

Piloting a Mechanical Thrombectomy Retrieval Helicopter Transfer Service in a Rural UK Region

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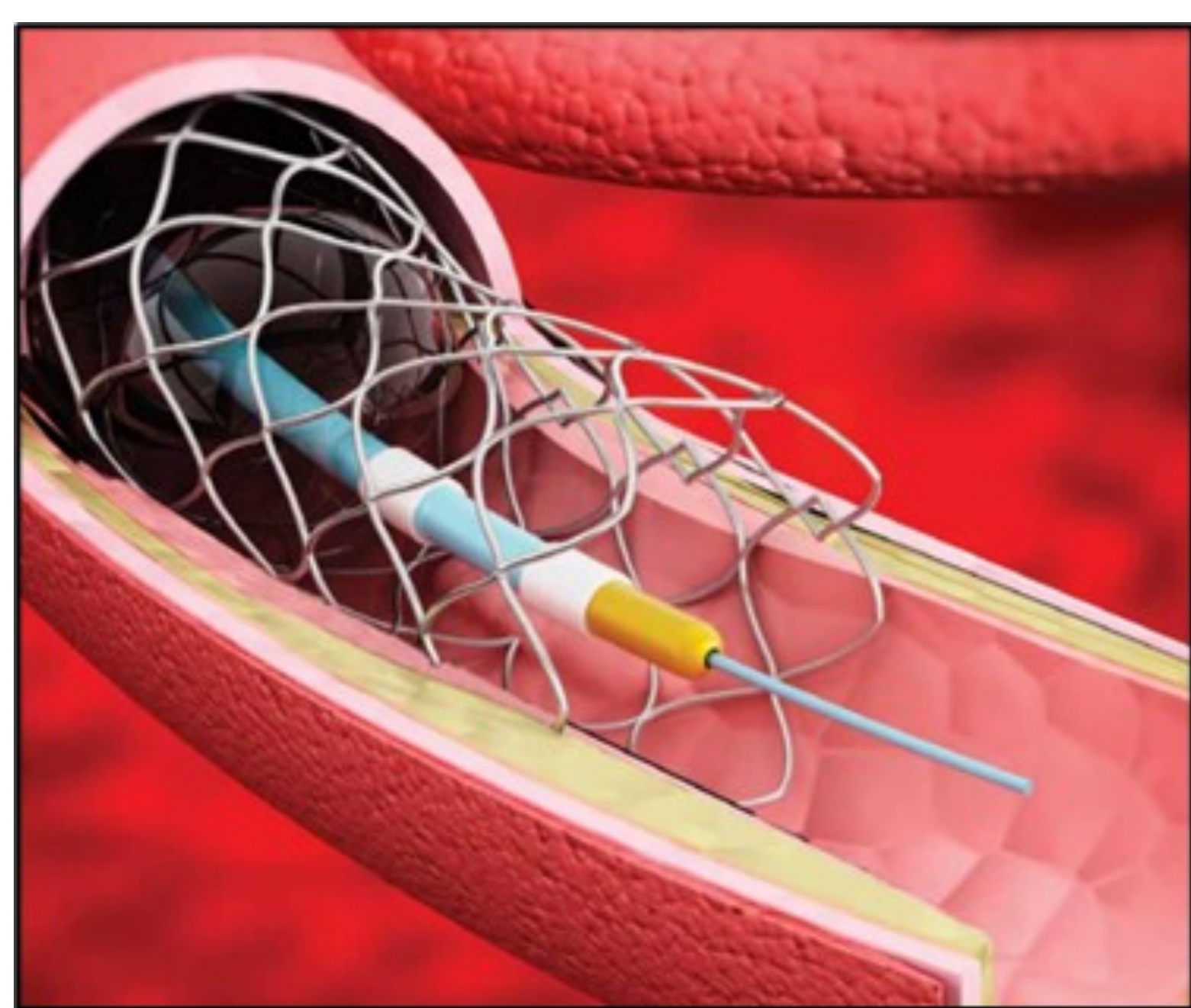
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Background

Eighty-five percent of strokes are due to an ischaemic event and approximately 10% of these can be treated with mechanical thrombectomy retrieval (MTR)¹, an intervention that physically removes an arterial clot, improving oxygen supply to the brain. The benefit of MTR drops by 5.3% for every hour after onset². In Devon, MTR is currently only available at University Hospitals Plymouth (UHP) and the longest road transfer time to UHP is undertaken by patients at North Devon District Hospital (NDDH). A quality improvement project was designed to increase the number of patients eligible for MTR by reducing transfer time.

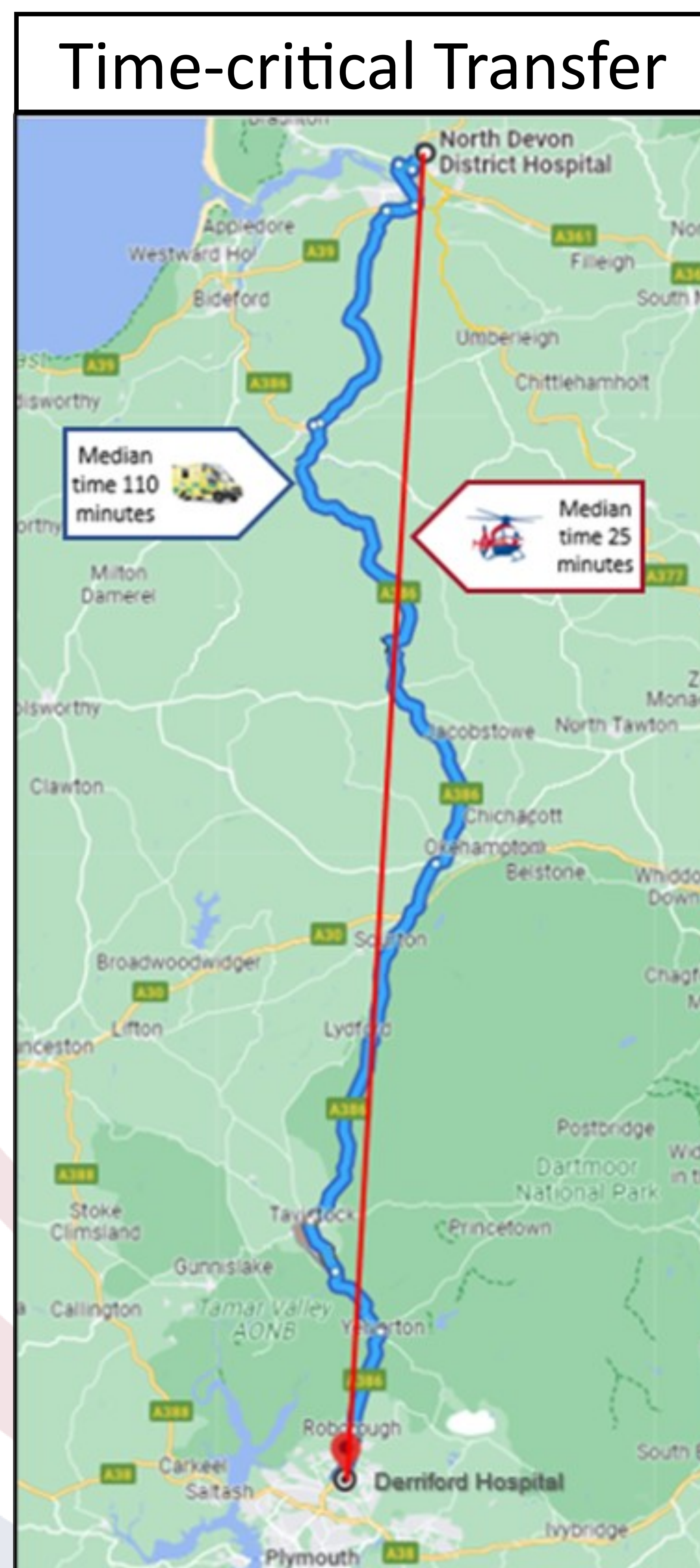
Aim

Develop and pilot a systematic approach to rapidly transfer eligible stroke patients, by helicopter, from a rural hospital to the nearest tertiary centre for MTR.



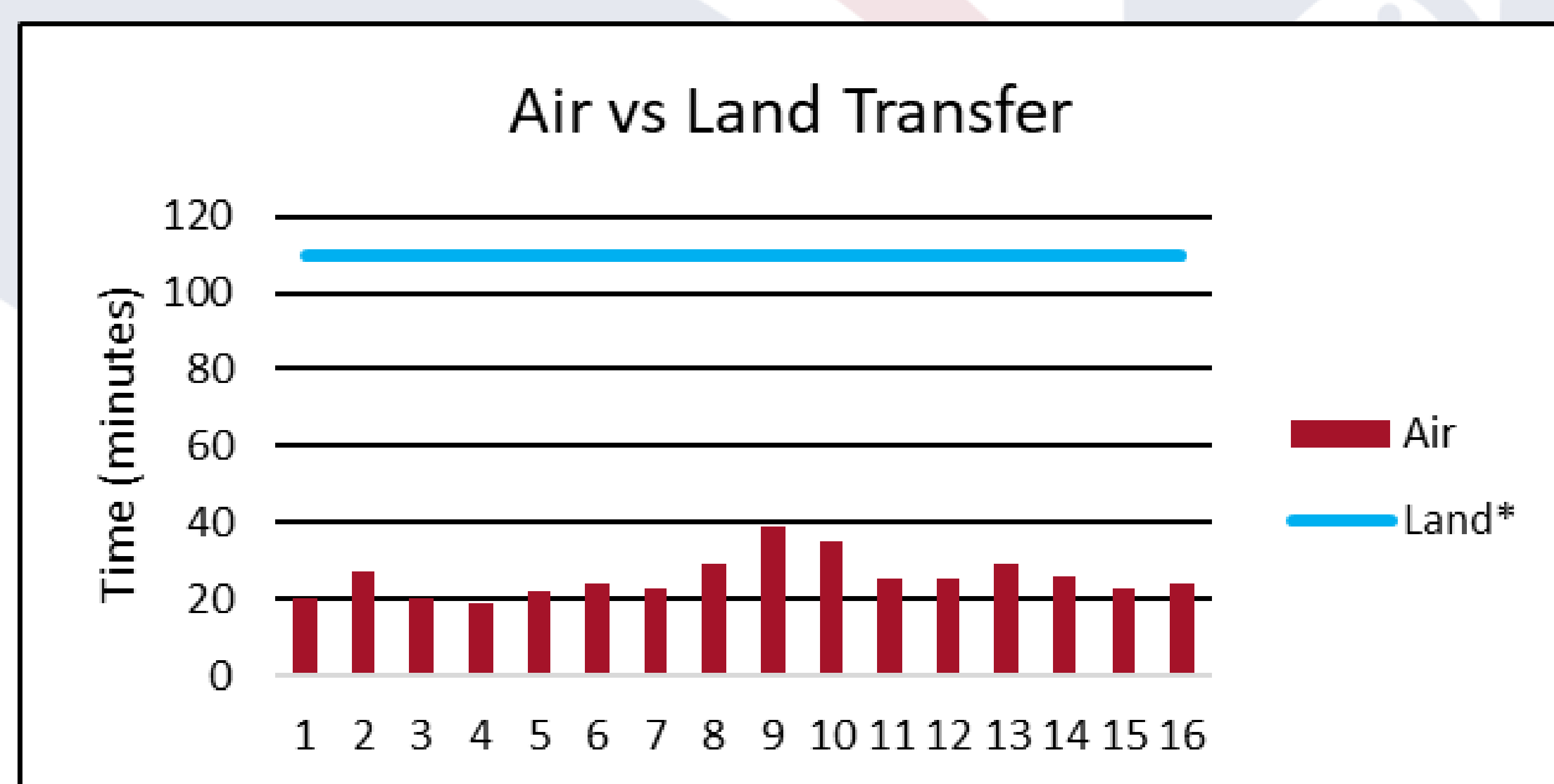
Method

A collaborative team from Devon Air Ambulance (DAATCL), NDDH and UHP designed a transfer protocol for MTR eligible patients to be airlifted to UHP, reducing the land transfer time of 110 minutes to approximately 25 minutes by air. DAATCL liaised with HEMS dispatchers to provide a specific dispatch procedure for MTR transfers.



Results

During the first 12 months of the pilot 16 patients were transferred to UHP for MTR. Median air transfer time was 25 minutes, a time-saving of 85 minutes. Air transfer times are variable, as flights can be influenced by the weather. When visibility is poor, helicopter pilots may detour to avoid high ground, resulting in longer flight times.



Conclusions

Sixteen patients have benefited from this new service, and it is anticipated that numbers will increase as the MTR service expands to a 24/7 service over the next few years. Although MTR is an expensive procedure, reduction of hospital stays and social care needs lead to considerable cost savings. The benefit to patients and their families can be even greater and there is also wider benefit to patients in the region with land resources available to respond to other 999 calls.

[1] Stroke Association 2019 What we think about: Thrombectomy [online]. Available from: https://www.stroke.org.uk/sites/default/files/new_pdfs_2019/our_policy_position/psp_-_thrombectomy.pdf [Accessed 23 May 2023].

[2] England, N.H.S., 2018. Clinical Commissioning Policy. Mechanical thrombectomy for acute ischaemic stroke (all ages) 2018: NHS England Reference: 170033P.



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