Making diabetes technology work in hospitals

Endorsed By: Association of British Clinical Diabetes Diabetologists, UK Clinical Pharmacy Association (Diabetes and Endocrinology), Diabetes Inpatient Specialist Nurse UK Group, Getting It Right First Time and the Joint British Diabetes Societies for Inpatient Care.

Context

More people living with diabetes now use technology such as glucose sensors, insulin pumps and automated insulin delivery systems. These tools can help people manage their blood glucose more safely and effectively in everyday life.

However, when people with diabetes go into hospital, including for surgery or maternity care, these technologies are often not used, or not used well. At the same time, people with diabetes still face an unacceptably high risk of harm while in hospital.

Studies looking at glucose sensors in hospitals have shown limited improvements so far. This may be because hospitals have not yet changed their systems, processes and ways of working to make proper use of these tools.

Why this research is needed

This funding call is focused on how diabetes technology can be safely and effectively used in everyday hospital care.

The aim is not to test whether the technology works in theory, but to understand how it can be put into practice in real hospital settings. This includes care before going into hospital, while staying in hospital and after going home.

Sarah Parsons, an Expert by Lived Experience said…

"As a type 2 patient who has had bariatric surgery, managing hypoglycaemia during inpatient admissions is particularly challenging, especially when nil by mouth and using long-acting insulin. Standard hypo treatment relies on glucose or sugary products, however bariatric surgery can cause challenges due to limited food pouch capacity and the risk of dumping syndrome triggered by high concentrations of sugar. When dumping occurs, glucose levels can drop again, creating a vicious cycle in a hospital setting.

During previous hospital admissions, I had repeated hypoglycaemic episodes and difficulty maintaining safe glucose levels. Treating hypos often triggered further symptoms, requiring escalation of care and placing additional physical and emotional pressure on me and ward staff.

Two years later, again in hospital care, but this time with a CGM, my hypos were identified and treated earlier with very small amounts of glucose, preventing repeated episodes and reducing the need for staff intervention. The technology supported safer glucose management, improved

my independence and dignity, and reduced pressure on busy inpatient wards, demonstrating the value of implementing diabetes technology in hospital care."

This work includes:

- how glucose information is shared with healthcare teams and used to guide care
- how insulin is prescribed, given and adjusted in hospital
- how people with diabetes can be supported to be involved in their care where this is safe and appropriate

Areas of research interest

Diabetes UK is particularly interested in research that explores:

- How glucose readings and alerts can be used by hospital staff as part of everyday care.
- How diabetes technology can support care before, during and after a hospital stay.
- How technology can help insulin be given more safely in hospital, including self-management where appropriate.
- How digital tools can use health record data to support better decisions by healthcare teams.
- How diabetes technology can improve care around surgery and maternity, including for people who need extra support.

What the research should aim to achieve

The research should focus on how change can be made in practice, with outcomes including:

- improved health outcomes such as shorter hospital stays
- better experiences for people with diabetes and healthcare staff
- safer and more consistent care in hospital
- fewer differences in care and outcomes for different groups of people