

Maintaining continuity of care for neonates using digital technology

Alder Hey Children's NHS Foundation Trust & Liverpool Women's Hospital,
United Kingdom

What was the challenge?

Liverpool Neonatal Partnership (LNP) is a two-site model between Liverpool Women's Hospital (LWH) and Alder Hey Children's Hospital (AHCH) covering all modalities including surgery, cardiac and foetal medicine.

AHCH is the largest children's hospital in the UK. If a baby needs specialist surgical care in Liverpool, they have to be transported 3.5 miles between the two sites for their care. The model is supported by a team of 15 neonatologists.

In Spring 2020, the challenge for LNP was to protect neonates from COVID-19 and continue to care for those who require monitoring and/or urgent clinical opinions. A safe solution was needed to overcome delays and unnecessary travel for clinicians.

With staff absences due to self isolation/shielding as a result of COVID-19, the consultant team at LWH was reduced by 50 per cent in March 2020. This resulted in a loss of approximately 40% of clinical facing time, and potential significant disruption to clinical care.

What was the task?

In order to mitigate the impact of COVID-19 on neonatal care, a telemedicine service was launched to ensure clinical input from neonatal doctors who were able to work remotely from home whilst shielding or self isolating.

What was the action taken?

The model works by a neonatologist conducting their ward round carrying a purpose-built device, which allows the clinician to be virtually present on a screen whilst physically distance. The neonatal surgeon uses a high-definition camera which can zoom in close to a baby (close enough to see the weave in a baby's bonnet). Conversations and treatment advice discussions amongst clinical staff are facilitated through Microsoft Teams or via phone; but telehealth allows neonatal surgeons to make a clinical decision remotely, removing the need for them to be physically present with a patient.

Consultants at home due to self-isolation/shielding, who were able to work, were trained remotely in the telemedicine model. From training a core team of three or four staff, it grew to 90 per cent of the consultant neonatal surgeons being trained and doing ward rounds.

Partnership and teamwork were key to the success of the project. Alder Hey NHS Trust had been seeking to explore telehealth for a long time before 2020 but had failed to get traction. In the face of COVID-19, information governance and IT barriers were quickly overcome.

After several months of operating this new telemedicine model, the LNP team had restructured work patterns to ensure a 'Virtual Consultant' was always available. This provided full ward round cover for the AHCH's surgical unit and low dependency area at LWH. Those physically able to work did not have to enter these areas but kept in contact with colleagues so any issues could deal with them. Fully managed virtually for 3 months. Also, surgeons could have remote access to the LWH to review babies.

What were the results?

The telemedicine service was successful in ensuring continuity of care at a time of significant disruption. Sharing of the workload has meant that the neonatal team did not need locum staff support despite the significant challenge to their capacity. Moreover, the solution was found to be easy to use, with training completed within 15 minutes, after which staff would be ready to do a ward round. This helped telemedicine to become the norm for those at home providing care services and nurses in the hospital and other medical staff and families.

Families especially liked the speedy care reviews. In the past, babies with surgical problems would have to contact the surgeon, wait for a response and it would take time to arrange for a visit. With telemedicine, it would only take 15 minutes for a clinical review.