Case Study: Developing mobile app for ambulances in the Greater Manchester area

Background:

Stroke can be difficult to diagnose and the centralised care model in Greater Manchester (GM) requires only certain patients with a suspected stroke be taken by ambulance to specialist stroke centres, with others treated at their local hospital. Taking people who do not have a stroke, but have some other illness to a Hyper Acute Stroke Unit (HASU) not only overwhelms the services for people who do have stroke, but also means that the people who don't have stroke may not get the care they need in the place they need it. Because people sometimes present with symptoms that might be stroke, they may well find themselves taken to a HASU "in case". These people are sometimes termed "stroke mimic" (illness that looks like a stroke but turns out not to be). Improving our ability to differentiate people who have had a stroke, or who are very likely to have had a stroke, from those who have some other illness is important to make sure everyone gets the right care in the right place, and reduces the burden on paramedic and stroke services.

Challenge:
Improve stroke diagnosis and subsequent transfer of suspected stroke patients to appropriate hospital

Solution:

- Develop an 'ambulance app' to support decision making and help clinicians make the right choice of hospital more rapidly by:
  -Ensuring more patients are correctly identified as a stroke mimic through appropriate use of assessments
  -Ensuring pathway exclusions are followed and inappropriate patients are taken to their local/nearest hospital as required by the protocol
- The app has been co designed with users, is accessible to a diverse population and focuses on delivering the most significant benefit in terms of outcomes and cost savings.

Impact:

- Reduced the % of stroke mimics attending the Manchester's HASUs. This saves clinician time and creates health benefits for other stroke patients
- Increased % of 'pathway exclusion patients' (people who are deemed to be too sick to make an extended journey to a HASU) being quickly transferred to nearest accepting hospital
- Improved patient experience and outcomes.
- It will result in cost savings at three levels:
  1) *HASU - reduction in less poorly out of area medical patients being admitted to the medical/general wards.*

2) *HASU - in terms of increased assessment time availability due to a reduction in presentations.*
3) *Ambulance service – reduction in the number of repatriations back to the patient's local hospital (double ambulance journeys).*
4) *Wider NHS –additional availability of ambulances for responding to other 999 calls due to efficiency gains in ambulances stroke service response times*

- Reduced uncertainly for ambulance staff, particularly when they are working in areas where they have poor geographical knowledge.

"The app comes across as a brilliant, simple and effective idea that reduces the need for paramedics to carry around pieces of paper and allows them to instantly decide on the most appropriate place of care based on the symptoms they may be presenting with. Having experienced a stroke myself, I vividly remember the paramedic on that day trying to work out and discuss where he should take me. This app would have made that decision clearer and faster for him on that occasion."

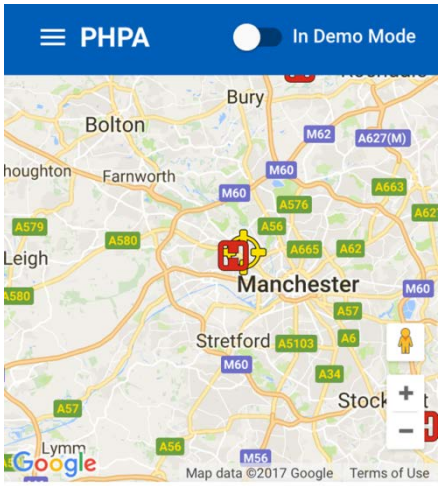
Ann Bamford (Stroke patient and chair of the GMSODN patient and carer group)

Next Steps:

The app is currently on trial with more than 70 Paramedics/Technicians across the region and we will be looking to rollout to all GM and bordering staff after the first few months of phase 1 are complete. Currently, analytical usage is being recorded within the app and feedback from users being gathered. Once sufficient data is obtained (Projected 2 months), we will then roll out the innovation to the whole Greater Manchester pre hospital workforce at phase 2 of the project, with the support of the North West Ambulance Service.

With the assistance of this project, the app could be scaled up at regional and national level, particularly in supporting regions planning to launch new centralised models of care. We are considering adding other stroke assessment tools to further assist clinicians in making the right decision in terms of the most appropriate place of care. We may integrate additional pathways of care into the app and introduce a 'nearest hospital finder tool' for all ambulance incidents in the months and years ahead.

This case study was submitted by Chris Ashton, Greater Manchester Stroke Network Coordinator & HCPC Registered Paramedic



To aid borderline decisions by paramedics - The hospitals are drawn from a list which includes those within and just outside Greater Manchester borders.