Analysis of Acute Stroke Services and Workforce Alignment in Newfoundland and Labrador

Objective

To compare the level of acute stroke services in Newfoundland and Labrador (NL) to those in Tasmania (TAS) and to assess the alignment of the workforce and level of service provided in each hospital and health centre.

Practice Points

1. NL has the highest mortality rate among the ten Canadian provinces for stroke.

2. Reduction in stroke incidence rates depends upon improvement in the social determinants of health and prevention, but better stroke outcomes can be achieved with better care, reducing mortality and disability.

3. Health Accord NL has recommended creating a Provincial Stroke Program for optimal treatment of ischemic stroke and dedicated regional stroke units.

Results

Table 1. Number of Facilities in TAS and NL Providing Each Level of Acute Stroke Services

Level	Description	TAS	NL
3	Assessment and basic hospital care for a stroke patient, either who has presented to the service or who has been transferred from another service, for which the stroke results in the patient requiring end-of-life care	1	17
	Non-palliative acute strokes are transferred to a designated stroke unit		
4	Specialist hospital care for stroke patients	1	3
	Moderate complexity patients are transferred to a higher level acute stroke service		
5	Designated primary stroke centre	1	5
	>75 stroke admissions per year		
6	Designated comprehensive stroke centre, providing comprehensive care for acute stroke admissions	1	1
	Provides province-wide specialist stroke support to all lower level facilities in the network		
	Responsible for establishing province-wide protocols for stroke assessment and management		
	>350 acute stroke admissions per year		
	Well organized systems to link emergency services, acute care, coordinated processes for ongoing inpatient rehabilitation, secondary prevention (e.g. clinic or follow up service), and community reintegration (e.g. early supported discharge)		

- NL provides basic and specialist stroke care in significantly more facilities compared to TAS.

Table 2. Description of Workforce Requirements to Provide Each Level of Acute Stroke Services

Level	Workforce Description
3	Informal caregivers
	Physician on-site
	Access to specialist palliative care services in the network 24 hours
	Registered Nurses (RNs) on-site 24 hours; RNs may be supported by Licensed Practical Nurses (LPNs) in providing care to patients
4	Physician practicing in internal medicine on-site and on-call 24 hours
	Access to a pharmacist
	Access to specialist stroke unit, specialist Neurology, designated allied health, and rehabilitation services in the network
	RNs with appropriate post graduate qualifications and/or extensive experience in stroke care
5	Access to clinical nurse specialist providing leadership in stroke management
	Dedicated medical lead who has primary focus on stroke (stroke centre director)
	Clinical psychologist
	Access to specialist rehabilitation services
	Access to early supported discharge team comprising of a physiotherapist, occupational therapist, nurse, speech pathologist, physician, social worker and administrative support person
	Access to allied health services with special expertise in stroke/rehabilitation
6	Access to neurosurgeons and neuro-intensive care staff
	On-site clinical neuro-psychologist

Table 3. Level of Acute Stroke Services and Level of Workforce Providing Acute Stroke Services for Each Hospital in NL

Hospital	Service Level	Workforce Level
Eastern Health (EH)		
Health Sciences	6	6
St. Clare's	5	5
Janeway	4	3
Carbonear	5	4
Burin Peninsula	5	4
Dr. G.B. Cross	5	3
Central Health (CH)		
James Paton	4	3
Central NL	4	3
Western Health (WH)		
Western Memorial	5	4
Sir Thomas Roddick	3	3
Labrador-Grenfell Health (LGH)		
Charles S. Curtis	3	3
Labrador	3	3
Labrador West	3	3

- Hospitals outside St. John's that are providing Level 4 and 5 do not have the required workforce to provide these services safely and appropriately.
- All health centres in CH and WH, as well as two in EH provide Level 3 acute stroke services. These health centres have the appropriate corresponding workforce for this level of service.

Conclusions

1. Lack of resources including skilled providers in locations where patients require complex stroke care could contribute to poor outcomes.
2. Create a provincial stroke program with the objective of matching actual practice with best practice, and developing/creating dedicated regional stroke units. Relocate specialized acute stroke services to hospitals where the required resources and skilled workforce are available to ensure best possible patient outcomes.
3. Provide better stroke care across the continuum: early recognition by the public of symptoms indicating stroke, improved thrombolysis rates, initiation of endovascular treatment (EVT) in ischemic stroke, regional stroke units, rehabilitation, and reintegration of patients with community teams.