The project hypothesis is that a global tele-stroke network is a feasible approach to improve patient access to timely and safe administration of intravenous thrombolysis during treatment of acute ischaemic stroke is not consistently achievable. This is a feasibility study and the specific design is a prospective audit of all potential stroke thrombolysis candidates presenting to either centre receiving management guidance from a remote clinician via the use of telemedicine.

The study has two phases. Phase 1 is the implementation phase which is a qualitative review of the implementation process and Phase 2 is a primarily quantitative assessment looking at thrombolysis rates and treatment outcomes post-implementation. For phase 1 of the project, reported here, the three core clinicians involved in the implementation were interviewed. In addition, an implementation time line is presented along with a description of the implementation process and relevant documents.

PROJECT IMPLEMENTATION

TEAM: The core implementation team consists of: Dr Martin Whitehead, Consultant Stroke Physician, Wishaw Hospital, Scotland; Dr Anna Reoch, Consultant Neurologist, Palmerston North Hospital, NZ; Anne Reoch, Clinical Lead Stroke and Cardio, Centre for Scottish Health, Dr Joy Chilvers, Executive Project Manager, MDHB, Palmerston North, NZ (who has now left the team) and was invaluable for consultation. The core team’s perceived barriers and lessons learned are depicted in Table 1. Input from many others was co-opted throughout the process and included IT technicians at both ends, PACS administrators, telestaff, radiographers, and radiology managers, medical/stroke line service managers, hospital operations managers, clinical directors, stroke and charge nurses, emergency department nurses and doctors, orthodontists, duty managers, medical registrar/union representatives, human resource consultants, medical protection society representatives, Chief Executive Officer Medical Protection Society, UK General Medical Council and NZ Medical Council representatives, DHR and NPS Lawyers, MidCentral Health Chief Executive, Chief Financial and Chief Medical Officers, NHS Lanarkshire Chief Executive Officer and Medical Director, Director General of Ministry of Health, NHS Finance Director, Government of Scotland Department, and the Assistant Chief Medical Officer Scottish Health Department.

BACKGROUND

In the MidCentral District Health Board (MDHB), stroke thrombolysis is provided by three Palmerston North Hospital neurologists. While a successful day-time service has been up and running for the past five years, after hour coverage has been inconsistent and a formal roster is not currently in place. About two years ago, the MdZH stroke Health service was approached by a Scottish stroke service of similar size (Wishaw Hospital, Lanarkshire) with the proposal to use videoconferencing to provide thrombolysis coverage after hours, and make use of the 12 hour time difference to increase access to after-hour stroke service. This has the benefit of eliminating all night-time thrombolysis call outs for physicians, which otherwise would directly affect their next days work productivity, overall mental and physical health as well as general cognitive function.11 Patients also benefit because they will always receive management advice from wide awake and well rested doctors, which have been shown to improve clinical performance and patient outcomes.12 International tele-radiology services have utilised this solution for a number of years and are currently operating in some NZ Hospitals. Tele-stroke lends itself readily to this solution for a number of years and has been shown to be feasible.5,6