (7 mai 2004)

Noodzakelijke informatie voor uw beslissing om deel te nemen

Inleiding

We vragen u om gegevens te mogen verzamelen via uw zorgverlener(s) in verband met uw contactadres, telefoonnummer en indien het geval eveneens uw e-mailadres.

Behalve het interview in verband met uw verwachtingen en beleving van de prenatale periode, zal er u geen enkele andere vorm van dataverzameling gevraagd worden.

Voordat u akkoord gaat om aan deze studie deel te nemen, vragen wij u om kennis te nemen van wat deze studie zal inhouden op het gebied van organisatie, voordelen en eventuele risico's, zodat u een weloverwogen keuze kunt maken. Dit wordt een "geïnformeerde toestemming" genoemd.

Wij vragen u de volgende informatiepagina's aandachtig te lezen. Hebt u vragen, dan kan u terecht bij de arts-onderzoeker of zijn of haar vertegenwoordiger (zie het gedeelte "contact").

Dit document bestaat uit 3 delen: essentiële informatie die u nodig heeft voor het nemen van uw beslissing, uw schriftelijke toestemming en bijlagen waarin u meer details terugvindt over bepaalde onderdelen van de basisinformatie.

Als u aan deze studie deelneemt, moet u weten dat:

- Deze studie goedgekeurd is door het ethische comité van Erasmus-ULB.
- Uw deelname vrijwillig is; er kan op geen enkele manier sprake zijn van dwang. Voor deelname is uw ondertekende toestemming nodig. Ook nadat u hebt getekend, kan u de onderzoeker laten weten dat u uw deelname wilt stopzetten. De beslissing om al dan niet (verder) deel te nemen zal geen enkele negatieve invloed hebben op de relatie met uw zorgverleners.
- De gegevens die in het kader van uw deelname worden verzameld, zijn vertrouwelijk. Bij de publicatie van de resultaten is uw anonimiteit verzekerd.
- Er werd een verzekering afgesloten voor het geval dat u schade zou oplopen in het kader van uw deelname aan deze studie.
- Indien u extra informatie wenst, kan u altijd contact opnemen met de onderzoeker of een medewerker van zijn of haar team.

Aanvullende informatie over uw "Rechten als deelnemer aan een studie" vindt u in bijlage 1.

Doelstellingen en verloop van de studie

Deze studie wordt georganiseerd door het Federaal Kenniscentrum van de Gezondheidszorg. Ze heeft als doel het verbeteren van de zorg voor zwangere vrouwen in België door het bestuderen van de verwachtingen en de beleving van ouders gedurende de prenatale periode. De studie zal gevoerd worden door middel van een interview die het pad zal bestuderen van prenatale zorg, vanaf de bevestiging van zwangerschap tot de laatste prenatale consultatie. Uw zwangerschapsboekje zal een grote hulp zijn om u de verschillende doorlopen stappen van de 9 maanden zwangerschap goed te herinneren. Het aantal consultaties, het type van zorgverlening gedurende de prenatale periode, informatie ontvangen van zorgverleners, eventuele wachttijden, de relatie met de verschillende zorgverleners, de voorbereiding van de geboorte zijn thema's die aan bod zullen komen tijdens het interview.

Wij stellen u voor om aan deze studie deel te nemen omdat uw gynaecoloog of vroedvrouw u geïdentificeerd heeft als mogelijke kandidaat, in het kader van uw zwangerschap met laag risico.

Aan deze studie zullen 24 koppels deelnemen waarvan 12 Nederlandstaligen en 12 Franstaligen.

Om aan deze studie te kunnen deelnemen, moet u tussen 18 en 40 jaar oud zijn, Nederlands of Frans spreken, en bevallen zijn tussen 4 en 12 weken geleden. Uw zwangerschap mocht geen specifieke (gezondheids)risico's bevatten.

Uw deelname zal ongeveer 1u30 duren, de duur van het interview. Het interview zal plaatsvinden ofwel bij u thuis, ofwel op een andere locatie naar keuze.

De onderzoeker zal u eveneens vragen om een korte vragenlijst in te vullen die uw familiale context zal beschrijven.

Het invullen van deze vragenlijst zal 5 minuten in beslag nemen tijdens het interview, en kan ingevuld worden samen met uw partner en/of de interviewer.

Geen enkele additionele informatie zal u gevraagd worden tijdens het interview.

Beschrijving van de risico's en van de voordelen

Uw deelname aan deze studie houdt geen enkel gezondheidsrisico in. Indien u echter tijdens het interview ongemak voelt, dan verzoeken we u om dit aan de interviewer te melden en indien nodig het interview te onderbreken. U kan vervolgens contact opnemen met uw huisarts of uw vroedvrouw.

Uw deelname aan deze studie ervoor zal zorgen dat de sterke en zwakke punten in de organisatie van prenatale zorg in België in kaart worden gebracht en beter begrepen, zodat in de toekomst (nog) betere prenatale zorg kan geboden worden

Intrekking van uw toestemming

U neemt vrijwillig deel aan deze studie en u hebt het recht om uw toestemming om gelijk welke reden in te trekken. U hoeft hiervoor geen reden op te geven.

Als u aan deze studie deelneemt, vragen wij om:

- Tenvolle mee te werken voor een correct verloop van de studie.
- Geen informatie te verzwijgen over uw gezondheidstoestand, de geneesmiddelen die u gebruikt of de symptomen die u ervaart die het interview ongemakkelijk zouden maken voor u.
- Uw zwangerschapsboekje bij u te hebben tijdens het interview.
- Indien mogelijk, vergezeld te zijn van uw partner.

Contact

Als u bijkomende informatie wenst, maar ook ingeval van problemen of als u zich zorgen maakt, kan u contact opnemen met de onderzoeker (Christiaens Wendy) op het telefoonnummer (02/ 287 33 21).

Verwachtingen en beleving van de prenatale periode

Geïnformeerde toestemming

Deelnemer

Ik verklaar dat ik geïnformeerd ben over de aard, het doel, de duur en dat ik weet wat van mij wordt verwacht. Ik heb kennis genomen van het informatiedocument en de bijlagen ervan.

Ik heb alle vragen kunnen stellen die bij me opkwamen en ik heb een duidelijk antwoord gekregen op mijn vragen.

Ik begrijp dat mijn deelname aan deze studie vrijwillig is en dat ik vrij ben mijn deelname aan deze studie stop te zetten zonder dat dit mijn relatie schaadt met mijn zorgverleners.

Ik begrijp dat er tijdens mijn deelname aan deze studie gegevens over mij zullen worden verzameld en dat de onderzoeker en de opdrachtgever de vertrouwelijkheid van deze gegevens verzekeren.

Ik stem in met de verwerking van mijn persoonlijke gegevens volgens de modaliteiten die zijn beschreven in de rubriek over het verzekeren van de vertrouwelijkheid (pagina 4/6).

Ik ga ermee akkoord / Ik ga er niet mee akkoord **(doorhalen wat niet van toepassing is)** dat de studiegegevens die voor de hier vermelde studie worden verzameld, later zullen worden verwerkt op geanomiseerde wijze, op voorwaarde dat deze verwerking beperkt blijft tot de context van de hier vermelde studie.

Ik heb een exemplaar ontvangen van de informatie aan de deelnemer en de geïnformeerde toestemming.

Na(a)m(en), voorn(a)m(en)

Datum

Handtekening van de deelnemer (en indien het geval, ook de partner)

Onderzoeker

Ik ondergetekende …. , onderzoeker, verklaar de benodigde informatie inzake deze studie mondeling te hebben verstrekt evenals een exemplaar van het informatiedocument aan de deelnemer te hebben verstrekt.

Ik bevestig dat geen enkele druk op de deelnemer is uitgeoefend om hem/haar te doen toestemmen met deelname aan de studie en ik ben bereid om op alle eventuele bijkomende vragen te antwoorden.

Ik bevestig dat ik werk in overeenstemming met de ethische beginselen zoals vermeld in de "Verklaring van Helsinki", de "Goede klinische praktijk" en de Belgische wet van 7 mei 2004 inzake experimenten op de menselijke persoon.

Naam, voornaam, datum en handtekening van de onderzoeker

Bijlage "Rechten en bescherming van de deelnemer"

Ethisch comité

Deze studie werd geëvalueerd door een onafhankelijk ethisch comité Erasmus-ULB dat een gunstig advies heeft uitgebracht. De ethische comités hebben als taak de personen die aan klinische studies deelnemen te beschermen. Ze controleren of uw rechten als patiënt en als deelnemer aan een studie gerespecteerd worden, of de studie wetenschappelijk relevant en ethisch verantwoord is.

U dient het positief advies van de Ethische Comités in geen geval te beschouwen als een aansporing om deel te nemen aan deze studie.

Vrijwillige deelname

Aarzel niet om alle vragen te stellen die u nuttig vindt voordat u tekent. Neem de tijd om er met een vertrouwenspersoon over te praten, als u dit wenst.

U heeft het recht om niet deel te nemen aan deze studie of met deze studie te stoppen zonder dat u hiervoor een reden hoeft te geven, zelfs al hebt u eerder toegestemd om aan deze studie deel te nemen. Uw beslissing zal in geen geval uw relatie met de onderzoeker veranderen.

Als u aanvaardt om aan deze studie deel te nemen, ondertekent u het toestemmingsformulier. De onderzoeker zal dit formulier ook ondertekenen en zal zo bevestigen dat hij/zij u de noodzakelijke informatie voor deze studie heeft gegeven. U zult het voor u bestemde exemplaar ontvangen.

Garantie van vertrouwelijkheid

Uw deelname aan de studie betekent dat u akkoord gaat met het feit dat de onderzoeker gegevens over u verzamelt en ze gebruikt in het kader van het onderzoek. De interviews zullen opgenomen worden en woordelijk uitgeschreven worden. Tijdens het uitschrijven zullen identificatie- en contactgegevens gewist worden. Na publicatie van het rapport zullen alle opnames vernietigd worden.

U hebt het recht de onderzoeker te vragen welke gegevens hij over u verzameld heeft en welk nut ze hebben in het kader van de studie. U hebt eveneens het recht om deze gegevens in te kijken en te verbeteren indien ze onjuist zouden zijn[aaa].

De onderzoeker moet de verzamelde gegevens vertrouwelijk behandelen.

Dit betekent dat hij er zich toe verplicht uw naam niet bekend te maken in het kader van een publicatie of een conferentie maar dat hij eveneens alle maatregelen zal nemen noodzakelijk voor de bescherming van uw

[aaa] Deze rechten zijn u gegarandeerd door de wet van 8 december 1992 (bij amendement gewijzigd in de wet van 11 december 1998) gevolgd door de richtlijn 95/48/CE van 24 oktober die het privéleven beschermt en door de rechten van de patiënten bepaald door de wet van 22 augustus 2002.

gegevens (bescherming van de brondocumenten, identificatiecode, bescherming van de gegevens door middel van paswoord)[bbb].

De ingezamelde persoonlijke gegevens bevatten geen associatie van elementen die u kunnen identificeren[ccc]. De onderzoeker en zijn team zullen de enige personen zijn die een verband kunnen leggen tussen de studiegegevens en uw identiteit[ddd].

De onderzoeker zal de verzamelde gegevens gebruiken in het kader van de studie waaraan u deelneemt maar wil ze ook kunnen aanwenden in het kader van andere studies in dezelfde context.

Verzekering

In een observationele studie is het enige mogelijke risico een probleem met de maatregelen die werden genomen om de vertrouwelijkheid van uw persoonsgegevens te beschermen.
De opdrachtgever is, ook indien er geen sprake is van fout, aansprakelijk voor de schade die u als deelnemer - of in geval van overlijden uw rechthebbenden - oplopen en die rechtstreeks of onrechtstreeks te wijten is aan de deelname aan deze studie. Hiervoor heeft de opdrachtgever een verzekeringscontract afgesloten (Ethias, polisnummer 45.403.095, Voos Virginie. Rue des Croisières 24 à 4000 Liège Tel : 04 220 36 08)[eee].

Appendix 3.1.2. Study protocol

Detailed study protocol is available upon request to KCE (info@kce.fgov.be)

bbb In de praktijk stelt hij 2 verschillende databases op. De eerste bevat de persoonlijke gegevens, zoals uw naam, voornaam, telefoonnummer, dossiernummer van het ziekenhuis en een identificatiecode. De investigator of een lid van zijn ploeg zijn de enige houders van deze eerste database. Uw identificatiecode wordt gebruikt in de tweede database als referentiecode voor de ingezamelde experimentele resultaten tijdens uw deelneming aan de studie. Deze tweede database kan onbeperkt bewaard worden. Deze 2 databases zijn apart bewaard en door een password beschermd. Mochten uw gegevens voor statistische verwerking aan een derde toevertrouwd worden, dan zal uitsluitend de tweede database aan deze derde persoon toevertrouwd worden

ccc De database met de studieresultaten bevatten dus geen associatie van elementen zoals uw initialen, geslacht en uw volledige geboortedatum (dd/mm/jjjj).

ddd Integriteit in het wetenschappelijk onderzoek gaat ervan uit dat de resultaten ook na de publicatie van de resultaten kan worden geverifieerd. Het wordt aanbevolen om de koppeling tussen onderzoeksgegevens en de identiteit van de deelnemer tenminste vijf jaar na de publicatie van de resultaten te houden. Voor klinische studies (studies over drugs), bij wet verplicht om deze relatie te houden voor 20 jaar.

eee Conform artikel 29 van de Belgische wetgeving inzake experimenten op de menselijke persoon (7 mei 2004)

Appendix 3.1.3. Interview guide

INTRODUCTION

1. Introduce KCE
2. Introduce ourselves
3. Introduce the project :
    a. The topic,
    b. The overall methodology,
    c. The specific method for the parents' interviews, and explain why the participation is important for the project,
    d. The output and how to get the final report.
4. Read and explain the informed consent: at the start of the interview the interviewer will explain the informed consent form to the parents. It is explained that the interview is recorded and that a transcript of the interviews will be made. Parents are guaranteed that the recording of the interviews will be deleted when the transcripts are made. In addition parents are guaranteed that the transcripts will not contain data that could disclose the identity of the patient and that they are only read by the researchers. Also the analysis and reporting will be done in a way guaranteeing anonymity of the individuals. Parents are asked to sign the consent form which is also signed by the researcher. Also after this parents can stop participation to the study at any time without any disadvantages.
5. Explain how the interview will unfold

FAMILY CONTEXT AND CHARACTERISTICS OF THE PREGNANCY

Please read with the participant and fill in the questionnaire presented in below [available upon requesto to info@kce.fgov.be]

THE PRENATAL PATH

Ask to the participants, if they have the mother book. If they do not have the mother book, ask to participants if they have an agenda with the planning of appointments with health professionals.

Topic 1: The overall prenatal path

If you think about your pregnancy and the care you received, what is your general feeling about that?

What are the things you feel particularly happy about?

What are the things you feel particularly disappointed about?

[For the Interviewer: After that you would go in further detail by going through the care trajectory step by step]

Topic 2: Preconception consultation

Can you recall the time when you decided to try to become pregnant?

What were your needs and questions at that moment and how did you proceed to find answers to these needs/questions?

Depending on the answer, the following probing questions can be asked:

Did you see a health care professional before you actually were pregnant?

Which health care provider?

How come you chose this particular person?

Did you visit him/her together?

Did the consultation meet your expectations?

If not, how come?

Topic 3: Discovery of pregnancy

Can you tell me about the moment you began to suspect you were pregnant? What did you do?

Depending on the answer, the following probing questions can be asked:

How did you discover that you are pregnant?

Urine Test?

Presence of the partner?

Time after the last menstruation?

Is the pregnancy planed? A good or a bad news or surprise?

Topic 4: The first appointment with a health professional

When you think about your first appointment with midwife/gynaecologist, how did you experience that?

What were your expectations and have your expectations been fulfilled? If not, what did you miss?

Depending on the answer, the following probing questions can be asked:

Which health care provider? How come you chose this particular person? Did you visit him/her together?

How do you judge the time to get an appointment? Fast and easy, not too long but I expected sooner, too long (i.e. there is a waiting list to see a gynaecologist therefore my first appointment was with a midwife)…

Did you receive too much, enough, too less information? What kind of information?

Topic 5: Consultations during the first trimester

Can you tell me about the appointments you had in the first three months of your pregnancy? How did that go?

How do you feel about the appointments you had with gynaecologist/midwife during the first three months of your pregnancy? Did they fulfil your needs? Did you get the answers to your questions? Did they meet your expectations?

Depending on the answer, the following probing questions can be asked:

Which professionals were involved in the follow-up? Were the same professionals during the overall pregnant period? For ultrasound, other gynaecologist?

Did you feel listened too, did you feel understood?

If several health care providers, did you have the feeling to repeat your story every time?

Did you have trouble to reach a (or your) health professional in case of problem with the pregnancy? Did you go to the emergency department and why?

Did you receive information about prenatal testing (i.e. Trisomy 21)? Did you do prenatal testing? Did you have the feeling that you received enough information to choose? Did you have time to consider the different options? Did you have the feeling that you have a real choice for prenatal testing or did you have the feeling that it was imposed? Did you have to schedule yourself the appointment for prenatal testing?

Topic 6: Consultations during the second trimester

Can you tell me about the appointments you had between month 3 and 6 of your pregnancy? How did that go?

How do you feel about the appointments you had with gynaecologist/midwife between month 3 and month 6 of your pregnancy? Did they fulfil your needs? Did you get the answers to your questions? Did they meet your expectations?

Depending on the answer, the following probing questions can be asked:

Which professionals were involved in the follow-up? For ultrasound, other gynaecologist?

Did you have trouble to reach a (or your) health professional in case of problem with the pregnancy? Did you go to the emergency department and why?

Did you receive information about vaccination? Did you perform vaccination? Did you have the feeling that you received enough information to choose wisely? Did you have time to consider the different options? Did

you have the feeling that you have a real choice or did you have the feeling that it was imposed?

Did you receive (enough) information about birth and parenthood preparation?

Topic 7: Consultations during the third trimester

Can you tell me about the appointments you had the last three months of your pregnancy? How did that go?

How do you feel about the appointments you had with gynaecologist/midwife the last three months of your pregnancy? Did they fulfil your needs? Did you get the answers to your questions? Did they meet your expectations?

Depending on the answer, the following probing questions can be asked:

Which professionals were involved in the follow-up? For ultrasound, other gynaecologist?

Did you have trouble to reach a (or your) health professional in case of problem with the pregnancy? Did you go to the emergency department and why?

How many weeks for your pregnancy?

Did you receive more consultation at the end of the pregnancy?

How did you deal with the warning sign? Did you have the feeling that you were supported?

Topic 8: Overall evaluation of prenatal path

In total how many consultations with health care professionals did you have (related to your pregnancy). *[For the Interviewer: Please refer to the mother book]*

Questions for both

How was it to find your way through all the prenatal services?

Did you feel well prepared for a) birth and b) the days in hospital after birth and c) the first days at home?

Do you estimate that the health professional were **gentle** with you (mother and partner)?

Did you receive response to all your **questions**? Was you able to ask questions without embarrassment?

Did you feel that someone **listened to you**?

Are you satisfied with **the quality of care** you received?

Did you follow **birth preparation lessons**? Why and by whom? Presence of partner? Satisfaction? Expectation?

Did you follow **parenthood preparation lessons**? Why and by whom? Presence of partner? Satisfaction? Expectation?

Did you consult a physiotherapist?

Were you satisfy with the number of **consultations**? The scheduling of antennal consults? The price? The waiting time to have an appointment and the waiting time in the waiting room? Did you have the feeling that all consultations (medical and/or preparation) you attended were useful?

Did you have an appointment with a **social worker**?

If yes was it needed, supportive, how many times and when?…

If no what would you expect from social worker? Would it be useful?

Did you have an appointment with a **nutritionist**?

If yes was it needed, supportive, how many times and when?…

If no what would you expect from a nutritionist? Would it be useful?

Did you have an appointment with a **psychologist**?

If yes was it needed, supportive, how many times and when?…

If no what would you expect from a nutritionist? Would it be useful?

Questions for the partner

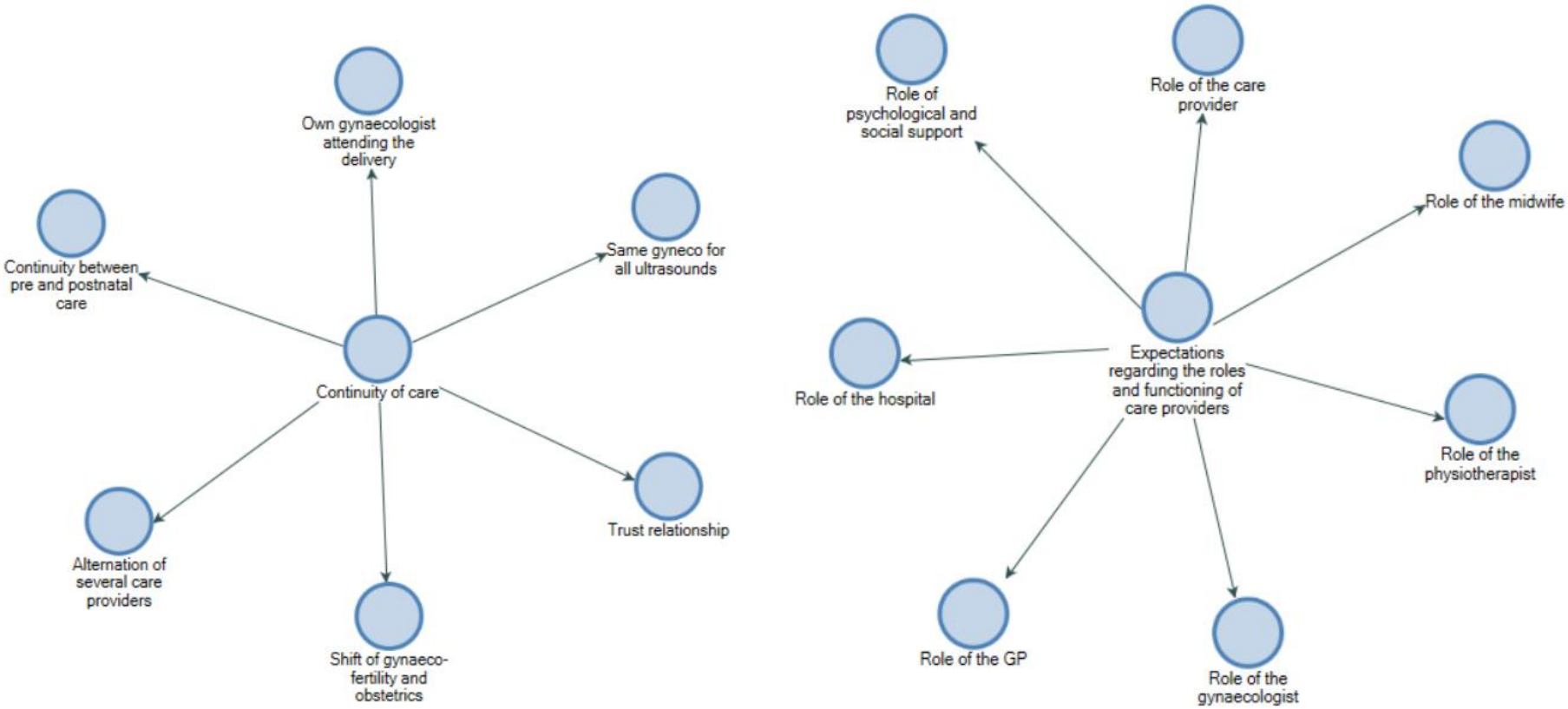
Did you attend all the consultations? If not, why? (not easy with the work, do not feel useful,…)

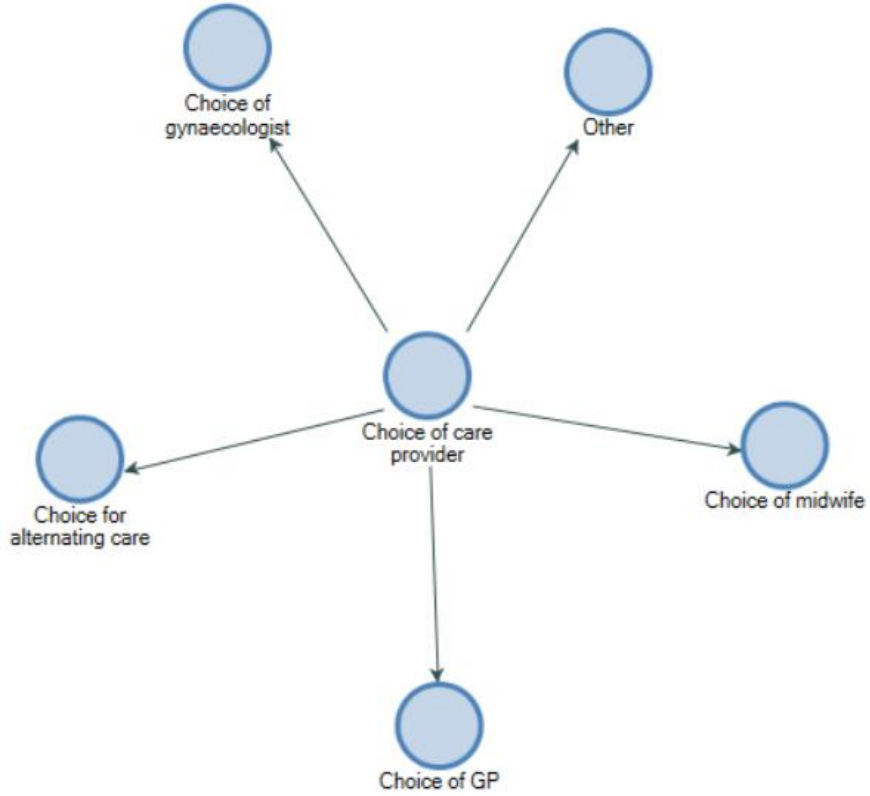
What was your role during the consultations?

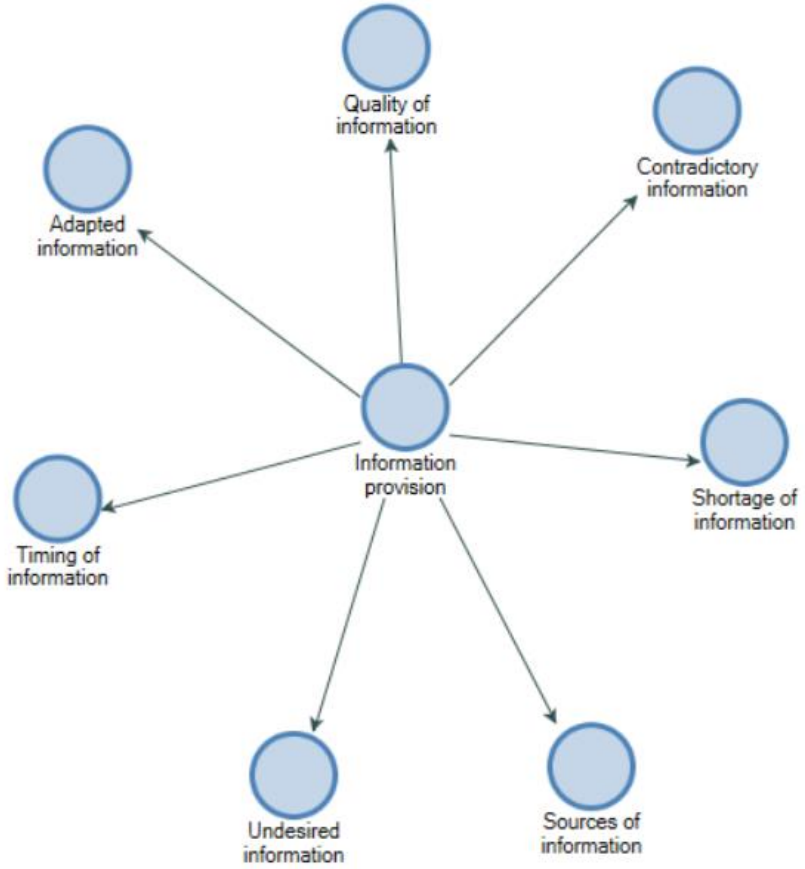
Did you feel involved in the consultation or to have a spectator role? What was your expectation?

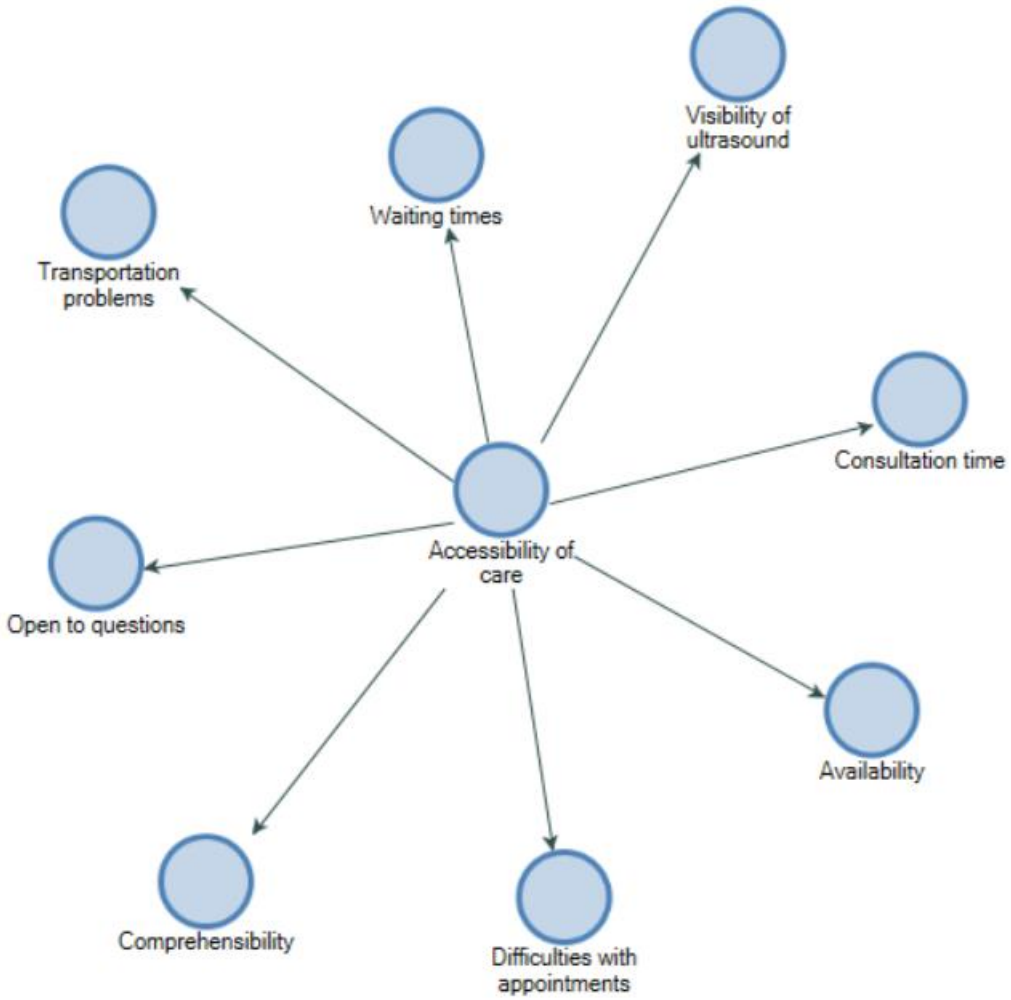
Did you receive enough information regarding the role of the partner during pregnancy, during birth and during the days after birth?

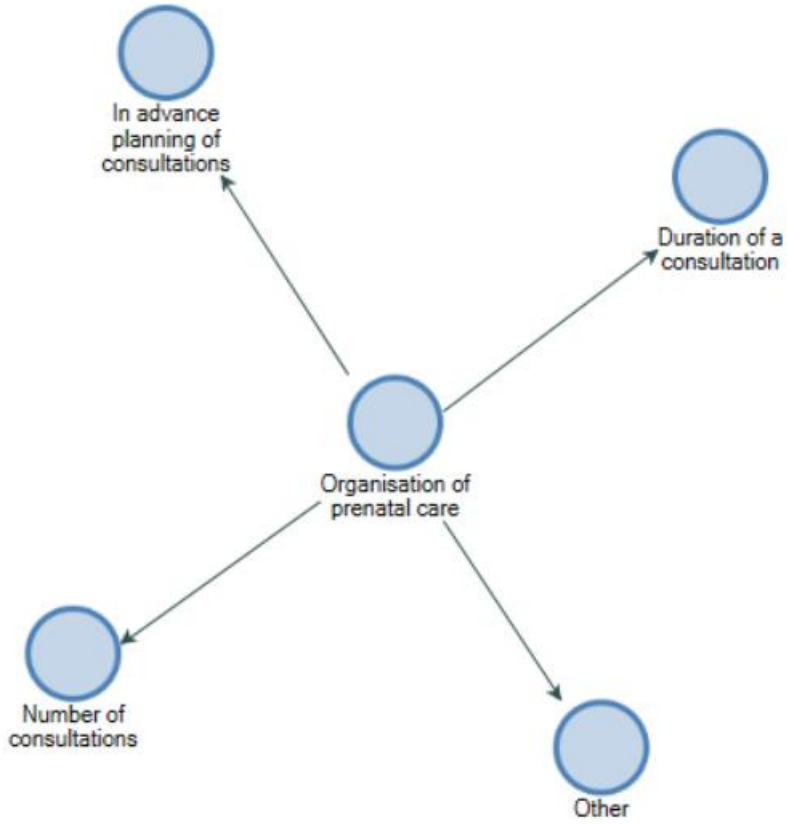
Appendix 3.2. Inductive approach: themes and categories

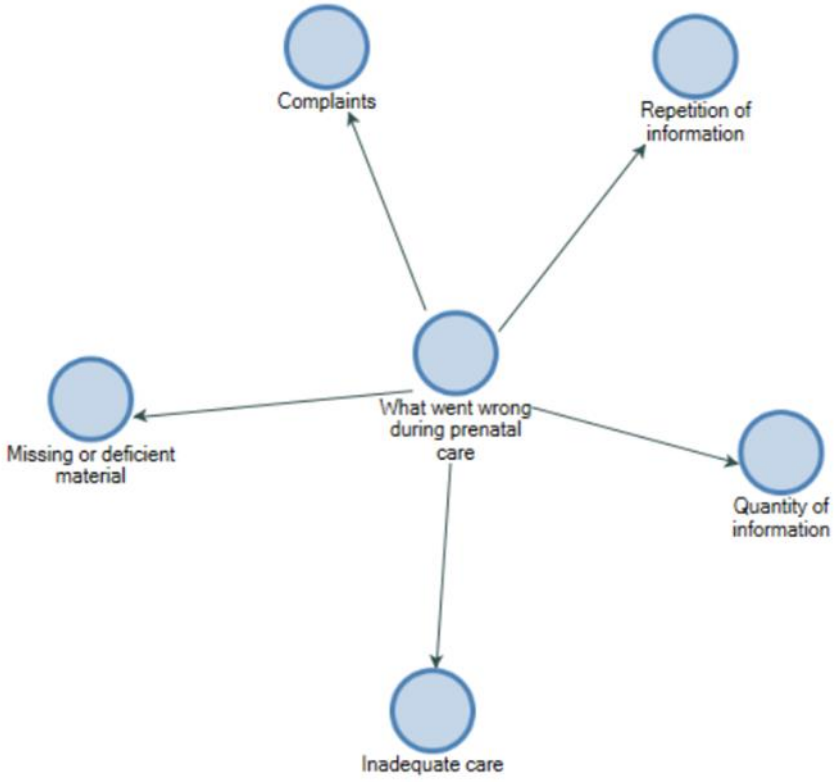


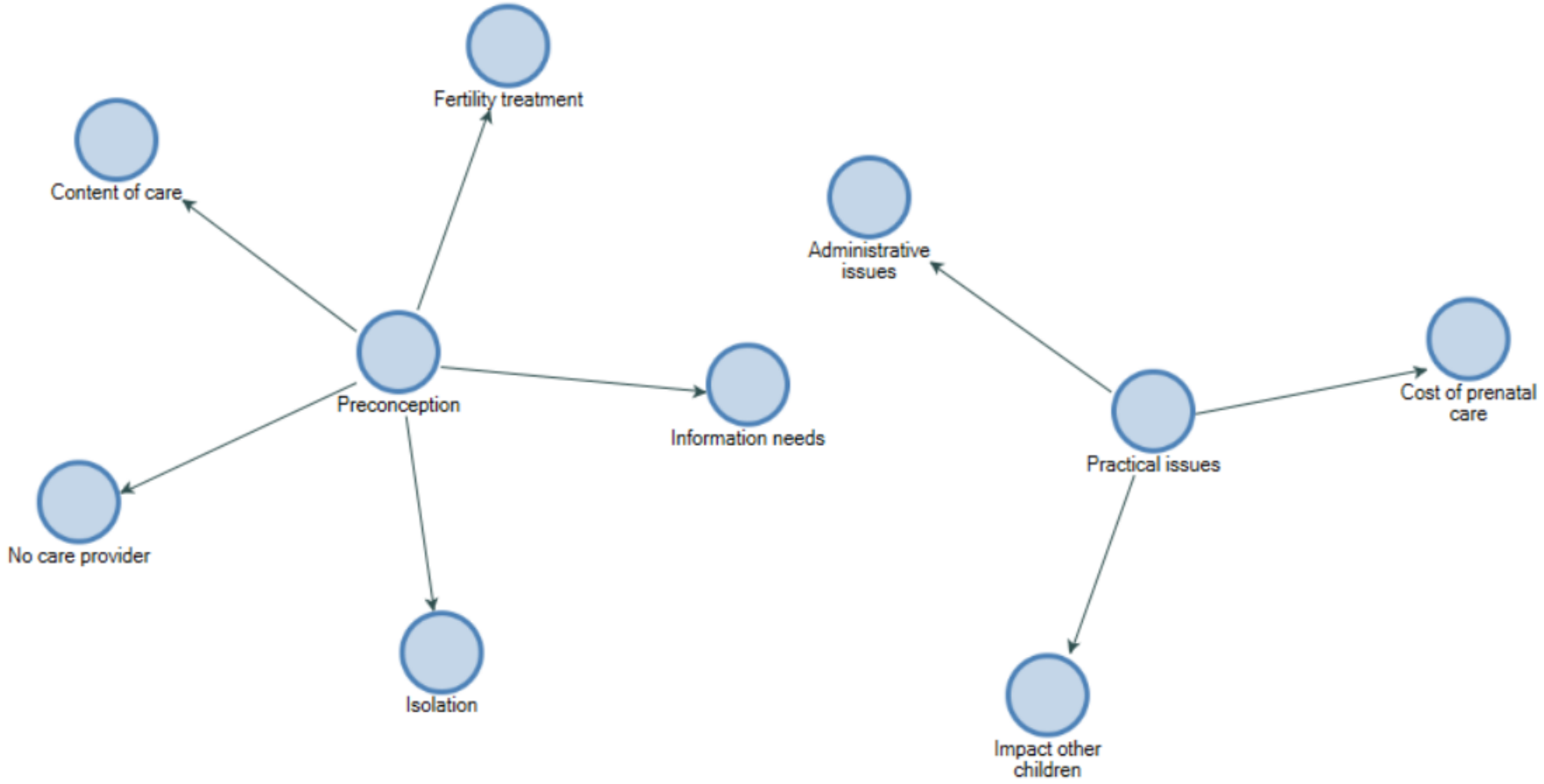

Choice of gynaecologist
Other
Choice of care provider
Choice for alternating care
Choice of midwife
Choice of GP

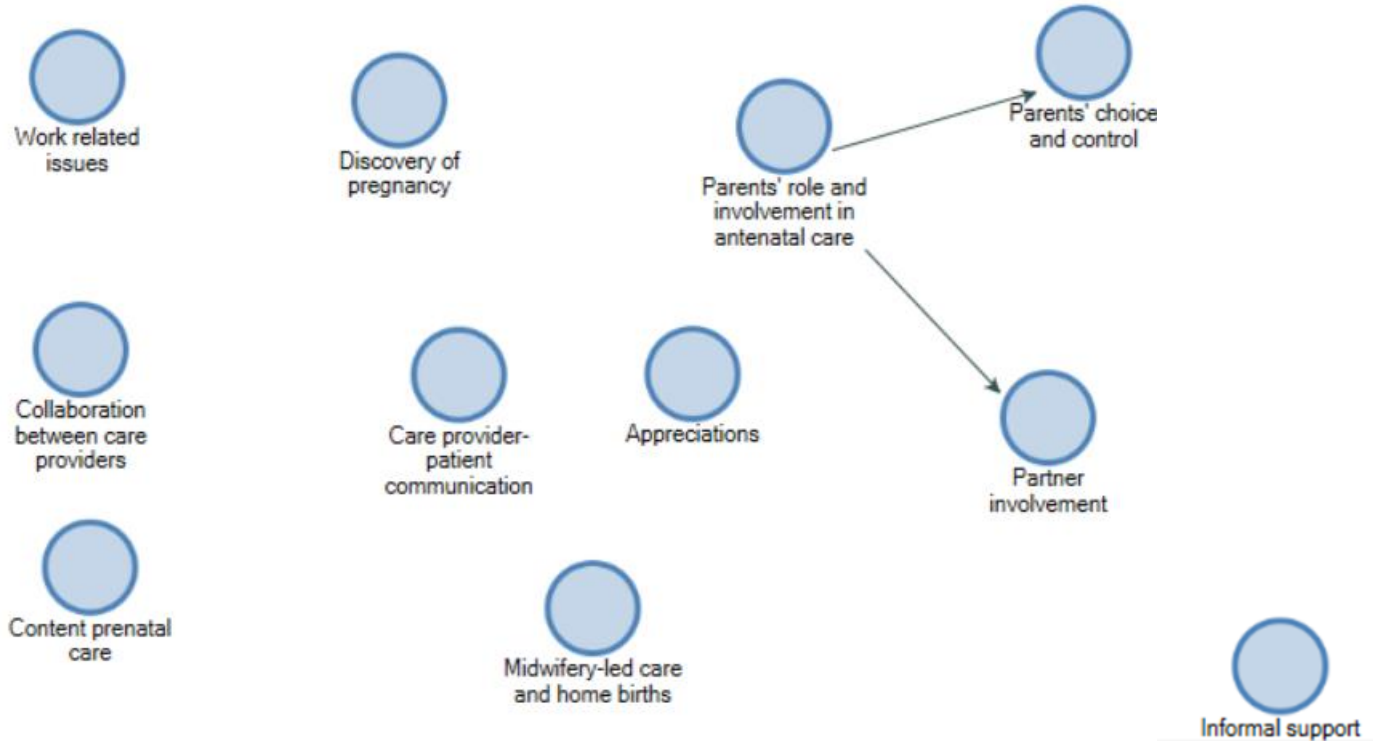

Quality of information
Contradictory information
Adapted information
Information provision
Shortage of information
Timing of information
Undesired information
Sources of information


Visibility of ultrasound
Waiting times
Transportation problems
Consultation time
Accessibility of care
Open to questions
Availability
Comprehensibility
Difficulties with appointments


In advance planning of consultations
Duration of a consultation
Organisation of prenatal care
Number of consultations
Other


Complaints
Repetition of information
What went wrong during prenatal care
Missing or deficient material
Quantity of information
Inadequate care


Fertility treatment
Content of care
Preconception
Information needs
No care provider
Isolation
Administrative issues
Practical issues
Cost of prenatal care
Impact other children


Work related issues
Discovery of pregnancy
Parents' role and involvement in antenatal care
Parents' choice and control
Collaboration between care providers
Care provider-patient communication
Appreciations
Partner involvement
Content prenatal care
Midwifery-led care and home births
Informal support

Appendix 3.3. Brainstorming with professionals

Figure 48 – Diagnostic tool (Namanh)

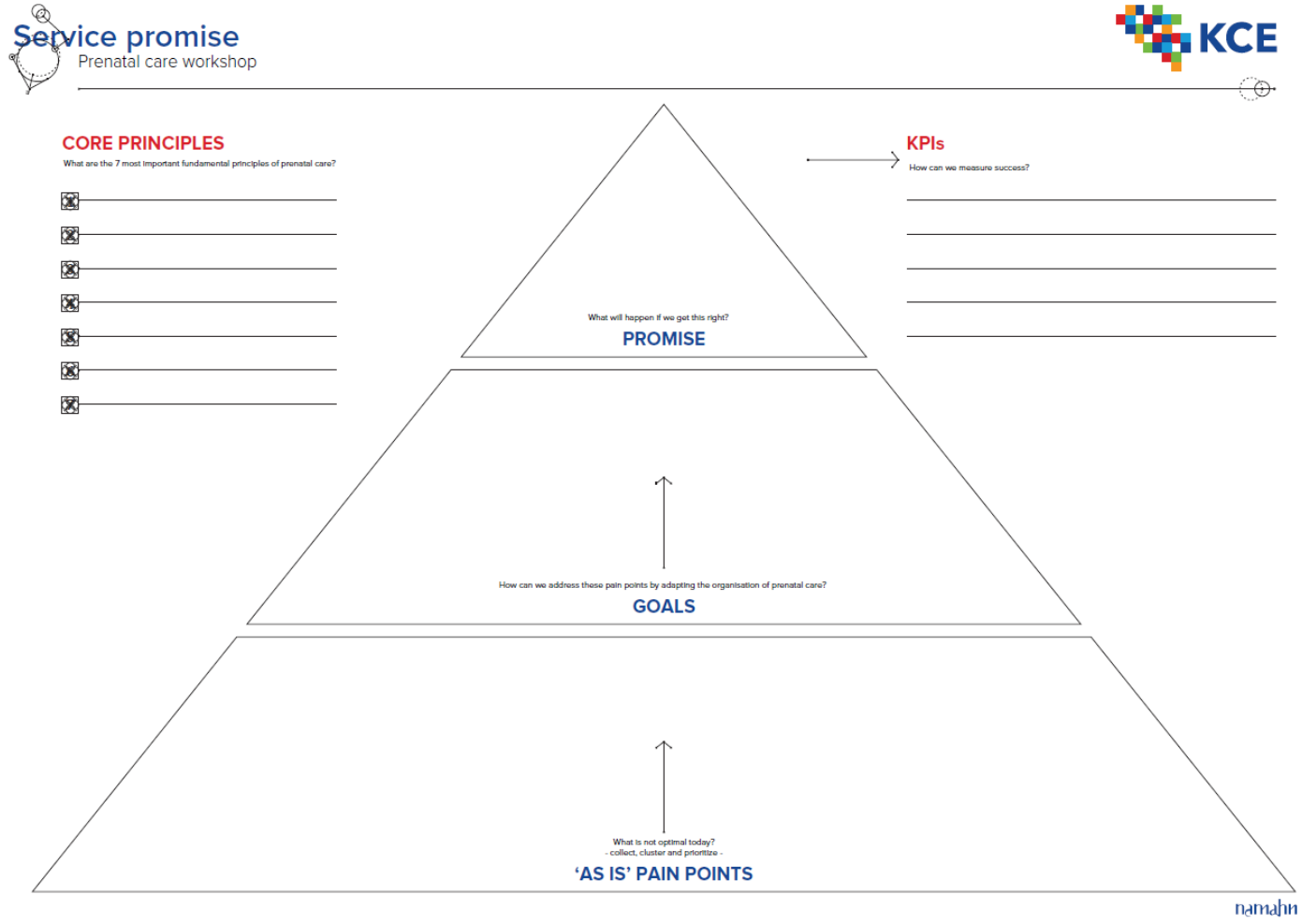
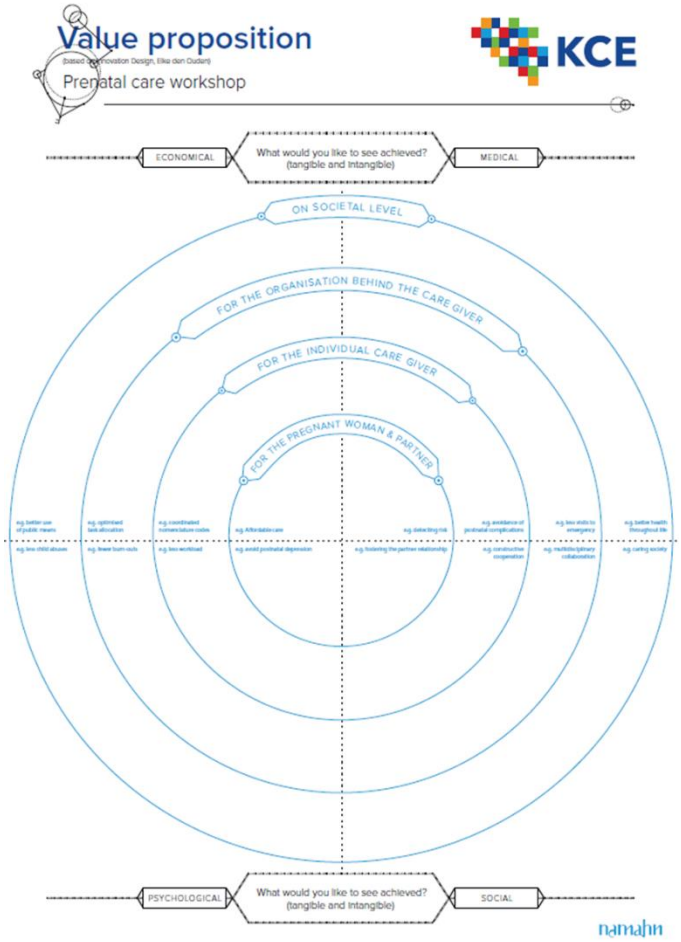


Figure 49 – Value proposition tool (Namanh)



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