Neonatology Technology Enabled Care (NTEC): Collaborative Working Output Summary

This high-level overview provides findings from a collaborative working project between Health Innovation North West Coast, the North West Neonatal Operational Delivery Network (NWNODN) and Chiesi Limited. The project report highlights the findings of a landscape review of Technology Enabled Care (TEC) used within Neonatal Units across the North West.

The executive summary for this project can be found https://www.chiesi.uk.com/collaboration

Background

The North West is the third most populated region within the UK with a population of 6.1 million, and a birth rate of approximately 77,500 per annum. It also has some of the most deprived areas in the country,[1] and is amongst the most financially challenged NHS regions in the UK. Despite these challenges, the regions neonatal teams have some of the best outcomes across England for the babies born in the right place, developing Family Integrated Care and key optimisation measures following the successful implementation of a preterm Optimisation Bundle, which aims to improve 9 key interventions to improve outcomes for premature babies.[2]

The NHS was given several areas of focus under the new administration. One of these key drivers is the transition from analogue to digital. This driver is backed up by the recent Lord Darzi Report which stated, 'There must be a major tilt towards technology to unlock productivity.'[2]

The NHS has used the term 'technology enabled care services' (TECS) to refer to technologies (such as telecare, telehealth, telemedicine/ teleconsultation and self care apps) that help people to manage and control chronic illness and sustain independence. For the purposes of this project, Technology Enabled Care (TEC) extends this definition to encompass a variety of digital and technology tools which support the delivery of Neonatal care.

Project Description

The purpose of this project was to work collaboratively to produce a digital and workforce landscape review within the NWNODN.

Project Objectives

- To undertake a comprehensive review (audit) on telehealth technologies within 22 Neonatal units within the Northwest to help understand the current situation or "current state"
- To understand how telehealth systems are utilised within Neonatal units – including, communication, diagnostics and treatment between sites by undertaking a series of workshops and questionnaire to unpick questions within key focus areas
- To understand how the transport network fits in to current telehealth technology system utilisation
- To understand future requirements and needs, along with current challenges

Project Outcomes

Up to 10 workshops and several questionaires were used to capture views from 131 engagements with healthcare professionals across the 22 neonatal units within the North West and with the North West Tranporation network. Separate workshops were also delivered via a charitable organsiation with views from 11 families being collected as part of this project.

Key findings

Current TEC Landscape:

- TEC usage varies across the 22 neonatal units within the NWNODN. Technologies such as BadgerNet for patient records and vCreate for video sharing are in place, but their integration and functionality are inconsistent.
- Many units lack robust IT infrastructure, including reliable Wi-Fi, interoperable systems, and sufficient hardware.

Challenges Identified:

- Technology Gaps: Outdated paper-based records, fragmented systems, and non-integrated imaging tools hinder efficiency.
- Training and Support: Inconsistent staff training leads to low digital confidence, and lack of dedicated trainers exacerbates issues.
- Family Engagement: Digital exclusion due to language barriers, limited access to remote consultations, and inconsistent family communication reduces confidence and increases stress.
- Governance and Procurement: Decision-making without clinical input results in non-tailored solutions for neonatal care.

Opportunities for TEC:

- Improved remote consultation capabilities to minimise unnecessary baby transfers and enhance specialist access.
- Contactless monitoring technologies to reduce stress for neonates.
- Unified Electronic Patient Records (EPR) to eliminate inefficiencies caused by duplicate entries.
- Seamless image transfer across different organisation to support timely and expert diagnostics.

References:

1) Neonatal network.co.uk. [cited 2024 Dec 2]. Available from: https://www.neonatalnetwork.co.uk/nwnodn/wp-content/uploads/2024/10/NWNODN-Activity-Capacity-and-Demand-Report-23-24-1.pdf

2) Darzi L. Independent Investigation of the National Health Service in England the Rt Hon. Professor the Lord Darzi of Denham OM KBE FRS FMedSci HonFREng [Internet]. 2024. Available from: https://assets.publishing.service.gov.uk/media/66f42ae630536cb92748271f/Lord-Darzi-Independent-Investigation-of-the-National-Health-Service-in-England-Updated-25-September.pdf, pg 13