Ontario Health Stroke Service Guideline

Regional, Enhanced District, District and Community Stroke Prevention Clinic

April 2025

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Background

In June 2000, the Ministry of Health and Long-Term Care (MOHLTC) announced the Ontario Stroke Strategy, an integrated and comprehensive strategy to improve access to quality care and outcomes for persons with stroke/transient ischemic attack (TIA) through the regional organization of stroke services.[1] This strategic plan established 11 cross-continuum[2] regional systems of stroke care in Ontario.

The value of regionally organized stroke systems of care has been demonstrated in the literature.[3,4,5] Benefits include improved access to prevention, and life-saving and disability-reducing interventions, resulting in improved outcomes for persons with stroke/TIA and cost savings to the health care system.

Regional Stroke Systems in Ontario

Each regional stroke system is comprised of a network of health service providers that collaboratively identify, prioritize, and implement initiatives to promote timely access to specialized stroke care. These networks include:

- A Regional Stroke Centre or Enhanced District Stroke Centre, with clinical and regional system accountabilities,
- District Stroke Centres where geographically required,
- Community hospitals (including Stroke Unit Hospitals, Telestroke Hospitals, and non-stroke treatment hospitals),
- Stroke Prevention Clinic(s) (SPC),
- Rehabilitation providers (inpatient stroke rehabilitation and community stroke rehabilitation),
- Community-based providers (including pre-hospital care providers, home care, primary care providers, community support agencies, health promotion practitioners, and providers associated with long-term care facilities), and
- A governance structure to ensure that the appropriate accountability and enablers are in place to support system improvement, drive evidence-informed practice, and improve outcomes for persons with stroke/TIA (refer to Appendix A: Ontario Health -Regional Stroke System Model for additional information).

[1] Ontario Ministry of Health and Long-Term Care and the Heart and Stroke Foundation of Ontario. 2000. *Towards an Integrated Stroke Strategy for Ontario*. Report of the Joint Stroke Strategy Working Group.
[2] The continuum of care includes primary prevention, secondary stroke prevention, pre-hospital, hyperacute, acute, rehabilitation and community including re-engagement.
[3] Kapral MK, Fang J, Silver FL, Hall R, Stamplecoski M, O'Callaghan C, Tu JV. Effect of a provincial system of stroke care delivery on stroke care and outcomes. CMAJ. 2013 Jul 9;185(10):E483-91. doi: 10.1503/cmaj.121418. Epub 2013 May 27. PMID: 23713072; PMCID: PMC3708028.
[4] Manns, B.J, Wasylak, T. Clinical Networks: Enablers of Health System Change CMAJ 2019 November 25;191:E1299-1305. doi: 10.1503/cmaj.190313
[5] Fargen, K, Jauch, E, et al. Regionalization of Stroke Systems of Care Along the Trauma Model. Stroke Vol46, Issue 6. June 2015 p1719-1726 https://www.ahajournals.org/doi/10.1161/STROKEAHA.114.008167

Typically, within the regional stroke systems, a Regional Stroke Centre provides the most comprehensive array of specialized clinical services (i.e., thrombolysis, endovascular thrombectomy, neurosurgery, stroke unit care, secondary stroke prevention, and access to stroke rehabilitation), and supports a regional stroke network team in providing leadership for the development, coordination, and integration of the regional stroke system.

In certain areas of the province, where a regional stroke system covers a large geography, it may be subdivided into smaller stroke districts to support the collaborative identification, prioritization, and implementation of opportunities aimed at promoting timely access to specialized stroke care in support of the broader regional stroke system. The leadership for these districts is provided through District Stroke Centres.

In certain circumstances, a District Stroke Centre may fulfill an enhanced role within the regional stroke system. This enhanced designation may reflect the additional availability of specialized neurosurgical and neurointerventional services on site in addition to the minimum clinical requirements of a District Stroke Centre,[6] without the full stroke system and network responsibilities of a Regional Stroke Centre (i.e., Enhanced District Stroke Centre- Clinical). Alternatively, an Enhanced District Stroke Centre (EDSC) designation may reflect situations where the hospital has additional regional stroke system and network leadership responsibilities like a Regional Stroke Centre, without meeting all clinical requirements for the designation of a Regional Stroke Centre (i.e., Enhanced District Stroke Centre- System). The EDSC- System supports a regional stroke network team in providing leadership for the development, coordination, and integration of the regional stroke system. In both circumstances, the EDSC functions similarly to a Regional Stroke Centre for the respective enhancement (i.e., clinical or system and network).

All Regional Stroke Centres have a Stroke Prevention Clinic that provides the most comprehensive array of stroke prevention services, acting as a regional resource for other stroke prevention services. The clinic, in collaboration with the regional stroke network team provides leadership for advancing stroke prevention services throughout the region.[7]

In larger geographies, District Stroke Prevention Clinic(s), including Enhanced District Stroke Prevention Clinics, may also be established to provide stroke prevention services and augment stroke prevention leadership to a sub-geography within the region. Community Stroke Prevention Clinics may also be established to deliver stroke prevention services closer to home.[7]

The Regional, Enhanced and District hospitals and prevention clinics received funding to support their enhanced role in the regional stroke system, including stroke network leadership and/or clinical responsibilities. The accountabilities and responsibilities associated with these resources were outlined in Stroke Service Guidelines established by the MOHLTC as part of the implementation of the Ontario Stroke Strategy.

[6] Refer to the Ontario Specialized Acute Stroke Services Framework for additional detail regarding the classification system for specialized acute stroke services in Ontario.

[7] For additional detail regarding the accountabilities and responsibilities of Regional, Enhanced District, District and Community Stroke Prevention Clinics, review the Ontario Health Stroke Service Guideline- Regional, Enhanced District, District and Community Stroke Prevention Clinic

About this Document

Preserving Ontario's regional stroke systems and networks is a provincial priority to ensure continued advancements in access to quality stroke care across all care sectors and optimization of stroke system performance for persons with stroke/TIA and providers.

Regional, Enhanced District, District and Community Stroke Prevention Clinics play an integral role in the regional stroke system and network. This document provides an update to the Ministry of Health and Long-Term Care's original Stroke Service Guidelines (2004/05) for Stroke Prevention Clinics and Community Stroke Prevention Clinics, incorporating Ontario Health's expectations of these hospitals in the current health care system. The service guidelines are divided into two sections to reflect the Stroke Prevention Clinic's accountabilities and responsibilities with respect to the:

- Regional and/or District Stroke System and Regional Stroke Network (Section A)[8]
- Provision of specialized stroke services (Section B)

Section A- Regional and/or District Stroke System and Regional Stroke Network

The following accountabilities and responsibilities apply to Regional, Enhanced District and District Stroke Prevention Clinics only. Although described collectively, the extent of these accountabilities and responsibilities differs based on whether the stroke prevention clinic operates at the regional or district level (i.e., Regional SPC, Enhanced District or District SPC).

Accountabilities

- Ensure the development, implementation, and evaluation of a regional or district stroke prevention strategy based on best practice and continuous improvement.[9]

Responsibilities

- Plan, organize, and implement regional or district stroke prevention services through the support of the regional/district network team, including the establishment of close linkages with primary care, all acute care hospitals (e.g., emergency departments at hospitals within the stroke region or district, etc.), Community Stroke Prevention Clinics, stroke rehabilitation sites within the stroke region or district, to ensure access to stroke prevention services for the population within the stroke region or district;

[8] This section is only applicable to Regional, Enhanced District, and District Stroke Prevention Clinics
[9] District Stroke Prevention strategies should align to the broader regional stroke prevention strategy.

- Assist with planning, development, implementation and evaluation of standardized processes and protocols (e.g., referral protocols to the SPC, etc.) at partner hospitals and other referral sources (e.g., Family Health Teams, primary care providers, Ontario Health Teams, Community Health Centres, Community Stroke Prevention Clinics, etc.) within the stroke region or stroke district to support an integrated system of care and timely access to best practice stroke prevention services for the population within the stroke region or stroke district;
- Ensure mechanisms are in place to collect core regional/district stroke prevention data and monitor the performance of regional and/or district stroke prevention services and quality improvement efforts.

Section B- Provision of specialized stroke services

The following accountabilities and responsibilities apply to Regional Stroke Prevention Clinics, Enhanced District Stroke Prevention Clinics, District Stroke Prevention Clinics and Community Stroke Prevention Clinics. Although described collectively, the extent of these accountabilities and responsibilities differs based whether the stroke prevention operates at the regional, district or community level.

Accountabilities

- Establish and maintain Stroke Prevention Clinic resources per original funding (refer to Appendix B for further detail regarding key roles and responsibilities);[10]
- Provide timely, coordinated, and evidence-informed stroke prevention services for persons who are at high-risk for stroke, having had a TIA or stroke, and those at risk of stroke (based on stroke/vascular risk factors);[11]
- Serve as an expert clinical resource for specialized stroke prevention services for health service providers across the stroke region, district, or defined Community Stroke Prevention Clinic catchment area;
- Optimize the outcomes of individuals at risk for stroke or who have had a stroke and are receiving care at the Regional, Enhanced District, District or Community Stroke Prevention Clinic.

Responsibilities

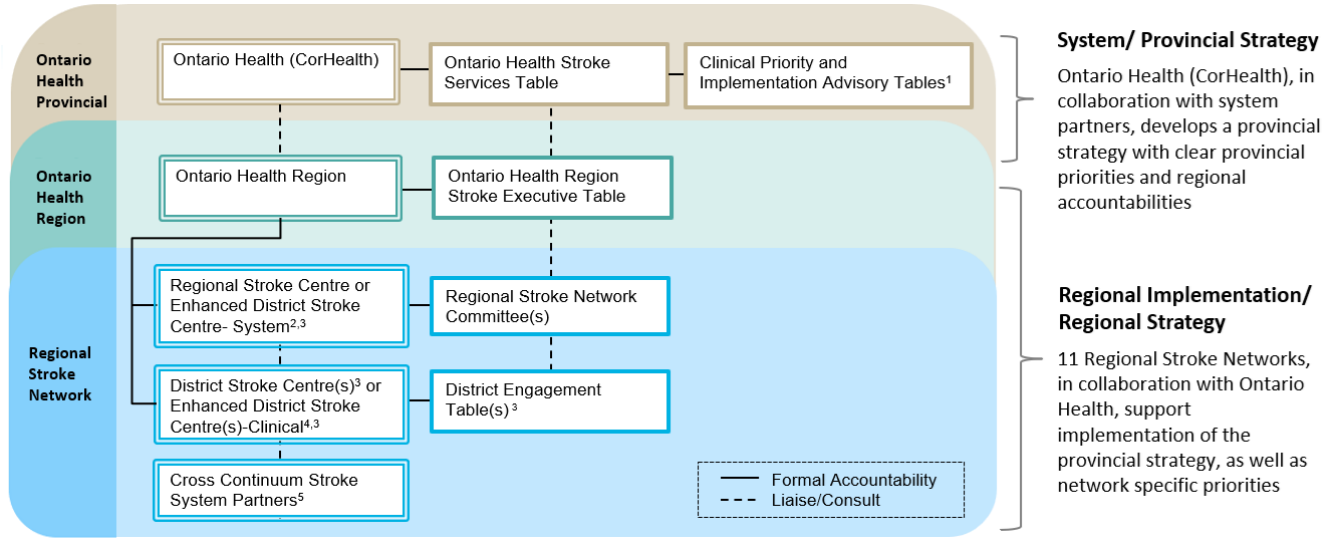
- Establish and maintain an interprofessional team or pathway for consultation and treatment (e.g., stroke neurologist/specialist, clinical nurse specialist/stroke prevention nurse, rehabilitation therapists, dietitian, etc.), including education and lifestyle modification;

[10] Hospitals are encouraged to continue to use separate cost centres as established with the original funding
[11] Community Stroke Prevention Clinics should work in partnership with Regional, Enhanced District and District SPCs to ensure alignment with the broader regional stroke prevention strategy.

- Establish referral pathways with key partners within the stroke region, district, or Community Stroke Prevention Clinic catchment area (e.g., emergency departments, primary care, rehabilitation programs, and other specialist groups, such as cardiology and vascular surgery, that serve a population of persons at risk of stroke, etc.) to support the identification and referral of persons requiring stroke prevention services;
- Develop and implement triage processes that align to best practice standards and ensure timely access to stroke prevention services;
- Ensure timely access to diagnostic services (e.g., CT scanners for brain CT/CT angiography, carotid Doppler if CT angiography contraindicated/unavailable, MRI as indicated, echocardiography, Holter monitoring, etc.);[12]
- Establish processes to coordinate timely access to additional specialty consults (e.g., sub-specialty stroke/neurovascular clinics, psychiatry, and neurosurgical/neurointerventional clinics, etc.);
- Establish pathways to ensure seamless transition of prevention care plans to primary care providers/referring providers, and facilitate linkages to community post-stroke/stroke prevention support services;
- Measure, monitor and evaluate stroke prevention services to ensure ongoing continuous quality improvement and adherence to best practice metrics (e.g., clinic wait-time, etc.).

[12] Community SPCs should work with their respect Regional or District Stroke Centre to coordinate timely access to these specialty consults/services when not available locally through the Community Stroke Prevention Clinic

Appendix A: Ontario Health-Regional Stroke System Model



1. Varies depending on provincial priorities, and also includes the stroke system Regional and District Advisory Committee to inform and enable implementation
2. Enhanced District Stroke Centres with regional stroke system accountabilities
3. Where applicable
4. Enhanced District Stroke Centres with neurosurgical and neurointerventional services on site in addition to the minimum clinical requirements of a District Stroke Centre
5. Community Hospitals (Stroke Unit Hospitals, Telestroke Hospitals, and non-stroke treatment hospitals), Stroke Prevention Clinics (including designated Regional, Enhanced District, District and Community SPCs), rehabilitation providers, community-based providers, emergency health services providers (paramedics, ORNGE)

TABLE 1: REGIONAL STROKE SYSTEM COMMITTEES

Structure	Purpose
Ontario Health Stroke Services Table	• To bring together key clinical, system planning and implementation leaders from across the province to engage in strategic dialogue and provide advice at a provincial level on stroke system priorities, issues and opportunities that will transform the system, drive access and quality, improve performance and outcomes for persons with stroke/TIA.

Ontario Health Region Stroke Executive Table	• To strengthen the relationship between the Regional Stroke Networks and Ontario Health Region by bringing together senior leadership from each to engage in strategic dialogue around the implementation of provincial and regional stroke care priorities, ensuring designated hospitals are fulfilling stroke system accountabilities and enabling the networks to drive access to quality stroke care across the continuum.
Regional Stroke Network Committee[13]	• A forum to bring cross continuum network partners together to collaborate and provide advice, and local commitment to implementation of cross continuum best practice, system planning, coordination, and improvement initiatives to advance provincial/regional priorities, drive quality performance and outcomes for persons with stroke/TIA.
District Engagement Table(s)	• A forum to bring cross continuum district partners together to collaborate and provide advice, and local commitment to implementation of cross continuum best practice, system planning, coordination, and improvement initiatives to advance provincial/regional priorities, drive quality performance and outcomes for persons with stroke/TIA.

[13] Most Regional Stroke Networks have operationalized this committee as a "Regional Stroke Network Steering Committee; however, some networks may choose to adopt a different title for the committee to distinguish its purpose from the Ontario Health Region Stroke Executive Table. Regardless of title, the purpose and functions of the committee should remain consistent across the province (refer to Appendix A: Regional Stroke System Model for additional detail)

Appendix B: Key Roles within the Regional, Enhanced District, District and Community Stroke Prevention Clinic

Medical Leadership with Stroke Experience[14]

- Assess individuals with stroke/TIA and order required diagnostics
- Provide individualized treatment and management of risk factors
- Refer persons with stroke/TIA to other specialists as required
- Work collaboratively with the interprofessional team to support a person-centred approach to care;
- Provide consultation to other physicians within the stroke region/district regarding stroke prevention[15]

SPC Stroke Nurse Specialist[16]

- Coordinate and manage the SPC referral and triage process;
- Provide case coordination, patient education and lifestyle counseling to persons with stroke/TIA seen at the SPC;
- Work collaboratively with the interprofessional team to support a persons-centred approach to care;
- Serve as an expert clinical resource and consultant to persons with stroke/TIA, families and healthcare providers on stroke prevention;
- Provide linkages to primary care providers, referring providers, and community stroke prevention support services;
- Collaborate with the regional/district stroke network team and system partners to support development and implementation of the regional/district stroke prevention work plan and

[14] Level of expertise may vary depending on type of SPC (Regional, Enhanced District, District, Community); however, pathways should exist to access specialized consultation as required.
[15] May be applicable only to Regional Stroke Prevention Clinics. Physicians working at other Stroke Prevention Clinics (District, Enhanced and/or Community) should have established pathways to access specialized consultation, as required.
[16] Per original funding. Roles may have been expanded or adapted to meet regional, district or community SPC accountabilities. Hospitals may have their own organizational policies and processes regarding job classifications, titles, and reporting structures.

related services;

- Provide stroke prevention education and outreach efforts with referral partners, in partnership with other educators, or regional/district network team members;
- Provide education and strategies to support medication adherence and high blood pressure awareness and blood pressure self-monitoring;
- Facilitate consistent regional/district evidence-informed standards, guidelines and protocols for stroke prevention and continuous quality improvement processes within the SPC, including transition into the community/to community services;
- Collaborate with other SPC Stroke Nurse Specialists provincially to share resources and identify and implement opportunities to further influence and enhance adoption of stroke prevention best practice.

Administrative Support (e.g., Medical Secretary, Clerk)[17]

- Provide administrative support to the Clinic.

Behavior Modification Specialist[17]

- Provide behavior modification interventions/coaching to enable the adoption of healthy lifestyle practices (e.g., diet and nutrition, fitness, sleep, stress management, smoking cessation, reduced alcohol consumption, etc.).

[17] Per original funding. Roles may have been expanded or adapted to meet regional, enhanced district, district or community SPC accountabilities. Hospitals may have their own organizational policies and processes regarding job classifications, titles, and reporting structures.

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