Addressing Cardiovascular Disease Using a Novel Communication Tool

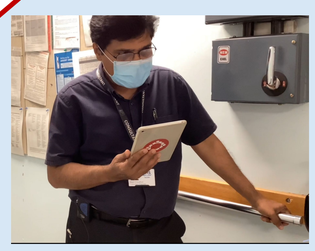
PULSARA: Digital Communication Pathway of Excellence in Scotland

Pamela Barr (1), Leah White (1), Yvonne Rose (1), Beth Turnbull (2), Helen Donald-Simpson (1), Anna Podlasek (1), Iris Q Grunwald (1, 2)
1.Tayside Innovation MedTech Ecosystem, University of Dundee 2. NHS Tayside

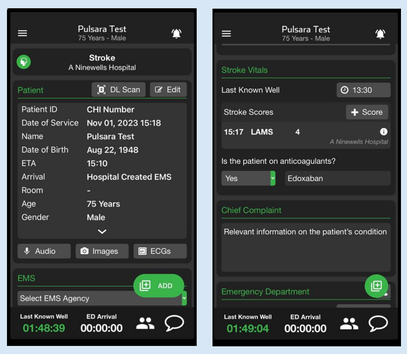
Every minute of an acute ischemic stroke (AIS) almost 2 million brain cells die, making **treatment time a critical factor**. Quick co-ordination of a multi-speciality team is essential. Pulsara® (Montana, USA), a digital healthcare communication tool, enables all pathway **team members to collaboratively communicate in a single, secure patient channel,** regardless of where they are located. We present early results of the **first implementation in Europe** of this innovative communication tool, **linked with the AI image interpretation software** e-Stroke Suite (Brainomix Ltd. Oxford) for emergency stroke treatment.

ACUTE CASE

Scottish Ambulance Service contacts Stroke Consultant



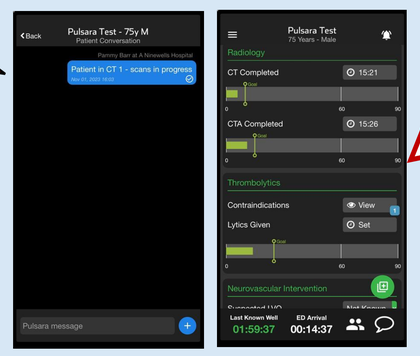
Stroke Consultant activates a new case on Pulsara, selecting type of emergency ie Stroke, STEMI…



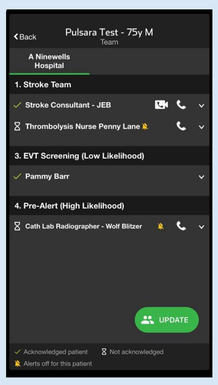
Pulsara alerts the relevant emergency team members allowing for preparation for patient arrival

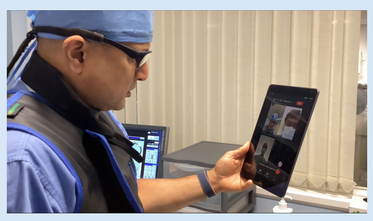
CO-ORDINATION OF MULTI-SPECIALTY TEAM

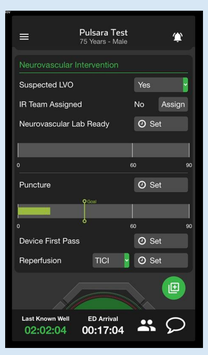
All team members have access to the same information, updated in real time. New members can be added when required. Key target times are displayed



Know who is on call and the ability to connect instantly with secure team chat, voice or video calling

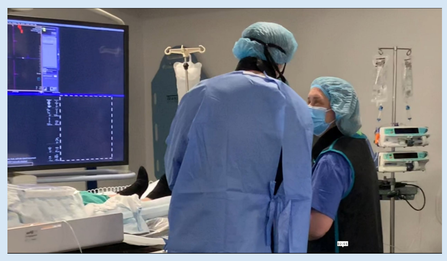




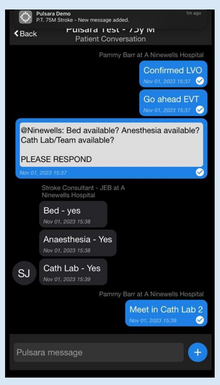


Fewer points of contact decreasing unnecessary delays, and integration with Brainomix resulting in improved times to treatment (IV-Lysis, Thrombectomy)

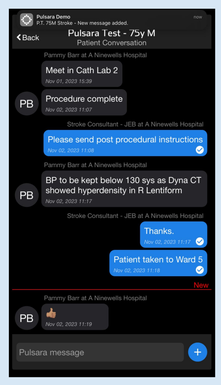
CONFIRMED LVO



Direct contact between departments reduces communication related errors and co-ordinates patient flow



The ability of the aftercare team to communicate directly and view the patient journey is helping to improve overall patient care



We evaluated AIS patients receiving thrombolysis during regular service hours (weekdays 9am-5pm) for two time periods; 1st January 2018 to 1st January 2020 (conventional stroke pathway) and 14th February 2023 to 19th September 2023 (digital communication stroke pathway using Pulsara and Brainomix). This time frame was chosen to exclude bias due to COVID-19.

We analysed door to CT times in a sub-cohort of thrombolysis patients. After the implementation of Pulsara, there was a **significant improvement in door to CT times** ($p<0.05$). There was a **trend towards better outcome at 3 months**, however due to a small sample size, more data is required. Communication was streamlined with user feedback highlighting **reduced risk for communication errors.**

The implementation of Pulsara significantly **improved time to CT for thrombolysis patients**. Pulsara, with it's dedicated digital pathways for stroke, heart attack, trauma, resusctitation, and many others, has the potential to **save brains, hearts, and lives**.

Image Guided Therapy Research Facility University of Dundee
NHS Tayside
BRAINOMIX
pulsara®
Tayside Innovation Medtech Ecosystem University of Dundee