

PREG-Matic

PREGmatic: The right Pregnancy Care at the right place

ABSTRACT

An estimated 10-15% of the four million childbirths occurring in Europe annually are classified as high-risk due to maternal or fetal complications resulting in the need for close fetal and maternal monitoring. Most of these pregnancies require hospitalization until delivery, negatively impacting patient experience, quality of life, costs, and clinical workload. However, from a quaternary prevention perspective there is an ethical and safe alternative to hospital admission: remote digital pregnancy care (RDPC) e.g., digital devices monitoring vital signs such as maternal blood pressure and fetal heart rate (CTG). RDPC's potential is hindered by knowledge gaps on implementation, reimbursement, and cost-effectiveness. Key methodologies like hybrid care pathways and a data infrastructure are lacking. The healthcare sector needs innovative system solutions to overcome these knowledge and methodology gaps and work towards large-scale application of RDPC as a quaternary prevention solution.

PREGmatic examines the multi-level perspective on quaternary prevention in pregnancies complicated by (1) preeclampsia; (2) pre-term pre-labor rupture of membranes without contractions; (3) diabetes; (4) fetal growth restriction; (5) recurrent reduced fetal movements; (6) fetal anomaly requiring daily monitoring and subsequent hospital admission; or (7) fetal death in a previous pregnancy, with the following aims:

1. To create care new pathways incorporating innovative RDPC in which pregnant patients only receive the right care in the right place e.g., more autonomy and fewer admissions. This will be done in four hospitals across three countries (Denmark, Sweden and the Netherlands).
2. To provide AI based clinical decision support to aid clinicians on the basis of telemonitoring to prevent overmedicalization while continuing to provide adequate and on time prenatal care when required.
3. To measure the effectiveness of RDPC as a quaternary prevention measure after upscaling: a comparative study of patients in an innovative telemonitoring care pathway versus a historic control group to demonstrate the effectiveness of RDPC across different contexts.

The outcomes of this study will be two-fold. First, we will develop a comprehensive overview e.g., a causal map, of determinants and outcomes from a system-based and process-oriented viewpoint. Second, we will develop a multilevel framework to unlock the power of health-related data for these patients, integrating healthcare and IT to bring information to the right place.

The healthcare sectors need innovative system solutions to overcome knowledge and implementation gaps and work towards equitable large-scale application of RDPC as a quaternary prevention solution. We will provide a thorough understanding of determinants and outcomes concerning RDPC for pregnant patients requiring (academic) hospitalization at the patient level, the process level and the system level. Consequently, for daily practice the implication will be the timely identification of pregnant patients who can benefit from RDPC, and adjusted RDPC care pathways to meet their specific needs. Toolkits for large scale implementation and use in daily practice will be developed and contribute to the intended transformation.

KEYWORDS

- Pregnancy care
- E-monitoring
- Home monitoring
- Value Based Care
- Health Data
- Tertiary prevention
- Integrated care

DURATION

36 months

PARTNERS

	Name and Surname of the Principal investigator	Institution, Department, full Affiliations	City, Country
Coordinator (= Partner 1)	Arie Franx	Erasmus Medical Centre	Rotterdam, The Netherlands.
Partner 2	Lars Henning Pedersen	Aarhus University Hospital	Aarhus, Denmark.
Partner 3	Olof Stephansson	Karolinska University Hospital	Solna, Sweden.
Partner 4	Mireille Bekker	University Medical Centre Utrecht	Utrecht, The Netherlands
Partner 5	Mark Scheper	University of applied sciences Rotterdam	Rotterdam, The Netherlands
Collaborator 1	Kim van den Auweele	HELLP Stichting	Zwolle, The Netherlands