Telehealth Monitoring in Pregnancy

Clinicians at City Hospitals Sunderland NHS Foundation Trust developed a text message-based home monitoring service for pregnant women at risk of high blood pressure or diagnosed with gestational diabetes. The service uses a telehealth technology system called Florence to send a clinically predetermined number of SMS reminders to women asking them to send readings which are then reviewed by clinical staff within the maternity unit.

Traditionally, pregnant women who suffer from high blood pressure or gestational diabetes are required to attend multiple hospital appointments or home visits, which can be time consuming both for the patient and healthcare professionals. The Florence system allowed clinical staff to substantially reduce the number of appointments for women whilst still maintaining a high standard of care and support.

Outcomes

The pilot at Sunderland Royal Hospital, which was supported by the Northern Senate Telehealth Team and the Academic Health Science Network for the North East and North Cumbria (AHSN), included 219 patients and ran for 18 months.

The telehealth service has since become a permanent offer within the unit at Sunderland. Funding from the AHSN allowed the project team to evaluate the pilot and helped embed it within four other maternity units throughout the region: James Cook University Hospital, Middlesbrough, the Friarage Hospital, Northallerton, South Tyneside General Hospital and Queen Elizabeth Hospital, Gateshead.

Impact

- 88% of women who used telehealth for home monitoring of gestational diabetes said they would recommend it.
- The women who took part also benefited from cost savings as a result of reduced travel, childcare with less time off work.

“I found Florence a really good way of taking responsibility for maintaining and monitoring my own health.”

Jane Boyd - pilot participant
Background summary

The Telehealth Monitoring in Pregnancy project, led by Dr Kim Hinshaw and Dr Rahul Nayar, was supported by telehealth experts and colleagues from the University of Sunderland.

Normally, pregnant women who have high blood pressure are referred for assessment, followed by home visits by a community midwife and further visits to hospital.

Women with gestational diabetes would traditionally be required to attend weekly or fortnightly antenatal clinic visits over the course of their pregnancy.

The women who opted in to use telehealth as part of their maternity care were provided with equipment such as Blood Glucose meters, BP monitors and urine tests so they could take their own readings and text them back via Florence.

The team at Sunderland developed bespoke pathways and alerts for the technology, based on NICE guidelines, and set cautious parameters to ensure it was safe for use.

Florence sends message prompts to women reminding them to send the required blood glucose or blood pressure readings back via text. They are also asked to share details of their general health and wellbeing or any areas for concern.

Women who develop any symptoms or cause for concern are informed by text to contact the hospital on the same day for a one-to-one discussion. If this was not followed up by the individual, clinicians would be notified so they could make direct contact.

"It's simple and easy to use which is so important to women who lead busy lives. It empowers them to take responsibility and control of their care all whilst leading a normal life without having to wait around for midwives or attend numerous hospital appointments."

Kim Hinshaw, Consultant Obstetrician & Gynaecologist and Director of Research & Innovation at Sunderland Royal Hospital

Support provided by AHSN

- The AHSN provided funding of £76,000 to evaluate the project and help embed the service within other North East maternity units including The James Cook University Hospital, Friarage Hospital, South Tyneside District Hospital and Queen Elizabeth Hospital Gateshead.

Benefits

- Allowed clinical staff to substantially reduce the number of appointments for women whilst still maintaining a high standard of care and support.
- Fitted around participants' daily lives.
- Patients felt it provided reassurance that a healthcare professional were monitoring them from a distance.
- Reduced mileage costs for community midwives.
- Reduction in the overall NHS carbon footprint.
- Potential for NHS staff to be re-deployed.
- Estimated that the use of telehealth saved the NHS around £97.69 per gestational diabetes patient and £98.05 per high blood pressure patient.

Next steps and plans for the future

The pilot successfully highlighted the substantial benefits that can be brought to both the NHS and patients by using telehealth.

The versatility of the service means it can be adapted to cater for a range of other health conditions and the project team is currently exploring these options.