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Improving access to and efficiency of treatment for stroke within 12 hours of onset in Atlantic Canada

Submission date
28/02/2020

Recruitment status
No longer recruiting

Registration date
02/03/2020

Overall study status
Completed

Last Edited
04/09/2025

Condition category
Circulatory System

[X] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Stroke is a devastating disease, as the leading cause of severe physical disability. Ischemic stroke is the most common form of stroke; and is treatable with medical treatment and a new minimally invasive surgical procedure. These treatments can transform lives, but minutes matter for improving outcomes. The research objectives are focused on increasing the proportion of ischemic stroke patients receiving treatment, and improving the efficiency of treatment.
In Canada, healthcare is administered within provincial boundaries; this presents a particular challenge in Atlantic Canada due to small populations and the lack of locally available medical specialists. We aim to overcome these care barriers to ensure that all stroke patients have access to efficient treatment based on their clinical presentation, not on system restrictions. We will employ an Improvement Collaborative intervention. It has been used successfully in health care to implement improvements across multiple hospitals. This intervention uses the Model for Improvement adopted from Industrial Engineering, which employs alternating face-to-face workshops and action periods to test and implement changes at local hospitals.

Who can participate?
Health professionals enrolled to participate in the improvement collaborative.

What does the study involve?
The workshops involve sharing information with hospital teams and facilitation of cross-site learning. Additionally, operations research in simulation will be employed to ensure that the health system can adequately support the changes.

What are the possible benefits and risks of participating?
The potential benefit for patients experiencing ischemic stroke is profound. It is anticipated that 10-20% of ischemic stroke patients will have improved outcomes, which means that up to 550 more patients each year in Atlantic Canada can return to their homes with no or little disability, and utilize much less rehabilitation and long-term care services.

Where is the study run from?
Queen Elizabeth II Health Sciences Centre (Canada)

When is the study starting and how long is it expected to run for?
July 2020 to April 2024

Who is funding the study?
Canadian Institutes of Health Research

Who is the main contact?
Dr Noreen Kamal
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
ACTEAST001

Study information

Scientific Title
Atlantic Canada Together Enhancing Acute Stroke Treatment

Acronym
ACTEAST

Study objectives
The intervention will increase the proportion of ischemic stroke patients that receive either alteplase or EVT by 5%

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 15/06/2020, Nova Scotia Health Authority (Centre for Clinical Research, 118-5790 University Avenue, Halifax, NS, B3H 1V7, Canada; +1 902-473-6846; ShelleyL. MacDonald@nshealth.ca), ref: 1025460

Primary study design
Interventional

Study design
Stepped wedge interventional non-randomized

Study type(s)
Other

Health condition(s) or problem(s) studied
Ischemic stroke

Interventions
The evaluation of this improvement intervention will be conducted through a Stepped Wedge Trial (SWT). In the SWT, all sites will be assigned to a group or cluster. Each cluster will go through the intervention at different times. Prior to going through the intervention, all clusters are in the control phase, while after the intervention, all clusters will have the intervention fully implemented. The intervention will be 6 months in length.

Teams from all hospitals that treat stroke patients (typically called Primary and Comprehensive Stroke Centres) will be recruited to participate in the Improvement Collaborative intervention. The teams will be comprised of approximately 5 interdisciplinary healthcare professionals. Recruitment will be conducted through a Site Enrolment Form. Once we receive the form from a site, a consent form will be sent to each individual to sign. The efforts to improve the proportion of patients that receive treatment and improve the treatment times will be led by these individuals. Essentially, the intervention will be carried out by these hospital teams.
Data for all ischemic stroke patients that receive treatment will be included in the analysis from NS, NB, PEI and NL. However, no new treatment is being trialled in this study. Only improvement of access and efficiency of treatment will be evaluated.
Participants for each enrolled hospital site will work with an interdisciplinary team who are also participants in this study. They will do the following:
• Complete a pre-Collaborative online questionnaire prior to attending the Learning Sessions
• Attend two face-to-face Learning Sessions (workshops)
• Carry out changes to improve access and efficiency of acute stroke treatment at their hospital as planned during the Learning Sessions
• Ensure that de-identified acute stroke data is submitted to the research team for each ischemic stroke patient that received treatment (alteplase and/or EVT) at their site. This will be done by only one person on their team
• Assist to organize a large meeting at their hospital with frontline staff when the 1-3 members of the research team carry out their site visit
• Participate in interviews and focus group after the Collaborative is completed (6 months after the first Learning Session)

Intervention Type
Behavioural

Primary outcome(s)
Proportion of ischemic stroke patients treated with alteplase and endovascular thrombectomy using data from the Discharge Abstract Database at the end of the data collection periods.

Key secondary outcome(s)
Measures are obtained from chart audits at the end of the data collection periods:
1. Door to needle time (time from arrival to start of alteplase treatment)
2. Proportion of all ischemic stroke patients discharged home
3. Proportion of all treated (alteplase or EVT) ischemic stroke patients discharged home
4. Hospital length of stay for all ischemic stroke patients
5. Hospital length of stay for all treated (alteplase or EVT) ischemic stroke patients
6. Door-in-door-out times (time from hospital arrival to departure) for all patients transferred for EVT
7. Door to groin puncture time (time from arrival to groin puncture) for all EVT treated patients
8. First medical contact to needle time (time from 911 call to start of alteplase treatment)
9. First medical contact to groin puncture (time from 911 call to start of EVT procedure)

Completion date
30/04/2024

Eligibility

Key inclusion criteria
1. Enrolled to participate in the improvement collaborative
2. Involved with acute stroke care of ischemic stroke patients

Participant type(s)
Health professional

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
258

Key exclusion criteria
Does not meet inclusion criteria

Date of first enrolment
01/07/2020

Date of final enrolment
01/05/2022

Locations

Countries of recruitment
Canada

Study participating centre
Queen Elizabeth II Health Sciences Centre
1276 South Park Street
Halifax
Canada
B3H 3A6

Sponsor information

Organisation
Dalhousie University

ROR
https://ror.org/01e6qks80

Funder(s)

Funder type
Government

Funder Name
Canadian Institutes of Health Research

Alternative Name(s)
Instituts de Recherche en Santé du Canada, The Canadian Institutes of Health Research (CIHR), Canadian Institutes of Health Research (CIHR), Canadian Institutes of Health Research | Ottawa ON, CIHR - Welcome to the Canadian Institutes of Health Research, CIHR, IRSC

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
Canada

Results and Publications

Individual participant data (IPD) sharing plan
All data generated or analysed during this study will be included in the subsequent results publication.

IPD sharing plan summary
Other

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		18/08/2025	04/09/2025	Yes	No
Preprint results		01/11/2024	12/12/2024	No	No
Protocol file	version v1	01/03/2020	06/03/2020	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes