

Case Study: Simulation Modelling in focus

Can simulation modelling techniques improve the speed of the stroke pathway?

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In the South West of England there has been a collaboration focussed on improving the use and timeliness of thrombolytic treatment of stroke. This has involved The University of Exeter, PenCLARHRC (Collaboration for Leadership in Applied Health Research and Care in the South West), the South West Academic Health Science Network, and seven regional acute hospitals.

The team used simulation modelling to replicate acute stroke pathways and to ask various 'what if?' questions. Though the project was initially focussed on the speed of the stroke pathway, the analysis identified three key areas driving overall thrombolysis rates:

- speed of the pathway, for example the advantage of ambulance crews taking FAST-positive patients straight to the scanner rather than going via the Emergency Department
- the importance of ascertaining the stroke onset time (even if this may slow the pathway)
- confidence in using thrombolysis for patients scanned with time left to thrombolys

Find out more about PenCLARHRC here: <http://clahrc-peninsula.nihr.ac.uk/research-projects>