

## Telestroke Services in Canada

Province	British Columbia	Northern Alberta	Southern Alberta	Ontario
<b>Type of Service</b>	Emergency Care for Hyperacute Stroke: Phase 1 of a Provincial Service: This service will enable referring sites from across BC to consult with one call group of stroke neurologists.	Emergency care for hyperacute stroke for northern Alberta. Service coordination supported by the Telehealth Department. Clinical aspects of the service managed by clinical area and technical aspects managed by the IM/IT Department. No central coordination of Telestroke.	Emergency Care Hyperstroke Consultation for Southern Alberta. Service coordination support by the telehealth department. Clinical aspects of the service managed by clinical area and technical aspects managed by the IM/IT Department. No central coordination as in the OTN model.	Provincial Program - Emergency Care for Hyperacute Stroke: Service managed centrally by the Ontario Telemedicine Network.
<b>Consulting Sites</b>	Victoria General Hospital Vancouver General Hospital	Nine remote ED sites with telehealth equipment in respective trauma rooms. Process in place to call stroke neurologist and assess acute patient for potential tPA.	Primary consulting site is Foothills Medical Centre, Calgary Stroke Program.	Toronto Hamilton Hunsville Thunder Bay
<b>Number of Consultants</b>	7 - Victoria 7 - Vancouver	Seven stroke neurologists who take call for the telestroke acute tPA program. Call rotation is completed by the physician group and they take call for one week intervals.	Two consultants and fellows under supervision total eight neurologists. Calgary physicians have their rotation determined per their schedules.	Ten consultants support the provincial program.
<b>Compensation</b>	Fee-for-service codes developed ( <a href="http://www.health.gov.bc.ca/msp/infoprac/physbilling/payschedule/pdf/24.%20neurology.pdf">www.health.gov.bc.ca/msp/infoprac/physbilling/payschedule/pdf/24.%20neurology.pdf</a> ). On-call currently provided through existing on-call service. Development of an on-call model will be tackled as part of the provincial service implementation.	All but two Neurologists are salaried. They shadow bill using clinical codes and telehealth codes.	Neurologists are salaried. They shadow bill using clinical codes and telehealth codes.	On call stipends for 24 hour shifts - Primary (higher stipend) + back-up person + physicians can bill fee for service.
<b>Description of Call</b>	Two consulting groups provide call for two referring sites.	Call managed by the clinical area, not telehealth services.	Call managed by clinical area. Provide neurology coverage during gaps in coverage (weekends and after hours and the odd vacant days).	Three-month voluntary schedule developed (0800-0800). Each neurologist to take about four call shifts, two primary and two back-up.
<b>Number of Referring Sites</b>	Two consulting groups providing call for two referring sites. Victoria General services Cowichan District and Nanaimo General Hospitals. Vancouver General services Peace Arch and Chilliwack Hospitals.	Nine referring sites for acute calls.	Four primary stroke sites: Medicine Hat, Lethbridge, Red Deer, and Drumheller.	As of October 2010 there were 13 sites. Six additional sites going live in the next few months.
<b>Technology</b>	Appliance-based video conferencing systems mostly from Tandberg and Polycom, one fixed unit, mobile referring units and desk top consulting units x2. Home solution not developed at this time.	Tandberg videoconferencing units at remote sites.	Polycom VX 7000 at Medicine Hat and Lethbridge. Tandberg at Drumheller and Red Deer. Mobile carts in ER rooms at each PSC.	Tandberg Interns + 2 eFilm PCs at referring site PC based videoconferencing with eFilm software at neurologists' homes Desktop and/or PC based videoconferencing in consulting hospital sites.
<b>Networking</b>	Current health network interface uses several networks that are designed to provide an integrated network communication for the secure exchange of health information across the province. These networks include the eHealth Network Gateway (eNG), the Physicians Private Network (PPN), and the planned First Nations Health Network. The eNG is a secure transport mechanism that enables interconnectivity between organization networks. Point-to-point connectivity between HAs does not occur seamlessly at this point, except between the Vancouver Coastal and Fraser Health referring sites.	The Alberta SuperNet was built to connect public institutions across the province – schools, hospitals, colleges, universities, libraries, and municipal offices – to a broadband network for high-speed Internet access, video conferencing, and other services. It is a network of fibre cables and towers currently reaching 429 communities across Alberta. Supernet and network connectivity- facility having AHS provincial network status and backbone is essential as the province runs on one unified network backbone.	The Alberta SuperNet was built to connect public institutions across the province – schools, hospitals, colleges, universities, libraries, and municipal offices – to a broadband network for high-speed Internet access, video conferencing, and other services. It is a network of fibre cables and towers currently reaching 429 communities across Alberta. Supernet and network connectivity- facility having AHS provincial network status and backbone is essential as the province runs on one unified network backbone.	OTN is one of the largest live two-way videoconferencing networks in the world. Health care professionals use OTN to provide access to care for patients through every hospital and hundreds of other health care locations across the province. In addition to clinical care, OTN facilitates delivery of distance education and meetings.
<b>Diagnostic Imaging</b>	Vancouver Island Telestroke service and Victoria General call group uses the VIHA PACS system, which is an intra HA system for sharing images with internal sites. Vancouver Coastal call group uses a new system called the Provincial Diagnostic Imaging Viewer. The PDIV system is currently deployed for use by certain users within VCH and FH. It will be the future provincial solution.	Remote sites have CT scans and all images are relayed via PACs.	Provincial DI solution / IMPAX system used / CT scans in each PSC area.	Merge eFilm software used for image viewing (CT image sent from referring site CT to on-site eFilm PC workstation). Neurologists pull CTs from the referring site eFilm workstations to local machines to view.

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<b>Referral Management</b>	<p>The planned process for a Telestroke consult begins with a call to bcbedline or directly to the on-call pager held by the consultant on-call. Bcbedline collaborates with physicians and other health care providers to ensure an integrated approach for the safe, efficient transfer of acute and critically ill patients to the appropriate level of care both within and outside of BC. Bcbedline collects personal information indirectly from the referring physician or ER unit clerk and shares the following data elements with the consultant:</p> <ul style="list-style-type: none"> <li>• Patient name,</li> <li>• Personal Health Number (PHN),</li> <li>• Date of Birth,</li> <li>• Gender,</li> <li>• Family Doctor,</li> <li>• City of residence</li> <li>• Diagnosis</li> </ul> <p>(Source: www.bcbedline.ca)</p>	<p>Referral, Access, Advice, Placement, Information and Destination or RAAPID works to:</p> <p>Facilitate critical and/or urgent transfers or consultations with a tertiary care facility or a specialist;</p> <p>Provide the right care at the right place, using real time capacity information, resulting in enhanced coordination to transport patients;</p> <p>Return the patient to their sending institution or closest health care facility within their community following an acute episode; and</p> <p>Archive all calls to serve as a legitimate medical record.</p> <p>Patient transfer occurs only once physician-to-physician conversation has taken place and an appropriate accepting physician has been identified.</p>	<p>RAAPID- point of entry call to RAAPID for all stroke consults requested from the PSC sites. RAAPID contacts FMC and pages on-call Stroke Neurologist who then takes the transferred phone call from the PSC site. Neurologist attends telestroke consultation room on 11th floor, stroke in patient unit 1176 . Direct dial access from PSC site to FMC telehealth stroke room. Consultation ensues and transport is deemed necessary by neurologist on call.</p>	<p>CRITICAL ONTARIO - CONNECTING PHYSICIANS, RESOURCES AND CARE</p> <p>CritiCall Ontario is a 24-hour-a-day 'medical 9-1-1' emergency referral service for hospital-based Ontario physicians.</p> <p>It provides a capacity management system that documents the 'status of' and 'access to' Ontario's acute care beds.</p> <p>CritiCall provides implementation, training and problem solving assistance for the Critical Care Information System (CCIS) to Ontario hospital critical care units.</p>
<b>EHR</b>	<p>Service providers share patient information over video. CT Image is accessed by the DI solution, different for both prototypes. Consult note developed based on sample from OTN that has been revised for BC and is faxed to referring site and placed on chart ASAP.</p>	<p>RAAPID documents initial call and is linked into the actual consultation by audio to capture the rest of the record. All information is entered into a data base. The referring site documents the consultation and care at their end and is able to access RAAPID documentation. The neurologist documents as required but is not required to send any documentation to the referring site.</p>	<p>RAAPID documents initial call and is linked into the actual consultation by audio to capture the rest of the record. All information is entered into a data base. The referring site documents the consultation and care at their end and is able to access RAAPID documentation. The neurologist documents as required.</p>	<p>Neurologists provided with consult note template, but can use preferred consult note solution as long as it meets HR and legislative requirements.</p>
<b>Home Access</b>	<p>No home access at this time. Continuing to explore options.</p>	<p>Stroke neurologists have a portable Tandberg telehealth unit that can be brought home while on call. All IT security measures have been approved and MD has a secure laptop to view PACs images as well.</p>	<p>No home access. Anticipating home access pilot to lead physician's residence as proof of concept in winter 2010</p>	<p>Home Internet Service Model: Neurologists pay monthly fee for 'bundle' which includes hardware, software and connectivity (business connection). Computer must be encrypted and be password protected. Looking to provide FOIP for consult notes.</p>
<b>Volume</b>	<p>One to three consultations per month for all sites.</p>	<p>123 hyperacute calls were completed with the nine remote sites in 2009/10.</p>	<p>Variability in volumes of consults. Ad hoc consults from Red Deer and Lethbridge: 2 per month. No current activity from Medicine Hat.</p>	<p>Thirty to 40 telestroke consultations per month.</p>
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