B2B&Me+

A multi-country, European implementation project to reduce adverse birth outcomes, improve maternal and child health and reduce non-communicable disease risk

ABSTRACT

Gestational diabetes (GD) impacts 1 in 6 live births resulting in adverse outcomes and healthcare costs. GD is more common in the most disadvantaged populations and healthcare systems serving these communities are the least well-resourced to deal with this higher burden. GD is the single strongest population predictor for type 2 diabetes (T2D) among women, 1 in 2 develop it within 5-10 years of diagnosis. T2D is currently the largest contributor to healthcare costs in Europe, reducing GD rates and T2D risk is a major priority for reducing healthcare system burden and pressure. The disconnect between healthcare systems, combined with low awareness of GD in healthcare professionals (HCP) and women, delays effective prevention and management. These issues are exacerbated by substantial variation and differences in clinical guidelines and practices within countries, which lowers HCP confidence and breeds inertia for proactive GD/T2D prevention.

One approach to addressing these issues is using health technology (HT) to provide continuity of care and support across the antenatal and postpartum periods. This is particularly appropriate in this population as women are high HT users. HT can bridge the gap between disparate health services, provide consistent advice and continuity of care, and can be readily integrated alongside and in partnership with traditional health services.

We aim to evaluate the transferability of a refined personalised, seamless and integrated system of care for women at high risk of GD. We developed the digital Bump2Baby and Me (B2B&Me) mobile health (mHealth) coaching intervention, funded under Horizon2020. It provides women at high risk of GD with health support from their first maternity service appointment through to 1 year postpartum.

Our B2B&Me trial has just finished with 865 women recruited from Dublin, Bristol, Granada and Melbourne to test our co-designed digital programme that sits alongside routine care. The mHealth coaching (mother and baby diet, exercise, mental health, sleep) ran for a novel 18 months. We achieved ~50% participation and penetration rates and have detailed learnings from participant exit interviews and coaching sessions analyses. Preliminary analysis shows 4% reduction in GD and 4kg mean weight loss over 18mths from early pregnancy to 1yr postpartum supporting good health coaching engagement.

We aim to evaluate the implementation of B2B&Me+ in real-world settings including regional, lower resource and more diverse centres. **Methods**: The project consists of 6 WPs across 36 months. WP1 and WP2 (m1-36) cover project management, dissemination and exploitation. WP3 (m1-12) covers site contextual mapping. WP4 (m1-9) covers HT optimisation. WP5 (m4-30) covers the real-world implementation of the mHealth coaching intervention in 4 sites. WP6 (m3-36) covers the economic and social evaluation.

This proposal will transform the interaction women with higher GD risk and their families have with

maternity services leading to reduced health service pressure and risk factor prevalence associated costs. The women will be better informed and engaged, with access to a sustainable prevention model that provides personalised T2D and obesity prevention (within different contexts). HCPs and health services will be engaged with B2B&Me+ and support their patients to access the personalised solution. Health and care authorities/policymakers will be involved in B2B&Me+ decision making processes to enable further access, learning and optimised delivery. The research community and wider society will learn about the state-of-the-art B2B&Me+ intervention and its impact.

KEYWORDS

- Maternal health
- Gestational diabetes
- Obesity
- Implementation
- Behaviour change
- mHealth technology

DURATION

36 months

PARTNERS

	Name and Surname of the Principal investigator	Institution, Department, full Affiliations	City, Country
Coordinator (= Partner 1)	Sharleen O'Reilly	University College Dublin, National University of Ireland	Dublin, Ireland.
Partner 2	Ditte Horth Laursen	Liva Healthcare A/S	Copenhagen, Denmark.
Partner 3	Sebastian Kwiatkowski	Pomeranian Medical University in Szczecin	Szczecin, Poland.
Partner 4	Marjolein Memelink Iversen	Western Norway University of Applied Sciences	Bergen, Norway.
Partner 5	Nina Overby	University of Agder	Kristiansand, Norway.
Partner 6	Linda Sagedal	Sorlandet Hospital Trust	Kristiansand, Norway.
Partner 7	Helle Terkildsen Maindal	Aarhus University	Aarhus, Denmark.
Partner 8	Fionnuala McAuliffe	The National Maternity Hospital	Dublin, Ireland.
Partner 9	Florian Thomas Herrmann	Fundacion para la investigación biosanitaria de andalucia oriental	Granada, Spain.
Collaborator 1	Timothy Skinner	Deakin University	Melbourne, Australia.
Collaborator 2	Cristina Campoy	Universidad de Granada	Granada, Spain.