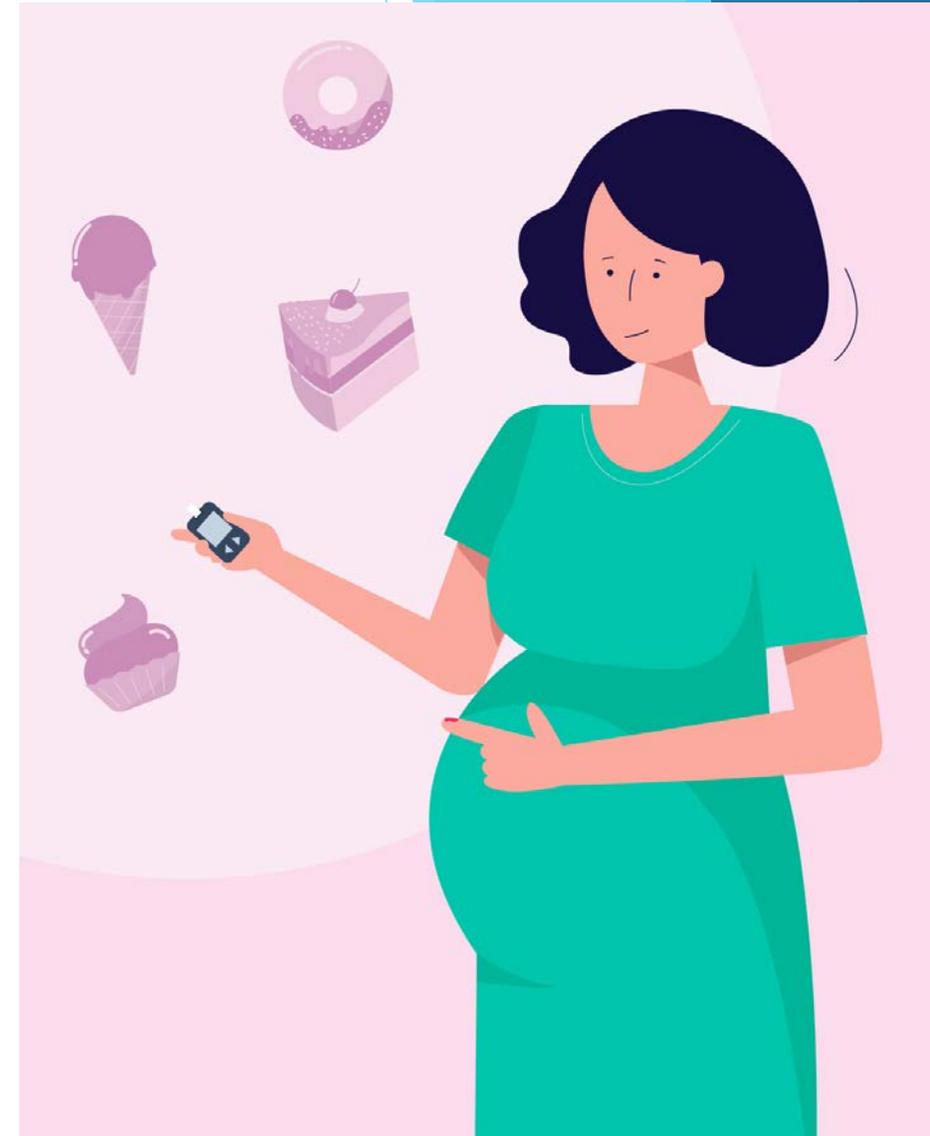


Exploring the feasibility of a mobile health application for management and follow up of women with Gestational Diabetes Mellitus

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BACKGROUND

- ▶ Gestational diabetes mellitus (GDM) affects 1-14% of pregnancies worldwide.
- ▶ Women with GDM are at increased risk of maternal and perinatal complications.
- ▶ Management of GDM involves frequent diabetes appointments, daily glucose monitoring, diet and insulin needs.
- ▶ This model is time consuming for both patients and the physician.

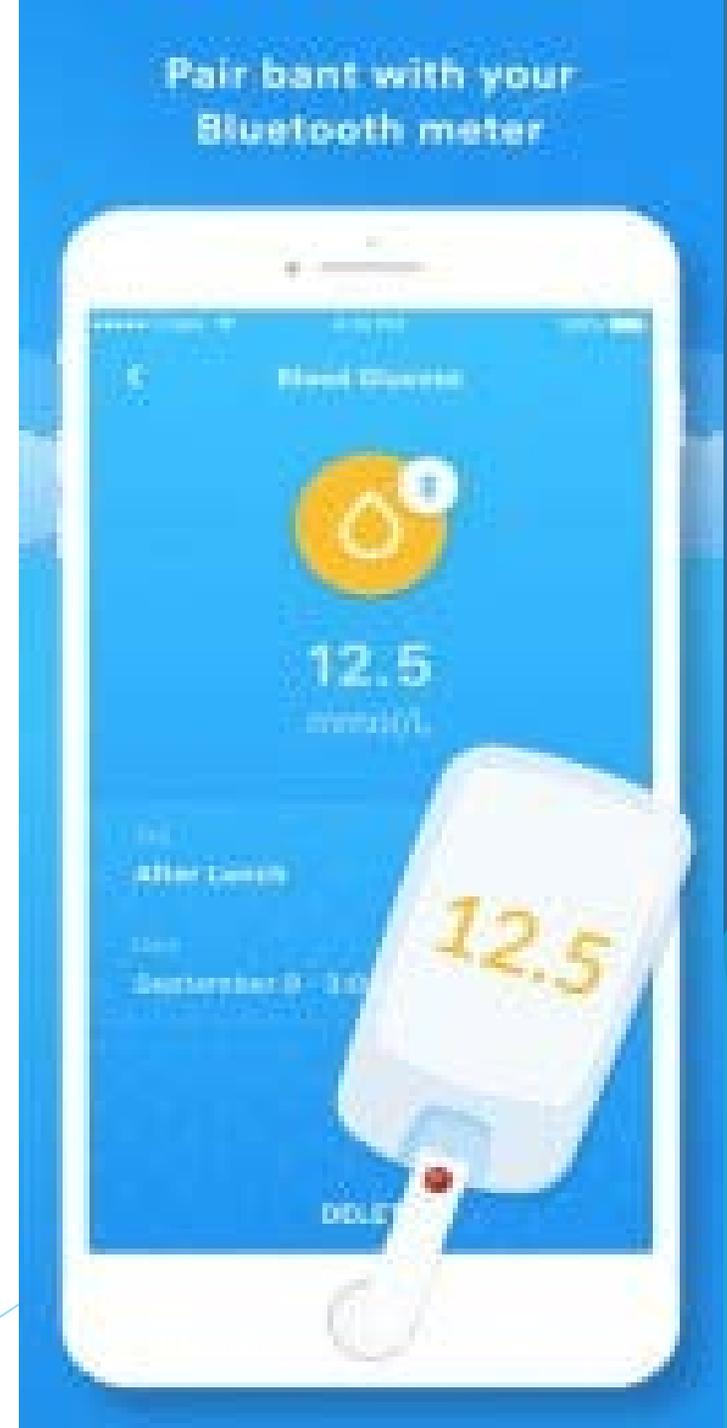


- ▶ **What we need:** a more efficient approach that is reliable and effective in management of diabetes during pregnancy.
- ▶ **What can we do:** maximize current innovation in mobile health technology.
- ▶ **How should we do:** mobile technology needs to be designed with care, appropriate to patient's cultural needs.
- ▶ **Example of such a technology:** *bant*, was developed in Canada to assist adolescents manage their type 1 diabetes.

AIM

Evaluate the feasibility of the *bant* app to support self-management for women with GDM in pregnancy and postpartum. The specific objectives are:

- ▶ To assess health care provider and patient preferences of using the *bant* app for managing GDM during pregnancy and postpartum follow up.
- ▶ To identify potential gaps and opportunities and enhance the app if necessary, by adding features specific for GDM management and follow up, based on the feedback obtained from patients and health care providers.



METHODOLOGY

Study design

- ▶ We will employ a mixed-methods study design incorporating various data collection methods (structured interviews, short surveys, journey/process mapping) to address our objectives.

Needs assessment: health care provider perspective

- ▶ Interviews & short surveys with health care provider (endocrinologists, nurses, dieticians).
- ▶ They will be asked to provide feedback on the current care context, barriers and preferences, and how a mobile health app can be employed for GDM self-management needs. Specific input and feedback will be gathered regarding real time data collection and transfer of blood glucose data.

Needs assessment: patient perspective

- ▶ Inclusion criteria:
 - ▶ Women aged >18 years, who provide informed consent,
 - ▶ Women diagnosed to have GDM in the current pregnancy,
 - ▶ Owning a smartphone (iPhone or Android) will be included in the study.
- ▶ Online survey and telephone interview – to understand their care experiences, barriers, and preferences for GDM self-management.

Evaluation of *bant* app

- ▶ Women will also be invited to use the *bant* app in its existing design for GDM self-management during their pregnancy.
- ▶ Evaluative semi structured interview guides will explore their perception, acceptability and usability of the app.
- ▶ Common themes regarding acceptability, suitability, suggestions for iterations will be identified and analysed with the help of semi-structured interview guide.
- ▶ Information about frequency of use of app will be collected through software logs.
- ▶ We will also collect clinic data in the 3 months before and during the use of the app, on number of visits, length of visits, number of phone calls, and postpartum diabetes testing rates.

Patient and Public Involvement

- ▶ **When were Patient Partners/public involved in the research process and how?**
 - ▶ Patient partners will represent a diverse population
 - ▶ Patient involvement at all levels – right from planning to decision-making process.
 - ▶ Patients will be provided support that promote honest interactions.
 - ▶ Patient experience will be valued as evidence.
 - ▶ Feedback – results from research are communicated to patients.

Progress to date (September 2019 till date)

- ▶ Shadowed patient/physician at the GDM clinic. This activity helped to understand patient-physician interaction, and the clinic workflow.
- ▶ Set up meeting with collaborators to discuss Patient Partner collaboration. Plans are underway to identify Patient Partners to form a network.
- ▶ Set up meeting with collaborators to discuss the bant app technology.
- ▶ Currently working on in depth literature review of available technology for GDM, to understand the gaps and needs that are to be addressed.