KCE REPORT 232Cs

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

SYNTHESIS

CARING FOR MOTHERS AND NEWBORNS AFTER UNCOMPLICATED DELIVERY: TOWARDS INTEGRATED POSTNATAL CARE

Belgian Health Care Knowledge Centre

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HEALTH SERVICES RESEARCH

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FORWORD

There are some amazing experiences that occur only once or a few times at most over the life course. The birth of a child is definitely one of those - it brings with it a mixture of joy, emotion, amazement, but also a certain degree of anxiety. Parents are often confronted with little obstacles or problems to overcome, such as fatigue, breastfeeding that does not run as smoothly as expected, neonatal jaundice, recovery problems on the part of the mother, etc. A lot of questions emerge over the period shortly after the birth and new parents do not know where to find answers. They cannot fall back on their own experience, because they hardly have had time to learn from their parents' experiences, caring for younger brothers and sisters. So they look for medical solutions.

What is actually one of the most natural events in life has become highly medicalized over the course of the past century. It is certainly a good thing to give nature a helping hand At the one hand, the expert guidance from physicians and midwives amongst others reduced maternal and neonatal mortality. At the other hand the medical world also took over the organisation of maternity care, especially in our country. The length of hospital stay after birth often depends more on certain local traditions than on medical needs or the conscious choice of the parents. Gradually change is happening, but very slowly, because a number of factors (e.g. hospitalisation insurance, the hospital's valued "hotel" function, parent expectations, fragmented home care, etc.) tend to promote long hospital stays.

This study has been requested by various partners: the National Institute for Health and Disability Insurance, the Belgian Ministry of Health, Food Chain Safety and the Environment, and Expertisecentrum Kraamzorg De Bakermat [The Cradle Maternity Care Expertise Centre]. We are looking into how real alternatives can be developed for the days spent in hospital after birth - in other words, how postnatal care can get closer to daily life at home. This study could not, of course, have been carried out without the help of the professionals who deal with these issues on a day-to-day basis: gynaecologists and obstetricians, paediatricians, midwives, general practitioners, and organisations providing maternity home assistance. We also received input from mothers as experts by experience. We would like to thank all of them for their valued contribution to this project.

Christian LÉONARD
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General director

ABSTRACT

BACKGROUND

In Belgium every year about 121,000 women give birth. Most of them (98.8%) deliver in hospital and have a hospital stay of four to five days. This length of stay is among the longest in OECD countries, but there is a clear trend towards shorter hospital stays after childbirth. In 1991 the national average length of stay after a delivery was 6.9 days, in 2011 this was 4.1 days.

OBJECTIVE

The aim of this report is to study the current organisation and use of postnatal care in Belgium in order to propose avenues for future postnatal care of high quality in Belgium. For that purpose the research addresses five questions related to the “normal” postnatal trajectory after uncomplicated vaginal delivery:

1. How is postnatal care in Belgium organised, used and financed?
2. What are the drivers and barriers regarding shorter postnatal hospital stays with follow-up at home among health care professionals and mothers?
3. How is postnatal care organised in a selection of other countries, more specifically the UK, the Netherlands and Sweden?
4. Are there consequences of shorter postnatal hospital stays (with follow-up at home) for the quality of care?
5. What are the financial consequences of shorter postnatal hospital stays with follow-up at home?

METHODS

This study combined several methods: the analysis of administrative datasets (IMA-AIM database and the TCT coupled data) to map the current use of postnatal care facilities; cost-estimations by means of theoretical scenarios; narrative literature review to learn about the consequences of shorter hospital stays for the quality of care and to see how shorter hospital stays can be complemented with other care facilities; qualitative research (focus group interviews with mothers, health care professionals and other stakeholders) to identify drivers and barriers regarding shorter postnatal stays with follow-up at home. Finally the research team developed and submitted building blocks for integrated and seamless postnatal care in Belgium to 44 stakeholders.

RESULTS

Organization of postnatal care in Belgium

Several problems in the organisation of postnatal care have been identified. First, the tendency to shorten hospital stays after childbirth creates a care vacuum in the first crucial week, especially because home and support facilities are fragmented, are unknown by new parents and are characterised by large regional differences. This care vacuum is especially problematic for vulnerable groups. Second, single rooms and hospital insurances encourage long hospital stays after childbirth, while the current hospital payment system incentivises shorter hospital stays. Third, midwives doing follow-up at home consider themselves as underpaid. The decreasing rates in function of the time lapse after delivery, could lead to adverse effects. Fourth, health care professionals fill in the same information about childbirth several times in incompatible datasets. The linkage between epidemiological clinical and administrative data on childbirth on a population level is therefore challenging. Fifth, evidence-based clinical guidelines for postnatal care exist abroad, but are not translated to the Belgian context. Sixth, vulnerable families are more likely to drop out of care especially in the context of shorter hospital stays, fragmented follow-up at home and limited informal support networks. Currently, economically deprived mothers who are often most in need of care, leave the hospital earlier than mothers without financial problems.

How to improve postnatal care in Belgium: building blocks

Postnatal care of high quality requires

- the implementation of a multidisciplinary perinatal network around every mother and newborn, sharing a web-based care plan and care coordination and registration tool;
- the appointment of perinatal care coordinators in each perinatal care network;
- the creation of a National Perinatal Care Platform bringing together all the organisations involved in perinatal care;
- the introduction of postnatal preparation during antenatal midwife consultations starting in early pregnancy and resulting in a postnatal care plan;
- the organisation of postnatal follow-up at home by midwives;
- the development and implementation of readmission procedures for newborns and their mothers;
- a multidisciplinary evidence-based clinical pathway;
- guidelines and quality criteria;
- the development of a coherent framework for maternity home assistance;
- the promotion of peer support.

This project details also the requirements for achieving these activities such as an appropriate workforce and payment systems, in support of shorter hospital stays and integrated postnatal care.

CONCLUSION

This research project offered the opportunity to reflect on quality of postnatal care in Belgium and to propose ways to improve it by shifting from hospital to home care. Today many well-intended bottom-up initiatives try to improve the delivery of postnatal care after short hospital stays but these initiatives are dispersed, unknown by the parents who could benefit from them. This research offers building blocks and 10 policy recommendations for the future of postnatal care in Belgium. The next step will be to transform these recommendations into more concrete actions to achieve postnatal care of high quality for all, with special attention for vulnerable families.

SYNTHESIS

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1. INTRODUCTION

1.1. Postnatal care matters for many

The total number of deliveries for the most recent available year (2011) is 120 657 (source: N documents, INAMI-RIZIV). There are 99 maternity units in Belgium. In 2011, the number of deliveries per unit varied from 208 to 4979 and was on average 1190:

- the 10 maternity wards in Brussels performed on average 2 230 deliveries (median = 2156);
- the 34 Walloon wards performed on average 1009 deliveries (median = 748);
- the 55 Flemish wards performed on average 1112 deliveries (median = 868).

Most women deliver in hospital (n = 119 163 or 98.8% in 2011); the number of outpatient deliveries, i.e. deliveries either at home, in a birth centre, or in one-day hospitalisation[a] is rather stable around one percent of the total number of deliveries (n = 1494 or 1.2% in 2011). Taking a closer look, there is a slight increase in outpatient deliveries (+11% from 2003 to 2011, or 71 extra outpatient deliveries).

For Belgium, the total proportion of caesarean sections (CS) was 20.36% in 2011 (n = 23 997, Belgium, IMA-AIM) (Flanders: 20%, Brussels: 20% and Wallonia: 21%). The proportion of caesarean sections varies widely between hospitals from 12.7% to 31.5%. In Flanders instrumental deliveries (forceps and vacuum extraction) represented about 10% of all deliveries, in Wallonia 7.5% and Brussels 8.4% (SPE, 2011; Cepip, 2011). The number of normal vaginal deliveries was 70.3% for Flanders,72.6% for Brussels and 73.3% for Wallonia in 2011 (SPE, 2011, Cepip, 2011).

[a] No stay overnight.

1.2. The trend towards shorter hospital stays after childbirth in its societal context

1.2.1. Shorter length of stay after childbirth

The international literature describes reductions in the length of hospital stay after childbirth as a trend in the postnatal care provision in almost all Western industrialized countries. In the 1950s hospital stays of 11 to 14 days were not unusual, while currently average stays of 3 days or less are common in many western countries.[1]

In Belgium the length of postnatal stay (after normal delivery) has declined too. In 1991 the national average length of stay after a delivery was 6.9 days. In 2000 this decreased to 5.59 days and 4.1 days in 2011.[2, 3] This average length is among the highest ones in OECD countries. The OECD average in 2011 was 3.0 days with the shortest average length of stay (for normal deliveries) in the UK with 1.6 days.[3]

1.2.2. The formalisation of support resources during the transition to parenthood

Over the three last decades, women's experiences with care following childbirth have changed substantially. Reduction in the length of hospital stay means postnatal care in practice returns to the homes. However women have today little chances to get familiar with pregnancy, birth and the care for babies.[4] nuclear families are now small and women have no or few role models. In addition, intergenerational proximity[5] is limited: parents and grown-up children do not live as close to each other as a few decades ago. Furthermore, female employment can play an important role: the mothers benefit from maternity leave, but they are at home alone, since their partner, their peers, even their mother are at work during the day. Finally, northern and central European countries, including Belgium, are being characterised by weak family ties, meaning that individual values have priority over family loyalties.[6] These societal developments have resulted in limited informal support resources, leaving mothers and fathers alone with the responsibility of taking care of their newborn.

At the same time, strong welfare states like Belgium, offer welfare benefits (e.g. maternity leave, child allowance) and health care to support families. Today informal support (e.g. from family members or friends) is partially replaced by formal support resources (e.g. from health care professionals) during the transition to parenthood. A shortening of the hospital stay after birth should not entail a reduction of this formal support and quality of care.

The way a society welcomes its children, reflects its dominant social values and beliefs.[7] In Belgium, like in most western countries, childbirth is highly medicalised and institutionalised. Previous research[8] into Belgian women's childbirth preferences revealed that many feel comfortable with medical care around pregnancy and childbirth and are satisfied with hospital stay after childbirth. Parents often do not question the care they received and find it difficult to image that it could have been different. They often assume that what is, must still be best.[9]

Many women actively seek professional care and support during childbearing, a period characterised by increased feelings of uncertainty, fragility and sensitivity, and in which coping resources and adaptability are heavily challenged. This critical life stage is often experienced as overwhelming, as changes in many facets of life come together: the body, identity, family, work, relationships etc. The importance of feeling well cared for and of knowing where to go in case of problems, is therefore extremely important. Good postnatal care lays the foundations not only for a healthy new life, but also for solid families and happy parents and children.

1.3. Goal: conceptualisation of building blocks for integrated and seamless postnatal care in Belgium

This report presents the current organisation and use of postnatal care in Belgium, its weaknesses and suggestions for improvement.

The following research questions are addressed:

1. How is postnatal care in Belgium organized, used, and financed?
2. How is postnatal care organised in a selection of other countries, more specifically the UK, the Netherlands and Sweden?
3. What are the drivers and barriers regarding shorter postnatal stays with follow-up at home among health care providers and mothers?
4. Are there consequences of shorter postnatal hospital stays (with follow-up at home) for the quality of care?
5. What are the financial consequences of shorter postnatal hospital stays with follow-up at home?

This report focuses on the "normal" postnatal trajectory, including neonatal screening and breastfeeding practices. Unplanned consultations for post-partum related complications or health problems of the mother and/or the baby are not the main focus of this study.

1.4. Definitions

1.4.1. Healthy mothers and term infants

The focus of this research project is women who have an uncomplicated vaginal delivery of a healthy infant of at least 2500 gr at term (i.e. at 37 to 42 weeks of pregnancy).

1.4.2. Postnatal period

For the purpose of the study postnatal care was definied as *the care for mother and newborn(s) after an uncomplicated vaginal birth and starting from the moment mother and newborn(s) leave the delivery room, up until six weeks after birth*. The notion uncomplicated refers to the delivery iself. The use of pharmaceuticals to induce labor or epidural anaesthesia are not considered as complicating factors, while caesarean sections, pre-term deliveries, low-birth weights and multiple births are.

1.5. Methods

Several research methods have been used to answer the research questions:

- **Analysis of administrative datasets** (IMA-AIM database and the TCT coupled data) in order to map the actual use of currently existing postnatal care facilities.
- **Cost-estimations** by means of theoretical scenarios.
- **Narrative literature review**, including grey literature in order to learn about the consequences of shorter hospital stays for quality of care, and to identify international examples of how shorter hospitals stays can be complemented with other care facilities.

- **Qualitative research** by means of focus group interviews with mothers (n=18), obstetricians and paediatricians (n=15), midwives (19), representatives of maternity home assistance organisations (n=5) and general practitioners (n=5) to identify the drivers and barriers of shorter postnatal stays with follow-up at home.
- **Meetings with experts** (n=44) in the field of postnatal care, who got the opportunity to comment on each chapter in the scientific report.

2. PROBLEMS IN THE ORGANISATION OF POSTNATAL CARE

Several problems in the organisation of postnatal care have been identified, both at a macro and local level of societal organisation.

2.1. Macro level problems

Postnatal care in Belgium is characterised by geographic variability for example in average length of hospital stays, the availability of primary care givers providing follow-up at home and the access to maternity home assistance.The following problems have been identified at a macro level, indicating that there is room for improvement:

- **Organisational problems**

  The tendency to shorten hospital stays after birth creates a care vacuum in the crucial first week, especially because home care and support facilities are fragmented, are unknown by new parents, and are characterised by large regional differences (e.g. maternity home assistance is non-existent in the French Community, the German-speaking Community, a great variability of services is observed in the Flemish Community). The care vacuum is especially problematic for vulnerable groups such as families affected by poverty, family violence, psychological problems and/or substance misuse.

- **Financing of hospital and home care**

  Single rooms and hospital insurances encourage long hospital stays after childbirth, while the current hospital payment system incentivises shorter hospital stays. At the same time follow-up at home is underdeveloped. The actual organisation and financing of hospital and home care are not attuned to each other.

  Midwives providing follow-up at home consider themselves as underpaid. The degressive tariffs in function of the time lapse after delivery, could lead to perverse effects, e.g. some organisations or midwifery practices offer follow-up only up to day 6, because of the low tariffs for postpartum consultations after day 6.

- **Uncoordinated data registration**

  Data about childbirth are registered but in addition to the hospital patient records: this means that health care professionals fill in the same information a number of times in datasets that are incompatible. The linkage between epidemiological, clinical and administrative data on childbirth on a population level is therefore challenging.

- **Absence of evidence-based guidelines**

  Evidence-based clinical guidelines for postnatal care exist abroad, but are not translated to the Belgian context.

- **Equity issues need particular attention**

  Vulnerable families are more likely to drop out of care especially in a context of shortening hospital stays, fragmented follow-up at home and limited informal support networks. Currently, financially deprived mothers who are often most in need of care, leave the hospital earlier than mothers without financial problems[10] (See chapter 4.3 of the scientific report).

2.2. Dispersed local initiatives

This research project identified several initiatives to compensate for shorter hospital stays at different organisational levels, for example the development and use of a clinical pathway for short stays, hospital midwives providing follow-up at home, associations of midwives providing follow-up at home, and initiatives to support vulnerable families. These initiatives rely on the goodwill of a small number of health care providers currently addressing unmet postnatal care needs in their daily work practice. None of these initiatives are embedded or supported on a system's level.

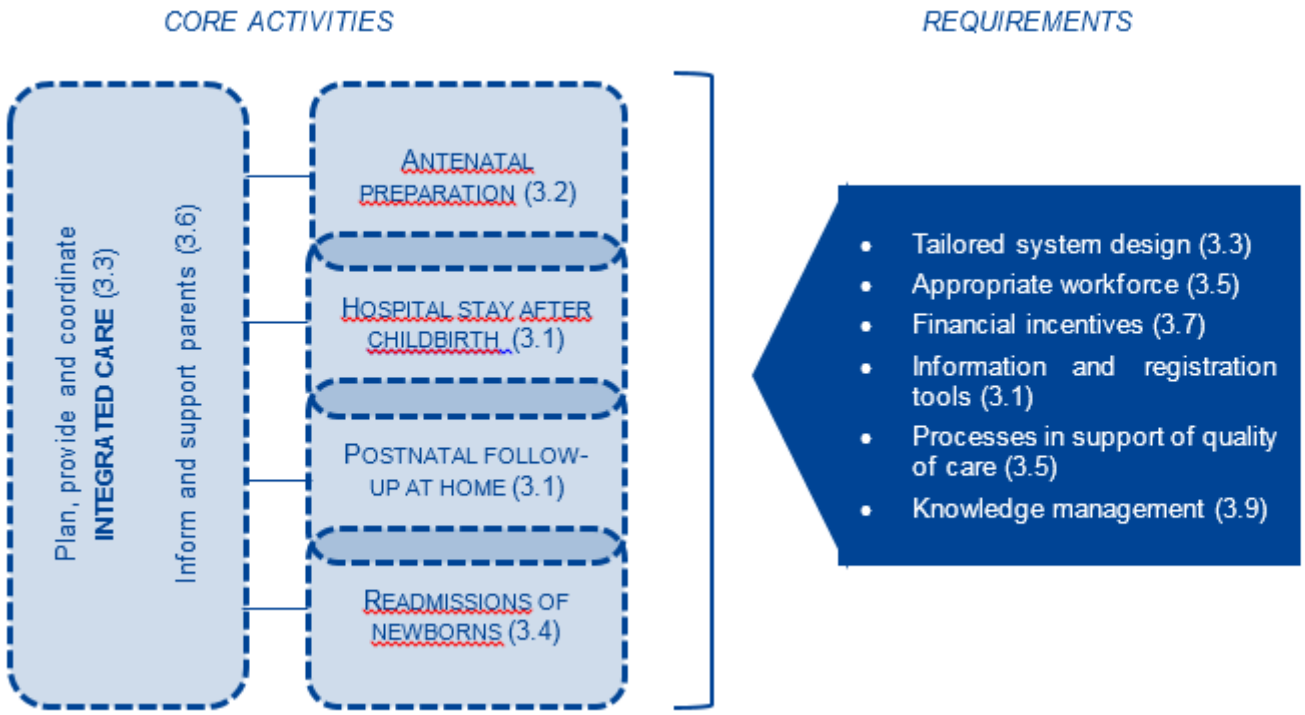
3. BUILDING BLOCKS FOR INTEGRATED AND SEAMLESS POSTNATAL CARE IN BELGIUM

The following paragraphs present building blocks to improve postnatal care in Belgium. Their definition was inspired by the position paper on the organisation of care for chronic health problems.[11] The draft version of the synthesis has been presented to a panel of stakeholders in July 2014.

Postnatal care is the focus of the recommendations but links with the whole perinatal care trajectory and maternity care system are made when appropriate and relevant.

Figure 1 represents the conceptual model for integrated and seamless postnatal care provision. Each core activity is associated with specific recommendations, and detailed in action points referring to the requirements for implementation.

Figure 1 – Building blocks for integrated postnatal care provision



3.1. Plan and coordinate postnatal care

Recommendation 1

Prioritise the organisation of follow-up at home in order to provide integrated, hence seamless postnatal care. In order to be successful interprofessional cooperation, coordination between secondary and primary levels of care and monitoring quality of postnatal care need to be developed, supported and maintained.

For the majority of parents their stay at the maternity unit lends structure to their postnatal experiences. Moreover, for many parents, postnatal care is limited to hospital care. Home care consists then for example of a K&G/ONE/DKF home visit usually at two and six weeks post birth. Other organisations and care providers offer postnatal care and support, but parents are often not aware of these services. This is especially problematic for vulnerable families.

In addition, from the focus group interviews with health care professionals and mothers we concluded that shortening hospital stays within the current context would create a care vacuum in the first, most crucial week. In the following paragraphs we offer a framework to develop integrated and seamless postnatal care and define the requirements to make the framework successful. Optimal collaboration between professions, coordination between primary and secondary care and quality monitoring and assessment, are essential requirements for the provision of integrated care.[12] Integrated postnatal care is a continuum, transcending hospital walls and embedded in the maternity care system as a whole.[13] Antenatally the conditions should be created for optimal postnatal outcomes.

The current lack of cooperation and information transfer between providers of postnatal care leads to fragmentation in care, inequality in access to high quality care, and contradictory information to parents (See chapter 4.3 of the scientific report). Cooperation between health care professionals involved in perinatal care needs to be facilitated by the development of multidisciplinary postnatal care networks, tools to share information and adequate financing structures.

3.1.1. A multidisciplinary perinatal care network around each mother and newborn

Recommendation 2

Develop and implement multidisciplinary perinatal care networks around each mother and newborn, that share a computer-based care plan and care coordination tool, based onthe current global patient record (Globaal medisch dossier/Dossier Medical Global).

In Belgium, the care for mothers and their babies was and still is predominantly the realm of maternity units. However their leading role is under pressure by the decreasing length of hospital stay after delivery. In order to assure the quality of postnatal care provision, a shift from hospital-centred to primary care is needed. Currently, women consult several health care professionals throughout pregnancy, birth and postpartum: obstetrician, paediatrician, midwife, general practitioner, maternity home assistant, and lactation specialist. These professionals operate independent from each other, with the woman being often the only link. Information transfer between professionals mostly depends on whether women bring their follow-up booklet (moederboekje/carnet de la mère) along. The communicative role of women should only be in support of interprofessional communication, instead of being the main source.[14]

This is especially problematic in case of referral: suboptimal interprofessional communication was heavily emphasised by the health care professionals and is a recurrent theme in maternity care reforms in other countries, such as the Netherlands.[15] Collaboration and communication between professionals and coordination of care should be established in order to build a network around each (future) mother. Developing teamwork around the mother and newborn raised questions about the freedom to choose ones care provider. Teamwork envisaged in this report is not a rigid straightjacket but should be adapted to the mother's preferences.

Tools to facilitate perinatal care networks and shared care are addressed in the following paragraphs. They include:

- **a coordination tool**: a shared web-based maternity record, based on the Global Medical Record (GMD/DMG);
- **a registration tool**: administrative and epidemiological (eBirth) data should be easily generated from the maternity record;
- **a preparation tool**: a formal postnatal care plan including a postnatal care module and standard tools for the assessment of parents' perinatal care needs and preferences.

3.1.2. Coordinate, register and prepare by means of a shared web-based maternity record

Action point 2.1: Prioritise the development and implementation of a shared web-based maternity record integrated in the global patient record (Globaal medisch dossier/Dossier Medical Global), accessible for mothers and able to automatically generate input for administrative and epidemiological registration institutions. The shared digital maternity record between caregivers could be fully integrated into the framework of eHealth.

To cooperate means sharing information

Today many health care professionals involved in postnatal care have their own computer-based medical recording system (e.g. Emergentis for midwives, e.g. Gynaedoc for gynaecologists, e.g. Paediadoc for paediatricians). This heterogeneity creates a threat for multidisciplinary cooperation because the recording systems are incompatible and hence do not exchange information. In addition, health care professionals still need to duplicate information: they fill in their own electronic record, a liaison form to inform other care providers, the mother's and/or child's follow-up booklet developed by K&G/ONE/DKF, etc (See chapter 4.3 scientific report). Recently, K&G started a pilot project to develop an electronic medical record (in collaboration with eHealth and Vitalink) accessible for other health care professionals. This way for example GPs should be able to see when a child got his/her last vaccination or consult his/her growth curve.

Need for a shared maternity record

A shared web-based maternity record, encompassing a postnatal, as well as a prenatal and intrapartum module, should be developed to facilitate cooperation and information transfer between health care professionals. Furthermore its use would reduce the administrative workload of care professionals by avoiding duplicate information input.

Ideally, this record would be integrated as a module in the global medical record (GMD/DMG). In addition, it should be compatible with new mobile technologies (e.g. responsive design or apps for smartphones) to allow its use for home care setting. Sharing information on the medical history and postnatal care plan is vital to ensure that all partners in postnatal care take coordinated actions. The shared web-based maternity record should have the following characteristics:

- Being shared between professionals (including obstetricians, paediatricians, general practictioners, midwives, maternity home assistants, nurses from K&G/ONE/DKF, physiotherapists), with levels of disclosure and access appropriate for each of them;
- The newborn should have its own record linked to its mother's record;
- Being conceived as to give the mother reading access to the whole record and writing access to parts of the record. Typically, mothers would insert notes, such as results of self-monitoring and make changes in the postnatal care plan;
- The record should be designed in a way that it can automatically generate (customized) administrative data (e.g. for municipalities) and epidemiological data for registration institutions (e.g. SPE, CePiP, Royal Degree 1999 on birth registration);
- The shared digital maternity record should contain safeguards for the confidentiality of the data and privacy of the patient;
- The record should be developed and extensively field-tested in close collaboration with the users.

In Belgium, the development of a shared digital maternity record between caregivers could be fully integrated into the framework of eHealth.

Also the coordination between in- and outpatient care could be improved through the shared maternity record by allowing messaging and alerts by for

example e-mail, iCalendar or SMS, for example to inform general practitioners about discharge and the appointment of a midwife for follow-up at home.

Action point 2.2: Integrate the registration of health service use and epidemiological data (eBirth) in the shared web-based maternity record. Facilitate the management and analysis of these data by enabling the linkage between newborns and their mother and by providing newborns a social security identification code (national number) immediately after birth.

Health service use data

Currently, babies born without complications do not receive a national number (used by the sickness funds to reimburse their members) during their hospital stay after birth. Hospital costs are invoiced to the mother. Consequently, only mothers, but not newborns can be identified in administrative data. Therefore it is very challenging to follow the care trajectory and map health care consumption patterns of newborns from birth onwards. For example, currently we cannot trace whether among readmitted newborns, those with a short hospital stay after birth are overrepresented. Not only readmissions, but also ambulatory emergency visits and newborns' outpatient health consumption are important cost drivers which could in turn serve as quality indicators of postnatal care.

Databases are available, such as the MZG-RHM data for hospital stays and the IMA-AIM data for care consumption data (without clinical data). However, to study the postnatal care consumption over time, a coupling of these datasets is needed. This coupling is possible by means of the national number. Since newborns currently do not receive a national number immediately after birth, this coupling is impossible, hence outpatient services (e.g. paediatrician) or the readmission in another hospital cannot be linked to a newborn's hospital stay after birth.

Epidemiological data

Today eBirth is implemented throughout the country to simplify, optimise and integrate birth registration procedures between health care professionals (in- and outside hospitals), communities and other parties involved within regional or federal administrations. SPE (Studiecentrum voor Perinatale Epidemiologie) and CePiP (Centre d'Epidémiologie Périnatale) are being integrated in this initiative. The integration of eBirth in a shared web-based maternity record would simplify data registration procedures, since care providers would need to fill in only one record, which is then subsequently shared by all stakeholders involved, including administrative authorities and health care professionals.

3.1.3. Perinatal care coordinators

Action point 2.3: appoint a perinatal care coordinator in each perinatal care network.

A perinatal care coordinator should be a permanent contact point and reference person for (future) parents during pregnancy, birth, and postnatal period (See Dutch example in Box 1). He/she guarantees continuity of care at turning points in the perinatal care trajectory, for example when mother and newborn are discharged. The role could be taken up by amongst others midwives, obstetricians or general practitioners active in perinatal care. Ideally the perinatal care coordinator would be accompanying (future) parents throughout pregnancy, birth, hospital stay and follow-up at home. The care coordinator could take the lead in perinatal care networks and organise network meetings to discuss specific problems. The perinatal care coordinator's role is elastic and is stretched or reduced in function of the parents' needs and preferences. The extent of the care coordinator's role should be defined during antenatal care consultations. The care coordinator's role might be especially valuable for vulnerable families.

As mentioned in the position paper on the organisation of care for chronic health problems,[11] developing patient-centered teamwork could raise concerns about the patient' legal right to choose his/her caregiver. However, the teamwork recommended in this report does not refer to a rigid structure/procedure but rather to a flexible structure that should be adapted to patient's preferences. An example of such a flexible approach would be the existing teamwork currently in place in the hospital setting: patient's satisfaction is the result of a positive perception of the quality of care provided by a team. Concretely the patient does not choose a specific physiotherapist or nurse but in case of problems shifts within the team are possible.

Box 1 – Dutch measures to optimise the organisation of maternity care

The Dutch Steering Group Pregnancy and Childbirth ('Stuurgroep Zwangerschap en geboorte') developed three initiatives.[15]

The **appointment of a case manager** (EVA of 'Eerste Verloskundig Aanspreekpunt'): every pregnant woman needs a reference care provider, who guides her through pregnancy, childbirth and the postnatal period. In principle the case manager role is fulfilled by the woman's own midwife, general practitioner or obstetrician. The case manager is responsible for the coordination of the care needed and should guarantee continuity of care.

A **compulsory antenatal home visit around the 34th week of pregnancy** to observe the family situation and to identify social problems, to provide prenatal education and health promotion, to assess whether the home situation is suited to give birth and spend the postnatal period, to decide which adaptations are necessary to make the home a safe environment. The case manager is responsible for the home visit, but does not necessarily have to do the visit him/herself. In addition to the antenatal home visit, an intake takes place for the organisation of the maternity home assistance. This should also take place before the seventh month of pregnancy, preferably by means of a home visit.

The **development of a birth plan**: the case manager together with the pregnant woman develops a tailored care plan before the 12th week of pregnancy, postnatal care is included.

These three new initiatives are now being implemented, but not yet systematically and with a lot of regional variation.

3.1.4. National Perinatal Care Platform

Action point 2.4: Bring together all the organisations involved in perinatal care in a National Perinatal Care Platform.

The cooperation between health care professionals in care networks, should be reflected in a **National Perinatal Care Platform** representing all the organisations involved in perinatal care, hence bringing together a.o. the College of physicians for mothers and newborns (College van geneesheren voor de moeder en de pasgeborene/Collège des médecins pour la mère et le nouveau-né) and the Federal council for midwives (Federale raad voor de vroedvrouwen/Conseil fédéral des sages-femmes), representations from the NIDHI (RIZIV/INAMI), the agencies for prevention and support to young children and their parents (K&G/ONE/DKF), the centres of expertise maternity care (Expertisecentra Kraamzorg), representation from professional organisations of general practitioners (Domus Medica/SSMG), parents (Gezinsbond/League de famille) and data registration bodies (SPE, CePiP).

The National Perinatal Care Platform could take care of the integration of the postnatal care programme in the whole maternity care system.

3.2. Antenatal preparation resulting in an individual postnatal care plan

Recommendation 3

Antenatal care needs to be integrated with postnatal care. Introduce postnatal preparation during antenatal consultations starting in early pregnancy. Let the preparation result in a postnatal care plan, integrated in the shared maternity record and guarded by the perinatal care coordinator.

Integrated postnatal care must be embedded in the maternity care system as a whole, meaning that prenatally the conditions should be created for optimal postnatal outcomes.

Action point 3.1: Antenatal preparation should result in a postnatal care plan that could be added to the shared postnatal care module of the electronic maternity record.

High quality postnatal care starts during pregnancy. Especially in case of short hospital stays, preparation during pregnancy is recommended[10, 16]. During several antenatal midwife consultations, parents should receive complete and accurate information, including discharge criteria and modalities of hospital care and follow-up at home. Also antenatal screening for conditions of vulnerability should be included. An early start during pregnancy will avoid information overload in the last month and will give parents time to form preferences and make choices regarding the organisation of postnatal care which then result in an individual **postnatal care plan** (See Dutch example in Box 1).

The postnatal care plan is not static but develops and evolves during the perinatal trajectory. It keeps track of the dialogue between parents and all health care professionals in the perinatal care network, hence should be part of the shared web-based maternity record (See paragraph 3.1.2). Notifications could be sent out to the care provider involved if changes are made to the plan. This should at least include:

- the expected course of the postnatal period with the definition of milestones, such as preference for an early discharge or a conventional stay, the paediatric consultation between day 7 and 10 post birth, the first home visit from K&G/ONE/DKF, the obstetric consultation at 6 weeks post birth etc.;
- contact details of the members of the perinatal care network: e.g. the care coordinator(s), the maternity unit, the midwife providing follow-up at home, maternity home assistant, general practitioner etc.;
- who must be notified on discharge;
- whether and how much maternity home assistance is expected to be necessary.

The postnatal care plan is conditional to future events: it must have the flexibility to change if the condition of the mother and newborn changes. It is conceived as a communication tool and checklist to make parents aware of their potential postnatal care needs. As part of the development of the postnatal care plan, the perinatal care coordinator could evaluate mothers' eligibility to go home early (See chapter 4.3 of the scientific report).

The development of the content of a postnatal care plan and assessment tools (e.g. checklist for eligibility to go home early) could be the first actions of the future National Perinatal Care Platform.

3.3. Provide seamless postnatal care, less at hospital, more at home

Recommendation 4

After uncomplicated vaginal delivery, provide postnatal care in hospital up until 72 hours after birth or less, a seamless transfer from hospital to home by means of a clinical pathway and follow-up at home during the first week of life and ideally up untill day 10. The follow-up at home should be organised before discharge according to the individual needs of mother and newborn.

3.3.1. Shift inpatient to outpatient care after uncomplicated vaginal delivery

Action point 4.1: organise postnatal follow-up at home by midwives (or GPs), including a guard duty service and telephone support, for all mothers who had an uncomplicated vaginal delivery and take this into account in the workforce planning of midwives.

Similar outcomes and potential gains for the family

In Sweden, the UK and the Netherlands, the average length of hospital stay is two days or less for uncomplicated vaginal deliveries. However in these countries perinatal care is midwife-led and includes adequate preparation and information during pregnancy and follow-up (at home) during at least the first ten days after discharge (See chapter 5.2 scientific report). There is no evidence in the international scientific literature for adverse outcomes after hospital stays shorter than 72 hours with follow-up at home, provided adequate preparations during pregnancy and appropriate postnatal follow-up at home (See scientific report chapter 6.3).

In addition, research indicated that half of the nursing time consumed over the entire stay is concentrated in the first 48 hours after birth (See Chapter 7 in the scientific report). This means that in addition to parental education and breastfeeding support, the maternity unit's hotel function becomes more and more important after 72h. Of course tasks like breastfeeding support and training of parenting skills should be performed at home. Moreover, home visits by midwives potentially complemented by maternity home assistance enable postnatal care and support to be tailored to individual needs arising from the specific home context (e.g. presence of other children, pets, infrastructure) Other advantages mentioned in the literature[17] are:

- the opportunity for all family members to be together and get familiar with the baby, contributing to improved bonding;
- the possibility for mothers to rest in their own home environment without being exposed to interruptions and noise associated with hospital routines;
- less exposure of the mother and the infant to nosocomial infections;
- empowerment, self care and enhanced maternal confidence in caring for the baby;
- potentially fewer breastfeeding problems due to one-to-one care (hence less conflicting advice) and less exposure of the infant to the artificial schedules imposed in a hospital environment.

Also outside the hospital the continuity of care can be guaranteed by means of a duty service of midwives (and/or general practitioners), and with telephone support similar to what midwifery practices are already offering today. In addition, maternity home assistance could be further developed (see point 3.6.1).

Potential savings as well

The theoretical scenarios indicate that the resources saved by a shorter hospital stay would not be offset by the cost of additional midwife home visits. For the purpose of developing theoretical relevant scenarios (See Box 2), suggestions from the focus groups more in line with published clinical guidelines were taken into consideration. These reflected 2 or 3 midwife home visits for hospital stays of 3 or 2 days respectively, with the first visit 24 hours after hospital discharge. A minimum of 2 visits and a maximum of 5 were tested in the sensitivity analysis to see how different numbers of visits could influence the overall findings. Two theoretical scenarios (scenarios 2 and 3) were developed and compared with the base case scenario (scenario 1) representing the current Belgian situation. Prenatal care visits were excluded from the scenarios since these should not differ from one scenario to another.

Overall, leaving out the costs of maternity home assistance (kraamhulp), the potential savings from moving from the current situation to a length of stay of 3 days would be of approximately €431 per stay. Savings of €716 could be realised if the length of stay was 2 days. Including maternity home assistance the potential savings would be reduced to €264 and €445 for a length of stay of 3 and 2 respectively.

Box 2 – Theoretical scenarios

Scenario 1 - Current practice

Mean hospital length of stay is 4.6 days. Professional services consist of contact with gynaecologist mainly limited to the delivery phase, paediatrician services invoiced within the first 24 hours post birth and just before hospital discharge. Midwife/nursing inpatient services already covered by per diem rate and thus, not charged separately. No home care assistance in the early postnatal period.

Scenario 2 - Hospital length of stay is 3 days

Professional services over the hospitalisation period are assumed to be equal to current practice scenario. Two midwife home visits are added in the early postnatal period.

Scenario 3 - Hospital length of stay is 2 days

The number of services over the hospitalisation period is assumed equal to current practice scenario. Three midwife home visits are added to the early postnatal period.

This scenario analysis indicates that savings could be obtained with shorter lengths of stay after uncomplicated births, complemented with midwife home visits. Adding maternity home assistance (at current prices and mean hours per day offered in Flanders) for earlier discharge would reduce the potential savings but still result in a financially advantageous situation.

Due to a lack of data, workforce implications have not been studied, but it is clear that workforce planning for midwives is required to guarantee the provision of follow-up at home.

In summary the length of hospital stay after uncomplicated vaginal deliveries could be reduced, provided that appropriate workforce is available for providing follow-up at home, with a duty service and telephone support.

3.3.2. Discharge: seamless care with a clinical pathway

Action point 4.2.: develop and implement a multidisciplinary clinical pathway to ensure continuity of care between the hospital and the home setting and document the discharge process in the shared web-based maternity record.

The follow-up at home needs to be organised before discharge according to the individual needs of mother and child at the moment of discharge. This means that home visits by a midwife as well as ambulatory paediatric consultations should be scheduled before discharge.

Preparation for discharge should at least include:

- assessing care needs of both mother and newborn;
- contacting the midwife mentioned in the individual postnatal care plan for follow-up at home;
- scheduling a paediatric consultation between day 7 and 10;
- contacting a provider of maternity home assistance, as specified in the postnatal care plan.

At the moment of discharge information exchange between the maternity unit and the care givers providing follow-up at home is crucial in the light of continuity of care. The preparation for discharge (already starting before birth), discharge procedures, criteria and the information transfer after discharge should be structured by means of a clinical pathway.

In 2002 a multidisciplinary clinical pathway was developed for early discharge[13] commissioned by the former Ministry of Social Affairs, Public Health and Environment. It has been implemented in two maternity units in Leuven and a quasi-experimental research design showed better outcomes in mothers who benefited from the pathway in comparison with a classical hospital stay (for example less pain, less problems with breastfeeding, less weight loss for the babies). The authors concluded that the clinical pathway improved quality of postnatal care significantly. Also in the international literature[18] beneficial outcomes of care pathways have been reported.

The multidisciplinary clinical pathway, including communications between health professionals about discharge and follow-up should be fully integrated in the web-based maternity record (See paragraph 3.1.2) shared by all care professionals involved.

3.3.3. Guarantee follow-up at home during the first week of life

Action point 4.3: Develop a evidence-based clinical guideline for postnatal care, including the required number and intensity of home visits relative to the number of days in hospital.

In Sweden, the UK and the Netherlands midwives do follow-up home visits during minimum the first ten days after discharge. Home-visiting programmes (See examples in Box 3) usually provide assessment of the mother and newborn, health education, infant feeding support, emotional and practical support to families, and if necessary, referral to other health professionals. The literature (See scientific report chapter 6.3) mentions the following conditions for successful postnatal programmes:

- early start (during pregnancy);
- identification of newborns and mothers with risk factors;
- clear information (both oral and written) before discharge;
- accessible care providers in case of problems.

Box 3 – Home-visiting programmes in the UK, the Netherlands and Sweden

United Kingdom

The hospital informs the midwife about the woman's discharge. She schedules a home visit the following day (except in case of problems, a.o. with feeding. Then the midwife home visit is provided on the discharge day). The discharge documents provide the community midwife with relevant information about the birth and subsequent recovery.[19] There is no set number of visits: postnatal care by a midwife is "not less than 10 days and for such longer period as the midwife considers necessary".[20] Most women receive about seven midwife home visits in the first 10 to 14 days postnatal.[21] Also the GP does a home visit and a final maternity check 6 to 8 weeks after birth.[22] The mother's care is transferred to a health visitor when her medical needs have been addressed.[19]

The Netherlands

As in the United Kingdom maternity care for low-risk women is situated in primary care, mainly done by midwives and to a small extent by GPs (about 0.5% of all births). Often midwives see women about ten to twelve times during pregnancy. Some practices also do a home visit at around 35 weeks of pregnancy. This is recommended by the government but comes without financial compensation for now.[23] Women can give birth in hospital with a primary care midwife. Often women who deliver in hospital ask their midwife or team of midwives to go on with postnatal care. Women who give birth in hospital are visited by a midwife after discharge. The first visit is often scheduled every other day for seven or eight days after birth and takes up to one hour to complete. The financial compensation for postnatal care is fixed, no matter whether the midwife visits the client only once or several times.[23]

Sweden

Mothers and newborns go home within 72 hours after birth. The follow-up consists of home visits, daily phone calls and a final check-up by a midwife.[24] Follow-up visits at home are done by midwives from the maternity unit or by midwives working in early discharge teams.[25] When the baby is about one week old, the primary health-care organisation takes over the contact with the family.[25]

There is a lack of evidence regarding the association between frequency, duration, intensity or modalities of home visits and newborns' outcomes, mothers' health outcomes and care utilisation. Videoconferencing or telephone calls are mentioned in the literature as alternative to midwives' visits[25] (See chapter 6.3 of the scientific report).

The WHO recommends to have at least 4 postnatal contacts: one within 24 hours after birth, one on day 3 (48–72 hours), one between day 7–14 after birth, and one at six weeks after birth.[26] Midwives' visits within 72 hours after birth may decrease the newborns' readmission risk and postnatal depression risk for early discharged women.[27]

Belgian health care professionals who participated in the focus group interviews agreed that the follow-up at home:

- should consist of a midwife's home visit within 24 hours after discharge independent of the length of hospital stay;
- should consist of at least one home visit by a midwife within 24 hours in case of discharge at day 3 or earlier. Depending on the actual length of stay additional home visits should be foreseen. For example if discharged at day 2, the health care professionals, especially midwives recommend three additional home visits the following days. Ideally the follow-up should continue until day 10, but not necessarily on a daily basis. The baby should be seen by a physician (by preference a paediatrician) between day 7 and day 10. If general practitioners do not provide care themselves, they should be informed about the follow-up;
- should be supported by a 24/7 telephone support service by (remunerated) midwives. In addition, the number and duration of telephone consultations (and how many result in an actual home visit/referral) could be registred in order to know the workload of 24/7 telephone support and to assess the quality of the postnatal care system;
- could be complemented by a follow-up by hospital midwives through telephone contact with the midwife providing home care if difficulties are expected.

In addition, the following features of postnatal care were highly valued by health care professionals:

- postnatal follow-up should principally be provided at home, preferably by midwives;
- home visits by a midwife as well as the ambulatory paediatric consultation should be scheduled before discharge;
- shift parental education and information from post birth to pre birth to unburden the hospital staff and avoid an information overload during the first two or three days post birth.

In conclusion, each mother who is discharged within 72 hours after an uncomplicated vaginal delivery should have at least one home visit within the first 24 hours after discharge and get midwife follow-up at home up until ten days after childbirth. An evidence-based clinical guideline is needed to determine the number and intensity of home visits.

Action point 4.4: Make sure that every newborn receives the appropriate neonatal screenings, if not in hospital, at home. Make neonatal screenings the responsibility of the perinatal care coordinator and register them in the shared maternity record.

Health care professionals interviewed in this study feared that more newborns will drop out of postnatal screenings if hospital stays become shorter, especially if screenings are no longer done in hospital (See chapter 4.3 of the scientific report). Also in the literature we found that early discharge before 48 or 72 hours may introduce barriers to neonatal screenings for jaundice and other preventable diseases. Therefore neonatal screenings are a point of attention and needs to be carefully embedded in the clinical guideline for postnatal care. The care coordinator should have the responsibility to make sure that all necessary neonatal screenings are carried out. Their registration of the effectuation of neonatal screenings should be integrated in the shared maternity record.

3.4. Develop and implement uniform readmission procedures for newborns and their mothers

Recommendation 5

- **Develop a standard readmission protocol for newborns and their mothers.**
- **Register all (re)admitted newborns and monitor newborn (re)admissions in a uniform way allowing for quality assessment and benchmarking.**

A **standard readmission protocol for newborns and their mothers** should be developed, including quality criteria, readmission procedures and solutions to enable mothers to stay near their baby.

Health care professionals interviewed in this study feared an increasing number of readmitted newborns if a stay of 72 hours or less will be generalised (See chapter 4.3 of the scientific report). However, the international literature did not find any association between early discharge and readmission rates of newborns if appropriate follow-up at home was provided. Midwives, maternity home assistants should be trained and parents should be informed about alarm signals (e.g. ONE developed an information leaflet for parents).

As stated in part 3.1.2, after normal birth only mothers but not newborns can be identified in hospital administrative data. By consequence, we cannot trace whether among readmitted newborns, those with a short hospital stay after birth are overrepresented. The readmissions of newborns and their mothers should be monitored, as these are important indicator of quality of postnatal care.

For NICU-babies a registration system is already in place upon initiative from the Newborn's section of the 'College of physicians for mother and newborn, All Belgian NICUs are invited yearly to upload the data on all NICU-admitted patients on web-tool. The participating NICUs can download an annual report regarding their own data, as well as a global anonymized report regarding data of all participating units. Health authorities have access to the site where all compiled data and anonymized benchmark profiles are available[28].

It would be interesting to generalise this registration system to other wards receiving readmitted newborns.

3.5. Processes in support of quality of postnatal care

Recommendation 6

Define quality criteria for follow-up at home based on the clinical guideline for postnatal care and adapt the competences of midwives, GP's and maternity home assistants to their (new) role in the provision of postnatal care.

3.5.1. Quality criteria based on clinical guideline for postnatal care

Quality assessment is core to building and maintaining a structured well-organised postnatal care programme. Therefore quality criteria for postnatal follow-up at home and in hospital (including discharge criteria) should be defined based on the clinical guideline for postnatal care. KCE planned the development of a postnatal guideline in 2015. One condition for this quality measurement is the data registration system linked to the shared maternity record as mentioned above.

3.5.2. Upgrade competences and foresee appropriate training for midwives and physicians

Action point 6.1: Supplement or revise curricula of training programmes for midwives and physicians aligned with the quality criteria in general, and the coordinating role in particular.

Future midwives, general practitioners and obstetricians should be adequately trained to provide and coordinate antenatal and postnatal (home) care.

3.6. Support parents in their (new) caring role

Recommendation 7

Support mothers and fathers in their (new) parenting role by developing maternity home assistance and encourage parent groups to foster peer support.

The changing societal environment that urges for professional care and support has been discussed in introduction (see 1.2). Health professionals interviewed in this study pointed out that parents prepare the arrival of a newborn in a material way (e.g. installing a baby room, buying equipment) but not so much in a social and emotional way. Also, accurate knowledge about childbirth, child care, parenthood is lacking and a lot of false beliefs exist (See scientific report chapter 4.3).

3.6.1. Provide maternity home assistance

While the postnatal care is regulated by the Federal Government, maternity home assistance is organised at the Community level. This introduces extra complexity and explains the differences in service provision in different parts of the country.

Action point 7.1: Professionalize maternity home assistance and integrate them in a coherent framework of multidisciplinary postnatal follow-up at home.

Maternity home assistance is a service that is currently only available in the Flemish Community. The idea is similar to maternity home assistance in the Netherlands, but in practice Flemish maternity home assistance is less developed and differs both in quantity and content from the Dutch example. In Netherlands, maternity home assistance is included in the compulsory health insurance (See Box 4 below and scientific report Chapter 5). Flemish maternity home assistance is provided by family support services. Organisations providing this service differ in terms of content, working conditions, application procedure, but also competences and training of the maternity home assistants. The competences of maternity home assistants are not formalised and the training programme is not structurally anchored. In the other parts of the country, support limited to domestic chores can be proposed by some institutions (i.e. sickness funds, etc.). However, this support is neither generalized nor specific to motherhood.

In Belgium, the trend to shorten the hospital length of stay urges the professionalization of home care for the new-born and mother. The maternity home assistants could increase their competencies level to become a real complementary function to midwives during a home postnatal follow-up. To do so, the training of the maternity home care assistants must fulfil a certain level of quality and must be harmonized based on common program. This integrated home care package, where midwives and maternity home assistants work in tandem, should be available for the entire target population.

A coherent framework has to be preliminary provided including definition of quality criteria, tasks to be provided and related required competencies, appropriate training and harmonized working conditions.

A pilot project within a collaboration agreement between the federal government and the federated entities concerned[b] (see point 8.1) can support this framework. Specific working groups should be established to define:

- The tasks and competencies of maternity home assistants, possibly based on the model in the Nederlands. Accordingly, their eventual integration in Royal Degree 78 related to the practice of a health profession could be considered;
- The training requirements for maternity home assistants;
- The financiering of their activities based on their specific tasks and competencies defined above.

Box 4 – Maternity home assistance packages in the Netherlands

The maternity home assistance includes care, support and education of the mother and family. Early detection and prevention are part of this work. Three types of maternity home assistance are available:

Basic package: targets mothers and children who recover well without any additional care needs. Maternity home assistance is offered during the first eight days. The standard number of hours of care provided in this package is 49.

Minimal package: the minimum of 24 hours of care is provided, also spread over the first 8 days after birth.

Tailored package: sometimes more assistance is necessary than the one provided by the basic package: e.g. instability of the family situation, presence of two children younger than four years, or three children younger than six, absence of informal care resources, multiple birth, health problems of mother or child, feeding problems.

Since 2006 (law on care insurance – "de Zorgverzekeringswet") maternity home assistance became part of the compulsory health insurance and hence accessible to everybody. About 95% of the families with a newborn make use of maternity home assistance.[29]

3.6.2. Foster peer support

Action point 7.2: Consider structurally embedding parent groups to stimulate peer support and parental education. Consider CenteringParenting as a continuation of CenteringPregnancy as a good working model.

Currently, many small-scale initiatives invite parents to meet other parents and stimulate informal networking, for example mama cafés, workshops baby massage, antenatal workshops, but often they do not reach the parents who would benefit the most (See scientific report chapter 4.3).

From the literature we retain the idea of **parent groups** (sometimes hosted by family centres) reaching large parts of the population in the US and in the Scandinavian countries. Also **CenteringParenting** is a promising model to structure long term postnatal follow-up, to provide parental education and to develop peer support (See Box 5 and scientific report Chapter 5.2).

In conclusion, parent groups should be encouraged to supplement midwife home visits and to build peer support networks in the course of the first year of life.

[b] For more detail see section 2.1.2. in scientific report

Box 5 – Family centres and CenteringParenting

Sweden has been a pioneer in the development of **family centres**. The fundamental idea behind family centres is that the well-being of children is strongly linked to that of their parents. Support is offered to parents, primarily through parental education in groups. Parental support starts with a first antenatal appointment (future mother and father) with the midwife. Later they join the parent group. Initially parents meet in their groups around eight of nine times before the birth and an equal number of times afterwards, up until the child's first birthday. Nurses from the child healthcare (paediatric healthcare) unit are responsible for the meetings. This service model brings together the services that promote the well-being and health of children and families: maternity health care, child health care, a pre-school (for children from 12 to 60 months) and social welfare activities are provided in one place.[30] Sweden counts today over a hundred family centres spread across the country.

The practice of family centres focuses especially on parental education and the development of peer support. However, **CenteringParenting**[31] is an innovative dyad model for group mother-infant care that adds health assessment. CenteringParenting brings together a homogenous group of about ten mothers and infants during the first year of life. During 9 group sessions a clinician and cofacilitator together provide care for mother and baby. Three components of care are integrated: health assessment, education and support within the group environment. It is explicitly aimed to be a facilitative group, not a didactic class: the dominance shifts from the clinician and cofacilitator to the group itself with all group members as experts by experience. Ideally CenteringParenting provides continuity of care for a cohort of women who have received care in CenteringPregnancy, group prenatal care of 10 sessions throughout the entire pregnancy. CenteringPregancy smoothly transforms into CenteringParenting because women who have given birth prior to the end of the group series often return to the group with their newborns.

3.7. Payment systems to facilitate integrated and seamless postnatal care and in support of shorter hospital stays

Recommendation 8

Let the current hospital payment system evolve by means of pilot projects to become more supportive of high-quality, integrated, multidisciplinary postnatal care. The remuneration system of the key care providers should be adapted in order to facilitate cooperation between health care professionals and support shorter stays complemented with follow-up at home.

The majority of experts consulted in the course of this research project underlined the incompatibility between the current payment system and the provision of integrated and seamless postnatal care. The financial incentives are not well aligned with the imperatives of integrated postnatal care:

- A number of crucial but time-consuming tasks like coordination and parental education and information are undervalued;
- The system creates disincentives for task delegation and multidisciplinary work;
- The system induces underuse for vulnerable families.

The building blocks of integrated and seamless postnatal care as described in the previous paragraphs imply investment in primary care: multidisciplinary teamwork, the development of ICT applications, the attraction of the midwifery profession and retention of midwives in the profession, the development of perinatal care networks and care coordination, and a performant quality assessment system.

Reforms of the remuneration system of the key care providers are needed at several organisational levels, so as to create incentives for task delegation, communication and shared responsibility among health care professionals involved in perinatal care.

Action point 8.1: Set up pilot projects in which the implementation of integrated, multidisciplinary perinatal home care[32] and payment mechanisms are tested.

Different models for multidisciplinary postpartum home care can be tested in pilot project allowing the mobilization of financial resources resulting from a decrease in the length of hospital stay for uncomplicated deliveries. Such study could be realised within a collaboration agreement between the competent authority levels and could be financed via article 56 of the Sickness and Disability Insurance Law.

Action point 8.2: Consider recalibration of midwives' remuneration to be congruent with their coordinating role in postnatal care, to support home visits up until day 10, to recognise the additional time needed for the first home visit and the time spent at telephone consultations.

The remuneration of midwives needs recalibration:

- to be congruent with their coordinating role in postnatal care and by extension perinatal care;
- to support home visits up until day 10 as is prescribed in the HAS[16] and NICE[33] guideline for postnatal care and as is the case in the Netherlands, the UK and Sweden (See chapter 5.2 of the scientific report). Currently the fees for midwives target visits within the first five days, after which fees drop considerably;
- to pay a higher rate for the first home visit, independently of the day on which it is performed, to compensate for the extra time needed;
- to financially compensate for telephone consultations and being on call.

3.8. Special attention for equal access to postnatal care

Recommendation 9

- **Reflect on coordinated actions to support vulnerable families and prevent them from dropping out of perinatal care.**
- **Consider the development of a national perinatal programme for vulnerable families, with extra investment in the accessibility of antenatal care for vulnerable families, perinatal coaching, additional residential solutions, and the development of a hotline for care providers.**

Vulnerable families: a matter of concern

The white paper regarding access to health care in Belgium (NIDHI 2014) recommends to provide a global approach for maternal and child health.[34] Within this global approach, the report emphasises the importance to include an integrated health program for deprived families until the child's entry in primary school. Language and mobility problems are especially identified in the international literature as barriers to an adequate postnatal follow-up among deprived women (See chapter 6.3 of the scientific report). During the focus groups health care professionals expressed great concern about vulnerable families dropping out of postnatal follow-up or receiving inadequate care. In particular the adverse effects of decreasing length of hospital stay for disadvantaged families is a point of attention.

Local initiatives also reported in the literature

Today financially deprived mothers leave the hospital earlier compared to other mothers, while they need more care and support (See chapter 2.2. of the scientific report). Identified vulnerable families can be followed more intensively by K&G/ONE/DKF throughout the perinatal trajectory. In addition, in Flanders K&G developed "Huizen van het Kind" (Children's houses). These local networks of health care professionals (e.g. midwives, GPs, paediatricians) and organisations (e.g. local authorities, voluntary organisations, expert centres) offer multidisciplinary and integrated preventive support to families (e.g. by means of parent groups, prenatal consultations, family coaching). Sometimes these partners are also gathered in one setting.

Strategies to improve postnatal care for vulnerable families include early detection, a multidisciplinary approach, long term care trajectories, information and parental education, specialized residential care and the development of informal support networks (See chapter 4.3 of the scientific report). In the literature the following strategies have been positively evaluated (See chapter 5.2 of the scientific report):

- **telephone follow-up** by midwives as an efficient way to decrease stress and increase perceived maternal health in low-income first-time mothers;
- **perinatal coaching** by means of buddies. A buddy offers basic emotional support and assists the family in obtaining health and social care, empowers the family's sense of self-sufficiency and strengthens the family's social network. Midwifery and social care students take on the role of a buddy and assist an underprivileged family during a period of 18 months.[35] This model is already implemented in Ghent en Leuven, but could be generalized on a larger scale as very promising results are reported[35] (See chapter 5.2 of the scientific report).

Need for organised perinatal coaching

Specific antenatal midwifery consultations or home visits should be considered to enable perinatal coaching, to enable the early detection of medical but also social problems. The creation of multidisciplinary, accessible networks, such as "Huizen van het Kind" (Children's houses) initiated by K&G, should be further encouraged and extended. The vulnerability should be a concern for the whole perinatal care network and should be closely followed by the perinatal care coordinator. The postnatal care plan should be adapted to the specific care needs of vulnerable families. In addition, the scheduling of follow-up at home, and paediatric consultations and the implementation of a clinical pathway (see 3.3.2) are especially valuable for vulnerable families.

Also residential solutions for deprived mothers and their newborn should be extended, embedded in and supported by the maternity care system, rather than depend on private capital or charity. Finally, the development of a hotline where health care professionals can report situations disadvantageous and/or potentially dangerous for mothers and/or babies should be considered, perhaps linked to K&G/ONE/DKF.

A **national perinatal programme for vulnerable families** could be developed by the National Perinatal Care Platform and result in concrete measures to guarantee equal access to postnatal care for both mothers and newborns.

3.9. Need for scientific research

Recommendation 10

Plan and monitor at the highest level the workforce requirements and consider further research on cost-effectiveness of integrated and seamless postnatal care characterised by earlier discharge with follow-up at home.

Integrated and seamless postnatal care implies also the availability of an adequate workforce to respond to the care needs of parents and their newborn(s).

Workforce planning

In Belgium there is a need to improve the coordination and harmonisation of routine data collection on the stock and flows of health care workers and of midwives in particular (e.g. number of active midwives working in both in- and outpatient settings). Also potential increases in workload intensity for midwives at the hospital as well as resources needed to implement the more generalised home care visit schedules for those with an early discharge (within 72 hours post birth) would need to be investigated.

The Belgian pilot initiatives from hospitals offering midwife home care visits (from their own staff or from external midwives teams) could give an estimation of the necessary human resources required to respond to a move from standard hospitalisation to shorter stays supplemented with midwife home visits.

Number of women and intensity of the follow-up

In addition to workforce planning, a number of other factors needs to be considered, starting by the quantification of eligible women for shorter stays. This should be primarily based on medical care needs of mothers and newborns, but also socio-economic characteristics, social support resources and personal preferences could be taken into account. Also the duration of a home visit and the number of home visits one midwife can do per day, taking into account transport time and time for telephone consultations, should be estimated. Finally, the number of women per midwife and minimal occupancy rate in maternity units should be evaluated in the light of shorter hospital stays for uncomplicated deliveries.

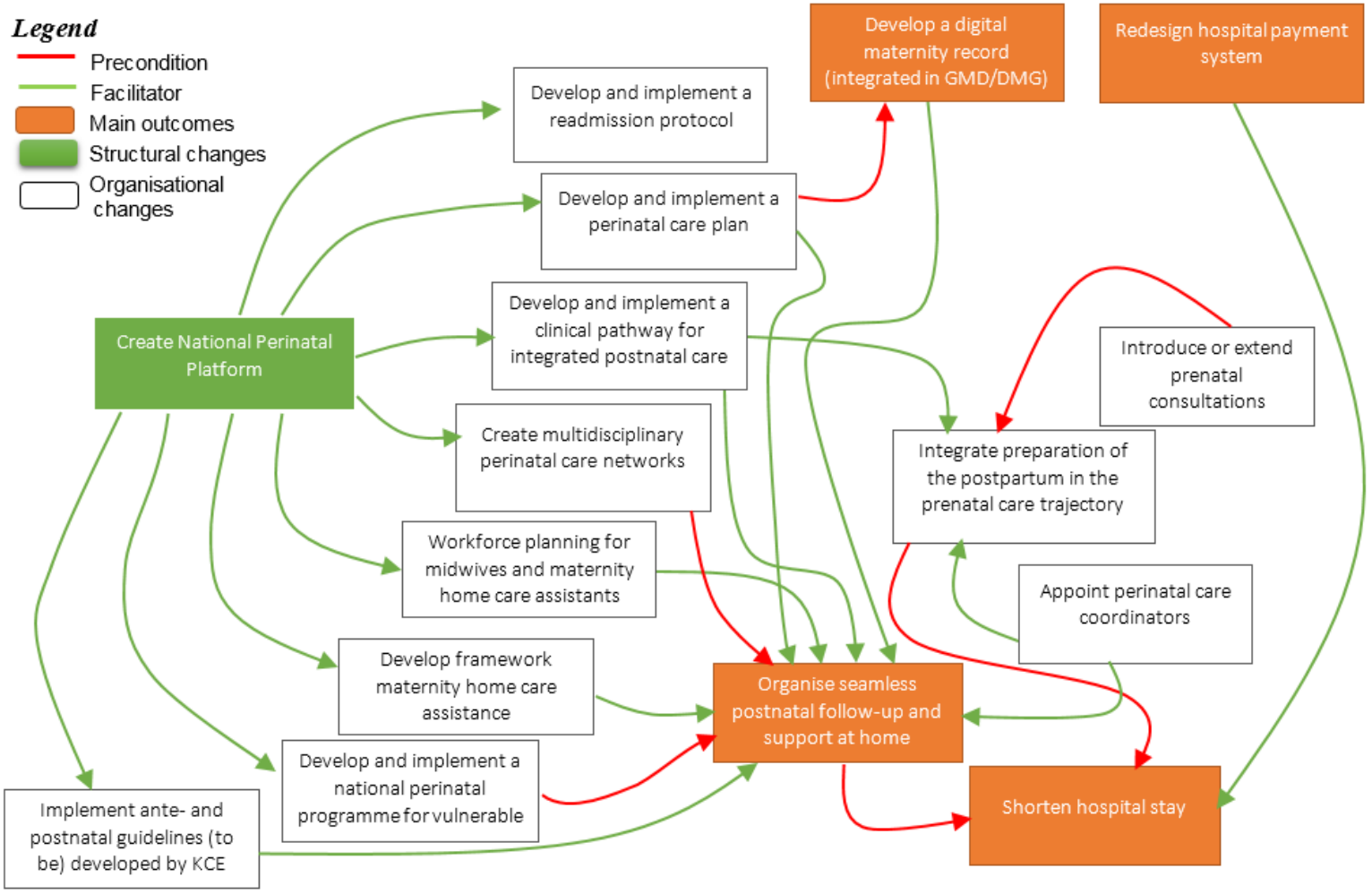
Further research on the costs could also be envisioned: for example, pilot research projects could be considered to provide data on cost-effectiveness regarding early discharge complemented with follow-up at home.

4. CONCLUDING REMARKS

This research project offers the opportunity to reflect on the improvement of the quality of postnatal care. We identified many well-intended and well-executed bottom-up initiatives that aim to improve the delivery of postnatal care after short hospital stays, ranging from the local implementation of a clinical pathway for short stays to initiatives to support vulnerable families. None of these initiatives is embedded at system's level. In addition, parents often do not question the perinatal care they receive, are hesitant towards new and unknown care arrangements and are not aware of the numerous organisations and care providers who offer postnatal care and support at home. The fragmented postnatal landscape is especially problematic for vulnerable families. In this context the shortening of hospital stays after uncomplicated delivery would create a care vacuum in the first week of life, the most crucial week for a good start.

After pulling together all solution elements that emerged from the analysis of administrative datasets, focus group interviews with mothers and health care professionals, the international literature and case examples from abroad, we developed 10 recommendations, referring to core activities and requirements in the conceptual model (see Figure 1). The interdependency of the recommendations is illustrated in figure 2. The arrows indicate which recommendations are preconditions or facilitators enabling the implementation of other recommendations.

Figure 2 – Interdependency between recommendations



4.1. Core activities

A first cluster of recommendations focusses on the core activities in the conceptual model:

- a national perinatal care platform;
- the planning and coordination of postnatal care by means of perinatal networks;
- a shared, web-based maternity record based on the Global Patient Record (GMD/DMG);
- perinatal care coordinators;
- antenatal preparation by means of an individualised postnatal care plan.
- seamless care with a shift from in- to outpatient care, with a clinical pathway to organise discharge and follow-up at home; neonatal screenings should be a point of attention;
- a readmission protocol integrated in the maternity record and enabling data extraction to monitor readmissions;
- supporting parents in their caring role by further developing maternity home assistance and fostering peer support.

4.2. Requirements

A second cluster of recommendations is about the requirements to implement the core activities:

- Processes in support of quality of postnatal care, such as the development of quality criteria for postnatal care based on a clinical guideline for postnatal care and the definition of competences and appropriate training for midwives and GPs;
- Financing systems to facilitate integrated and seamless postnatal care and in support of shorter hospital stays after uncomplicated deliveries;
- Knowledge development through further research on workforce requirements and cost-effectiveness.

Finally, **vulnerable families** need specific attention with:

- the development of a national perinatal programme;
- extra investment in accessibility of antenatal care;
- perinatal coaching;
- additional residential solutions;
- a hotline for care providers.

These propositions should be considered as interdependent building blocks. The next step would be to transform these recommendations into more concrete actions and reforms with special attention for vulnerable families.

Table 1 shows the main actors in the field of perinatal care, indicating which actors are addressed for the implementation of each recommendation.

Table 1 – Main actors involved in the implementation of the recommendations

Recommendations	Professions and professional organisations	Organisations providing home care	Hospitals with a maternity unit	RIZIV - INAMI	FOD - SPF	Minister	KCE	Federated entities (Communities)
1.	x	x	x	x	x			x
2.	x			x	x	x		x
3.	x			x				
4.	x	x	x		x	x		
5.	x		x				x	
6.	x				x	x	x	x
7.	x	x	x	x	x	x		x
8.	x			x	x	x		x
9.	x	x	x		x		x	x
10.	x					x	x	x

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