A bundle of joy? Evaluating bundled payments for maternity care in the Netherlands

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Appendix

Summary

In 2017, the Netherlands introduced bundled payments for maternity care on an experimental basis. This payment reform aimed to improve coordination and collaboration among maternity care providers and thereby enhance the quality of care and health outcomes for mothers and children. The main objective of this thesis is to evaluate the maternity care bundled payment model and provide relevant insights that can guide future policy decisions regarding payment reform in maternity care.

This thesis pursues three research questions:

1) how can we apply observational data to evaluate the bundled payment model for maternity care?
2) what is the impact of the bundled payment model for maternity care on health outcomes of mothers and children, maternity care utilization, and maternity care spending?
3) what are the different perspectives of stakeholders on the bundled payment model for maternity care?

Using an approach with both methodological diversity (quantitative, qualitative and mixed methods) and different perspectives (of payers, providers, professionals, policymakers, experts, and notably, maternity care clients), the studies in this thesis provide a comprehensive evaluation of the bundled payment model for maternity care.

This thesis functions as the scientific basis of the monitor by the National Institute for Public Health and the Environment (Dutch abbreviation: RIVM) on payment reform in maternity care.

Chapter 1, the introduction, outlines the context of Dutch maternity care, explains the shift from traditional fee-for-service toward alternative payment models (APMs), and in particular bundled payment models, to improve collaboration and quality of care, and presents the available empirical evidence on payment reform in health care and maternity care thus far. It continues with the rationale, design, and objectives of evaluating the bundled payment model for maternity care in practice.

In **Chapter 2**, we address the growing availability and importance of routinely collected observational data for evaluating health policy interventions such

as payment reforms. We introduce the Dutch data-infrastructure DIAPER (Data-InfrAstructure for ParEnts and childRen), which links individual-level maternity claims data, perinatal registry data, and social statistical datasets. We illustrate how DIAPER is applied to research on various topics related to pregnancy, maternity care and the first 1,000 days. At the same time, we highlight persistent challenges of using observational data, including incomplete data, variation in data quality, data linkage issues, and risks of bias inherent to observational designs. We conclude that large-scale data-infrastructures such as DIAPER can substantially support health policy evaluations when quality, linkage, and governance are carefully managed.

In **Chapter 3**, we study the effects of the bundled payment model for maternity care on the health outcomes of mothers and children, maternity care utilization and spending during its first two years. This evaluation focuses on the six integrated maternity care organizations (IMCOs) that adopted the bundled payment model in 2017. We apply a quasi-experimental difference-in-differences approach using data from DIAPER. The findings show that bundled payments were associated with an increase in outpatient, midwife-led births and a reduction in in-hospital, obstetrician-led births, along with changes in the use of labor inductions and planned versus emergency cesarean deliveries. Bundled payments were also associated with spending growth reductions. The size and the direction of the associations were heterogenous across IMCOs. No changes in health outcomes of mothers and children were found.

In **Chapter 4**, we perform a Q-methodology study to explore perspectives of stakeholders in maternity care on payment reform. A deeper understanding of stakeholders' perspectives is important to inform policymakers about the obstacles to implementing payment reform and potential ways forward. The findings reveal three distinct perspectives on payment reform in maternity care. One general perspective, broadly supported within the maternity care sector, focusing mainly on the goal of payment reform being an improvement in health outcomes for mothers and children, and two complementary perspectives, one focusing more on equality among various disciplines as a condition for payment reform and one focusing more on collaboration between disciplines as an intermediate goal of payment reform. Findings also show that there is consensus among stakeholders in maternity care that payment reform is required. However, stakeholders have different views on the purpose and desired design of the payment reform and set different conditions.

The client perspective is often missing in evaluations of APMs. In **Chapter 5**, we take an important first step toward addressing this gap by exploring the themes that are important to maternity care clients and should be included in evaluations of payment reform in maternity care. Findings from the interviews with maternity care clients show that participants prioritized themes focused on the personal care experience (such as patient-centeredness, communication, information provision, freedom of choice, integration, collaboration, continuity of care) over system-level themes. Our findings confirm that the client perspective is an important addition to existing evaluation frameworks because, while most evaluations emphasize system-level outcomes such as quality, accessibility and affordability prioritized by other stakeholders, clients place greater importance on themes related to their personal care experience. Expanding evaluations to include client-relevant themes can lead to more comprehensive assessments of payment reform and can help to better support informed policy decisions on payment reform in maternity care.

Chapter 6, the discussion, summarizes and integrates the main findings of the individual chapters and answers how observational data can be applied to evaluate the bundled payment model, what the impact is of the bundled payment model on various outcomes, and what the different perspectives of stakeholders entail. Subsequently, reflections on the main findings are provided. The chapter continues with a discussion of methodological considerations and suggestions for future research, followed by implications for policy and practice, and ends with concluding remarks.

The results in this thesis indicate that the use of observational data offers new opportunities for evaluating payment reform. Furthermore, the bundled payment model appears to influence provider behavior in the maternity care context, as evidenced by changes in care utilization and reduced spending growth without observed changes in health outcomes. Stakeholders agree on the importance of payment reform in maternity care, yet they hold different views regarding its goal and design. Clients primarily prioritize their personal care experience with maternity care, which needs to be included in future evaluations of payment reform in maternity care.

It is relevant to further explore the influence of context, as well as client risk and vulnerability profiles, on the effects of the bundled payment model in maternity care. In addition, supporting IMCOs with nonfinancial features alongside payment reform is required to maximize its potential and the collection and use of observational data must be further developed and encouraged within maternity care. For new payment reform initiatives, it is crucial to carefully define the objectives and definition of success in advance, and to align a realistic evaluation plan and policy trajectory, clearly specifying who has the mandate to make policy decisions regarding continuation, scaling, or termination. Payment reform is essential to health care transformation because it supports new ways of organizing care, incentivizes collaboration and value over volume, and helps drive the behavioral and structural changes needed for an integrated, population-focused system. Therefore, continued advancement of payment reform in both maternity care and the wider health care system remains essential.