# **New Ontario Stroke Unit Definition**

### A Best Practice Standard for Stroke Units in Ontario

### **PROVINCIAL WEBINAR**

SEPTEMBER 11, 2023



# **Meeting Objectives and Agenda**

- To promote awareness of the provincial Stroke Unit Access & Quality Initiative
- To highlight the current state of stroke unit care in Ontario and share evidence of the value and importance of stroke unit care for patients
- To introduce and provide an overview of the New Ontario Stroke Unit Definition, including a high-level review of each component

Time	Торіс	Presenter
5 min	<ul><li>Welcome &amp; Introductions</li><li>Meeting Objectives</li><li>About Ontario Health - CorHealth</li></ul>	Shelley Sharp
15 min	A Case for Change: Current State and Value of Stroke Unit Care	Dr. Albert Jin
25 min	<ul><li>Stroke Unit Access &amp; Quality Initiative</li><li>Release of New Ontario Stroke Unit Definition</li></ul>	Alexandra Keludjian
10 min	• Open Q&A	Alexandra Keludjian
5 min	Next Steps	Shelley Sharp



# Housekeeping

### RECORDED

This meeting is being recorded. A copy of the recording will be shared with meeting participants, including those who were unable to join, after the meeting.



### MUTE

If you are not speaking, please mute your microphone to optimize sound quality and avoid background noises/distractions. When you would like to speak, simply raise your hand and/or unmute.



### CHAT

The chat box will be monitored throughout the meeting. Please feel free to type any comments in this space.

Alternatively, feel free to raise your hand and we will call on you to comment or ask a question.



# Land Acknowledgement

Shelley Sharp, Senior Strategist, Stroke Clinical Program Ontario Health - CorHealth

# About Ontario Health - CorHealth Ontario

In 2016, the Cardiac Care Network of Ontario and the Ontario Stroke Network merged to form CorHealth Ontario, **with a mandate spanning cardiac, stroke and vascular care in the province.** 

CorHealth Ontario successfully transferred into Ontario Health on December 1, 2021.

Together with its stakeholders and partners, Ontario Health -CorHealth Ontario plays a central role in the system to improve the quality, efficiency, accessibility and equity of cardiac, stroke and vascular services for patients across Ontario.

Ontario Health - CorHealth Ontario has a privacy status of Prescribed Person under PHIPA.





### **Ontario Health Strategic Priorities**



8

Reduce health inequities

Transform care with the person

at the centre



Enhance clinical care and service excellence



Maximize system value by applying evidence



Strengthen Ontario Health's ability to lead



# Cardiac, Stroke, and Vascular Disease in Ontario

### ~2.4 Million Ontarians are affected by cardiac, stroke, or vascular disease per year



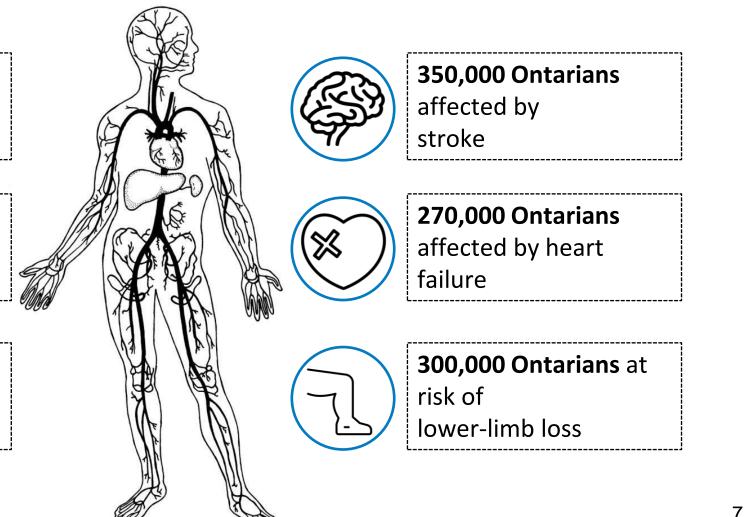
275,000 Ontarians affected by atrial fibrillation



**1** million Ontarians affected by ischemic heart disease



**240,000** Ontarians affected by acute myocardial infarction



# FY 2022/23 ABP Priorities

### 3.6 Improve access and quality in cardiac, vascular and stroke care

### YEAR ONE: 2022/23

#### Cardiac

- Advance the integration of the heart failure model of care, leveraging OHTs, to improve early identification and management of heart failure disease across the continuum of care.
- Improve timely access and care outcomes for patients with atrial fibrillation (AFib) by:
- Finalizing provincial capacity recommendations for timely access to catheter AFib ablation.
- Completing provincial guidelines for patient eligibility and facility quality criteria for AFib catheter ablation procedures.

#### Vascular

 Integrate/implement lower-limb preservation model in three to five programs/OHTs to improve access to best-practice management and integrated lower-limb preservation care.

#### Stroke

- Implement endovascular thrombectomy (EVT) screening and patient selection up to 24 hours from stroke symptom onset for better access to hyper acute stroke care (tissue plasminogen activator tPA, EVT) for patients with ischemic stroke.
- Complete provincial capacity recommendations for MOH and regional stroke system as well as regional leaders to improve equitable access to high quality stroke unit care.
- Assess the gap for post-stroke community rehabilitation best practice; develop a plan for data collection to inform improvements in access and patient outcomes.

### YEAR TWO: 2023/24

#### Cardiac

 Standardize a maximum recommended wait time target for catheter AFib ablation to improve care to enable better quality of life for people with AFib.

#### Vascular

 Provincially scale lower-limb preservation programs to reduce nontraumatic major lower-limb amputations.

#### Stroke

- Implement system strategy for improving access to hyper acute screening, assessment and treatment
- Implement provincial recommendations for improving equitable access to high quality stroke unit care to improve short- and longterm outcomes for patients with acute stroke admitted to hospitals.
- Operate and modernize systems supporting cardiac, stroke and vascular care.
- Implement data collection and use the data to begin to more accurately measure post-stroke community-based rehabilitation gaps, and inform strategies towards a better stroke rehabilitation system in future years.

### YEAR THREE: 2024/25

#### Cardiac

- Scale heart failure care model implementation and make recommendations to update CHF QBP funding policy to reduce heart failure emergency department visits and hospitalizations.
- Continue to advance prior year's deliverables.

#### Vascular

 Implement a provincial Abdominal Aortic Aneurysm (AAA) screening program (one-time ask) for early detection and decrease avoidable AAA ruptures.

#### Stroke

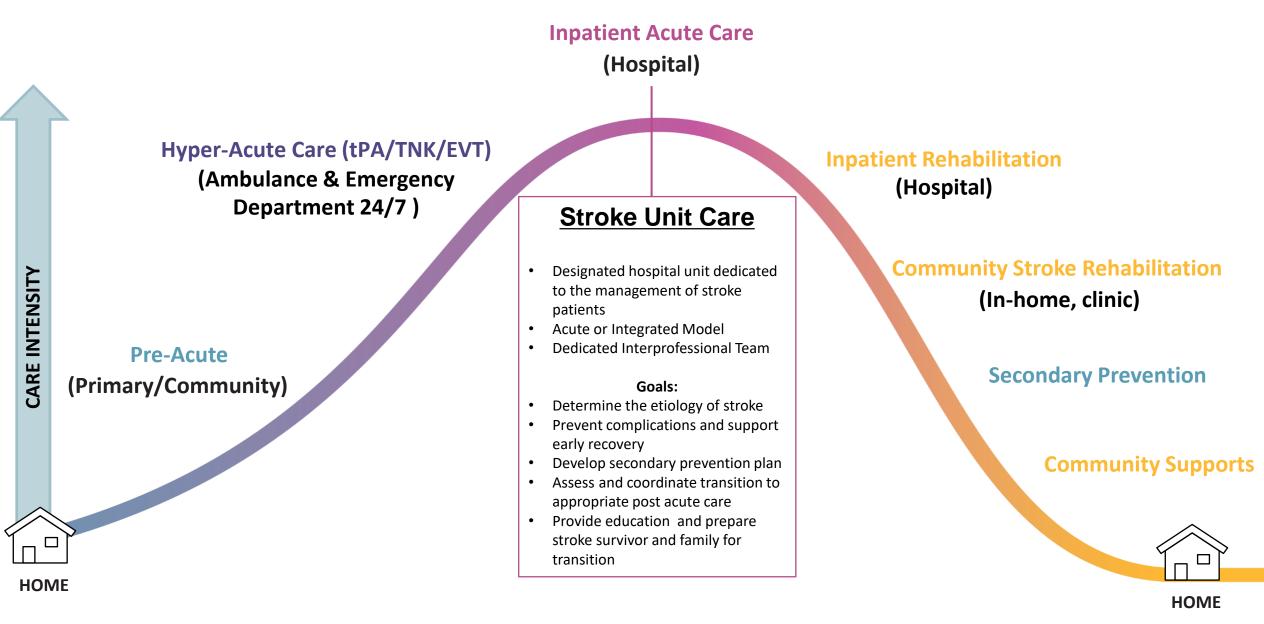
· Continue to advance prior year's deliverables.



# A Case for Change: Current State and Value of Stroke Unit Care

Dr. Albert Jin, Stroke Neurologist, Kingston Health Science Centre Regional Medical Director, Stroke Network of Southeastern Ontario

### **Stroke Care Journey and Care Intensity**



# The Value of Stroke Unit Care

Stroke unit care is the one intervention from which all stroke patients can benefit and has significant impact on short and long-term outcomes.<sup>1,2</sup>

*"It is now well-established that patients who receive stroke unit care are more likely to survive, return home, and regain independence compared to patients who receive less organized forms of care." <sup>3</sup>* 

"Stroke unit care is associated with reductions in the likelihood of death, death and disability, and death or the need for institutionalization **by approximately 25%.**"<sup>4</sup>

"Stroke unit care is characterized by a **coordinated interdisciplinary team** comprising physicians, nurses, physiotherapists, occupational therapists, speech-language pathologists, and pharmacists, among others" <sup>4</sup>

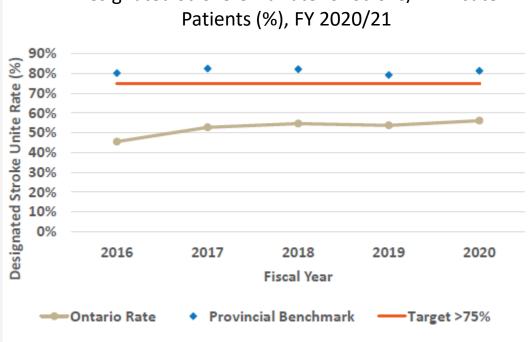
"Stroke unit care is associated with **significant reduction in the odds of death or institutionalization and** dependency at a median follow-up period of 1 year"<sup>5</sup>



# **Current State: Access**

Best practice recommends that all patients admitted to hospital with a stroke or TIA should be cared for on a stroke unit however successfully **implementing this best practice has remained a challenge in Ontario** 

- Only 56%\* of stroke patients are currently treated on a stroke unit and there is significant variation in access rates across the province
- **Key barriers** preventing access to high-quality stroke unit care include:
  - **Lack of consolidation** of stroke patient volumes within regions
  - Inconsistent implementation of components of SU best practice and understanding of the value of SU care
  - Barriers to patient flow in and out of the unit
  - Lack of funding levers that align to best practice care 0
  - Accountability and governance structures that drive performance



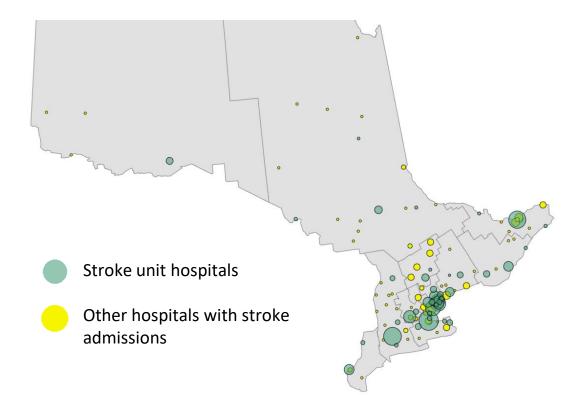
Designated Stroke Unit Rate for Stroke/TIA Acute

\*Ontario Health - CorHealth Ontario Stroke Report 2021



# **Current State of Stroke Unit Access**

### 45\* Stroke Unit (SU) Hospitals (539 SU Beds)



\*2 additional SU opened in September/October 2023 (not currently captured)

### Current Access to Stroke Unit Care in Ontario

In FY 2021/22, approximately 27,110 stroke patients were admitted to hospital.

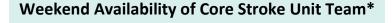
- 22,279 of these patients were admitted to a SU hospital;
  however, only ~14,096 received care on the Stroke Unit (63%)
  - Note: Some patients may not be eligible for stroke unit care; therefore, the provincial target for SU access is 75%
- 4,831 of these patients were admitted to a non-stroke unit hospital and only 754 were subsequently transferred to a stroke unit hospital (16%)
  - It is estimated that approximately 2,466 of the remaining patients may have benefited from SU care (i.e., those with non-palliative diagnosis, stroke MRDX)

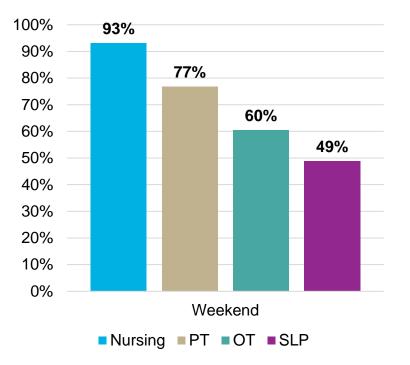
\*Date retrieved from internal analysis using CIHI DAD/NACRS data (FY 2021/22)



# **Current State Assessment: Key Findings**

- Patients and families value access to specialized, best practice stroke unit care
- Variation in interprofessional team composition and availability on the stroke unit
- Variation in content, mechanism and delivery of staff orientation to the stroke unit
- Variation in how stroke unit staff assignment is maintained to treating stroke patients the majority of the time
- Variation in **clustering / co-location practices** of stroke unit beds
- Lack of prioritization of stroke unit beds and blockages to flow through the unit remain key barriers to improving access
- Flow issues out of stroke unit (particularly to rehab) intensify bed capacity pressures





\*Ontario Stroke Unit Provincial Survey 2022



# **Patients Value Stroke Unit Care**

Patients and families want and value access to specialized stroke care as provided on stroke units

6 6 "Having the right care providers, and a team that worked cohesively together is phenomenal" – Patient Advisor

"The nurses have the expertise and then the PT OT did...they worked with stroke patients regularly on the stroke floor, so they had the expertise as well."- Family Advisor

"This all would have been avoided had he gone to an ISU; he would have had the care path as appropriate... and rehab until safe to go home...he should never have been discharged from the hospital and that is because they do not have stroke expertise"- Family Advisor

*"It got to the point where I felt that I was arguing with them...why is he going to a general hospital?"- Family Advisor* 

"Take me wherever I can get the best care." - Patient Advisor





# **Stroke Units Save Lives**

- Stroke unit care can be applied to every stroke patient
- Stroke unit care can save and restore **thousands of lives every year in Ontario.**
- Example: If 25, 000 stroke patients were admitted to hospitals and 75% accessed a stroke unit
  - Approximately 1000 deaths could be prevented (NNT = 22)<sup>7</sup>
  - Approximately 2000 people could regain independence  $(NNT = 9)^8$
- Stroke unit care needs strong hospital leadership to match the dedication of the interprofessional team



# **Stroke Unit Access & Quality Initiative**

# **Release of New Ontario Stroke Unit Definition**

Alexandra Keludjian, Strategist Ontario Health - CorHealth

# **Stroke Unit Access & Quality Initiative**



**Goal:** To enable better outcomes for patients in Ontario who experience a stroke by ensuring they have equitable access to evidence-based stroke unit care (3–4-year framework)

A multi-year, priority initiative established within Ontario Health's Annual Business Plan

Phase 1: Establishing Best Practice & Understanding Current State

- Set the foundation for best practice stroke unit care in Ontario through a renewed definition and clearly defined components
- Assess current state of stroke units and access to these units, including barriers and opportunities to improve local and regional access

Phase 2: Driving Adoption of Best Practice & Improving Stroke Unit Access

- Strengthen partnerships and collaboratively support stroke unit hospitals in gap identification and building towards meeting the new stroke unit definition and best practice components
- Work with system partners to explore and initiate key opportunities to improve access identified from the current state assessment

Phase 3: Enhancing Quality of Care & System Performance

- Develop a measurement framework to understand and drive quality improvement (i.e., quality of care on stroke units)
- Advance and sustain regional system supports and changes identified as opportunities to promote equitable access to high quality stroke unit care



### Phase 1 Deliverables (FY 23/24)

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### NEW Ontario Stroke Unit Definition

To aid stroke units in meeting a new provincial standard of care

To clarify the definition and components of a best practice stroke unit in Ontario



### Regional Profiles and Recommendations

To aid Ontario Health Regions and Stroke Networks to identify opportunities for action to improve regional and local access to stroke units

To aid provincial and regional policy makers and system planners to facilitate appropriate levers and actions toward improved access to best practice stroke units



Ontario Stroke Unit Scenario Planning Tool

To aid stroke units in identifying local resourcing needs

To aid stroke and system stakeholders in planning and procuring necessary resources

# **Rationale for New Ontario Stroke Unit Definition**

- The previous definition of stroke unit care has been described by key stakeholders as unclear and inconsistently interpreted across the province, resulting in stroke unit heterogeneity and lack of understanding of what constitutes stroke unit care in Ontario
  - Previous definition: "A geographical unit with identifiable co-located beds occupied by stroke patients on average 75% of the time and has a dedicated interprofessional team with expertise in stroke care with the following professionals at a minimum nursing, physiotherapy, occupational therapy, speech language pathologist". (OSN, 2014)
- The New Stroke Unit Definition aims to establish a standard for stroke unit care and improve consistency in how stroke unit care is understood and implemented across Ontario by describing the core components. It is not meant to address system capacity, access and quality issues. Instead, it provides a starting point, or foundation for future conversations aimed at improving quality and access to stroke unit care
  - > The New Stroke Unit Definition (2023) takes the place of the previous stroke unit definition (2014)
  - Ontario Health-CorHealth recognizes that there are system documents that will need to be updated following the release of the new definition



# New Ontario Stroke Unit Definition: Development

<u>Purpose</u>: To provide stroke stakeholders with increased clarity on the definition of a stroke unit and improve consistency in how stroke unit care is understood and implemented across Ontario



### **Ontario Stroke Unit Definition**

A best practice standard for stroke units in Ontario

JUNE 2023

- Developed in collaboration with an advisory Stroke Unit Task Group
- Grounded in the Canadian Stroke Best Practice Recommendations
- Informed by Current State Assessment of Stroke Units in Ontario
- Aligned to Ontario Health strategic priority of *Enhance clinical care* and service excellence
- Includes additional guidance derived from patient, family and caregiver engagements



### New Ontario Stroke Unit Definition and Core Components

### BEST PRACTICE CORE COMPONENTS



Provincial Stroke Unit Definition and Components
ONTARIO STROKE UNIT DEFINITION
COMPONENTS
Component 1 – Minimum Volumes
Component 2 – Interprofessional Team Composition
Component 3 – Interprofessional Team Availability
Component 4 – Stroke Care Training and Expertise among Staff
Component 5 – Co-Location of Stroke Unit Beds
Component 6 – Prioritization of Stroke Unit Beds for Stroke Care
Component 7 – Pathways to Transition out of Acute Stroke Care
Component 8 – Performance Measurement, Monitoring and Reporting
Component 9 – On-Site Availability of Diagnostic Resources
Component 10 – Patient, Family and Caregiver Education

# **New Stroke Unit Definition: Key Differences**

### **ONTARIO STROKE UNIT DEFINITION**

A **stroke unit** is a specialized unit dedicated to the care of persons with stroke and staffed by an experienced, interprofessional stroke team. The unit has designated stroke unit beds that are co-located and in physical proximity to each other. These beds are used to provide care for stroke patients most of the time.

### **Key Differences from Previous Definition Include:**

- Removal of concept related to occupancy 75% of the time, to eliminate confusion that stakeholders raised when interpreting this definition
- A specific component related to the interprofessional team composition has been created and is found within the document
- Inclusion of the word 'specialized', to emphasize that stroke unit care is a specialty service within an acute setting



# **Component Structure**

Each component follows the same structure in the document:

### **Component # - Title**

Descriptive paragraph that clarifies the component, how it should be interpreted, and the expectations of stroke unit hospitals to deliver high quality stroke unit care

**Rationale and Supporting Evidence:** Each component is grounded in the best available evidence from data and literature (i.e. grounded in the Canadian Stroke Best Practice Recommendations and endorsed by an expert task group (Ontario Health – CorHealth Ontario Stroke Unit Task Group))

**Additional Guidance:** Includes supporting and additional contextual information to aid users in interpreting the description of the component

**Additional Guidance from Persons with Lived Experience:** Where appropriate, experiences and feedback from Patients, Families and Caregivers with lived experience have been incorporated into the document, to strengthen certain components where applicable



## **Component 1 – Minimum Volumes**

A stroke unit should have a minimum volume of 125 (for acute stroke units) and 100 (for integrated stroke units) **admitted** patients with stroke per year. The minimum volume number is inclusive of the following stroke types: ischemic and hemorrhagic (intracerebral hemorrhage), and those patients with transient ischemic attack (TIA) deemed to require hospital admission.

- Minimum volumes support a critical mass of stroke patients that enables expertise, quality and sustaining a unit
- The value of 100 for integrated stroke units was determined through consensus with stroke system stakeholders through stroke bundled care planning work undertaken in 2019 by CorHealth Ontario. Patients on an integrated stroke unit (ISU) tend to have a longer length of stay, as they receive acute and rehab care in the same unit



# **Component 2 – Interprofessional Team Composition**

A stroke unit should have a dedicated interprofessional team with *expertise* in stroke care (i.e., the majority of each team member's caseload is stroke). The following professionals should be part of the team: nurses, physiotherapists, occupational therapists, speech language pathologists and physicians with stroke expertise, social workers, and dietitians.

- Ontario Health CorHealth Ontario Stroke Unit Task Group strongly recommends that patient to provider ratios for the acute stroke unit rehabilitation team members (i.e. physiotherapist, occupational therapist, speech language pathologist) does not exceed a ratio of eight patients per provider on average, due to the complexity and needs of this patient population
- Family members and caregivers also play an active role in the care and recovery process and are strongly viewed by the patient as integral members of the care team



# **Component 3 – Interprofessional Team Availability**

A stroke unit should be staffed with a stroke-specialized interprofessional team, which includes nursing, physicians, physiotherapists, occupational therapists, speech language pathologists, social workers, and dietitians, 7 days per week. A 7-day per week full-service team care model is considered best practice.

- Persons with Lived Experience described insufficient or inadequate access to the rehabilitation care team on weekends and weekdays as resulting in delayed assessment, interruptions in rehabilitation progress, suboptimal experiences, and feelings of frustration
- Efforts should be made to facilitate building towards this component through incremental steps (i.e. first building towards 6-day per week coverage (e.g. half-day to full-day), then progressing to 7-day per week coverage)
- Care of patients with stroke should not differ whether it is a weekday, weekend, or holiday



# **Component 4 – Stroke Care Training and Expertise among Staff**

Nursing and allied health staff who work on a stroke unit should:

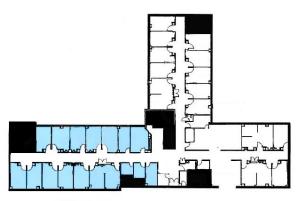
- 1. Receive appropriate orientation that supports development of core competencies and foundational stroke care;
- 2. Have the majority of their assignment be stroke care to help sustain competencies; and
- 3. Regularly receive training/complete education about stroke care.
- To provide appropriate and evidence-based best practice care to patients with stroke, the interprofessional healthcare team members should have stroke-specific knowledge, skills, and expertise
- Stroke unit managers and leaders are encouraged to routinely monitor the professional development/ongoing education of stroke unit staff (nursing and allied health providers)



# **Component 5 – Co-Location of Stroke Unit Beds**

Stroke unit beds/patients should be co-located (i.e., situated in close physical proximity to one another). The interpretation of 'co-location' is dependent on the composition of the unit, and can be operationalized one of the following ways:

- A cluster of beds that exist within a designated area of a hospital unit, such as neurology or general medicine. Patients with stroke are <u>not scattered</u> throughout the unit and efforts are made to group them together in one area of the unit
- 2. A dedicated stroke unit that <u>primarily</u> admits patients with stroke. In this scenario, almost all the patients on the unit are patients with stroke



Clustered arrangement of stroke unit beds (light blue) located in one area of a hospital ward



Beds designated for stroke care (light blue) are scattered throughout the ward. This is **not** ideal and does **not** align to the co-location component

# Component 6 – Prioritization of Stroke Unit Beds for Stroke Care

Stroke unit hospitals should have mechanisms in place to prioritize stroke unit beds for the care of patients with stroke (admitted with stroke or in-hospital strokes), **to enable access to a stroke unit bed as soon as possible** and ideally within 24 hours of stroke unit hospital arrival or when that patient is appropriately ready for the stroke unit level of care (e.g., after a stay in critical care before transfer to the stroke unit, or on another unit for telemetry monitoring when not available on the stroke unit).

- Given the current realities of the healthcare system, a hospital's stroke unit beds that are unoccupied will likely be filled by non-stroke patients
- However, when a patient (either new or already in hospital) is experiencing an acute stroke, a collective effort across multiple hospital teams is needed to ensure stroke unit beds are prioritized for patients with stroke, in a timely fashion



# **Component 7 – Pathways to Transition out of Acute Stroke Care**

To support an integrated system of stroke care and stroke unit bed flow, stroke units should have established partnerships with other health service providers, ongoing communication, and procedures in place for repatriation as sending and/or receiving facilities. This enables timely access to the stroke unit and to stroke rehabilitation facilities/local services, community-based stroke rehabilitation, and community support services for safe transitions out of acute care to the next level of care.

- Timely and safe patient transitions out of acute stroke unit beds enables availability of stroke unit beds for incoming patients with stroke
- Additional Guidance from Persons with Lived Experience: Patients and families should be involved in transition planning and discussions. Providing appropriate information about the transition including anticipated timelines to enable preparation (e.g., discharge in 1 week), and ensuring services are set up <u>prior</u> to discharge is particularly important.



# **Component 8 – Performance Measurement, Monitoring and Reporting**

Hospitals with stroke units and their relevant personnel should participate in an established process for collection and analysis of process and outcome data (locally, regionally, and provincially) and have mechanisms to support ongoing quality improvement to address current gaps in service delivery

• Collection and analysis of process and outcome data provides insight into stroke unit performance and areas requiring improvement / opportunities for action



# **Component 9 – On-Site Availability of Diagnostic Resources**

Stroke unit hospitals should have the **minimum diagnostic resources available on site**, including 24hour, 7-days a week availability of computed tomography (CT) scanner (i.e. 3<sup>rd</sup> generation or higher helical scanner) with programming for CT angiography (CTA) (multiphase or dynamic CTA), as well as prompt access to carotid Doppler (carotid and vertebral), and cardiac investigations such as Holter monitoring, and echocardiogram. Availability of these diagnostics, including timely reporting of results, is needed to support patient monitoring, guide evidence-based clinical decision-making, and perform appropriate etiological investigations.

 Canadian Stroke Best Practices recommend that access to 24/7 imaging is a core element of comprehensive stroke and neurovascular care



# **Component 10 – Patient, Family and Caregiver Education**

Stroke units should provide patients, families, and caregivers with education and resources, both formal and informal, that addresses their needs, including but not limited to education about their stroke, prognosis, expected recovery, and recovery care needs and goals.

- Canadian Stroke Best Practices recommends that patients and families receive education that is formal, coordinated, addresses learning needs, and responds to patient and family readiness
- **Persons with Lived Experience** described the acute phase of care to be an extremely overwhelming and emotional time. The need for information was described as critical to coping with the unknown and regaining a sense of control
- Addition Guidance from Persons with Lived Experience: In the acute phase of care, information about the diagnosis and what to expect next (e.g., next phase of care) is important. This information should be customized to the individual (e.g., age appropriate), and should be provided in such a way that accommodates for physical, communicative, and cognitive challenges related to the stroke



### **New Stroke Unit Definition: Expected Outcomes**

- Consistent understanding of stroke unit core components across Ontario
- Reduced variation in how stroke units are implementing best practice
- More robust criteria for informing provincial inventory of stroke units and status of meeting stroke unit components
- New partnerships and mechanisms to support stroke unit hospitals in building towards all components of a best practice stroke unit
- Improving patient outcomes through consistent implementation of a stroke unit



# Open Q&A

# **Next Steps**

Shelley Sharp, Senior Strategist, Clinical Programs Ontario Health-CorHealth

# **Next Steps**

- The release of the New Ontario Stroke Unit Definition is the first step in releasing Phase 1 deliverables. Additional effort in support of other Phase 1 deliverables will be forthcoming to support improved stroke unit best practice in Ontario
- Ontario Health-CorHealth is in the process of engaging stroke unit hospitals to explore their alignment to the New Ontario Stroke Unit Definition and core components
  - Stroke Unit Hospital Leadership (i.e. VP Clinical or equivalent), Regional Stroke Directors, District Stroke Coordinators, Regional Stroke Medical Directors and Ontario Health Region Stroke Leads are being engaged in this process



# **Questions?**

 Please contact Shelley Sharp, Senior Strategist, Stroke Clinical Program at <u>shelley.sharp@ontariohealth.ca</u> with any inquiries related to the release of the New Ontario Stroke Unit Definition

 An FAQ document will be posted on the Ontario Health-CorHealth website following today's webinar





# References

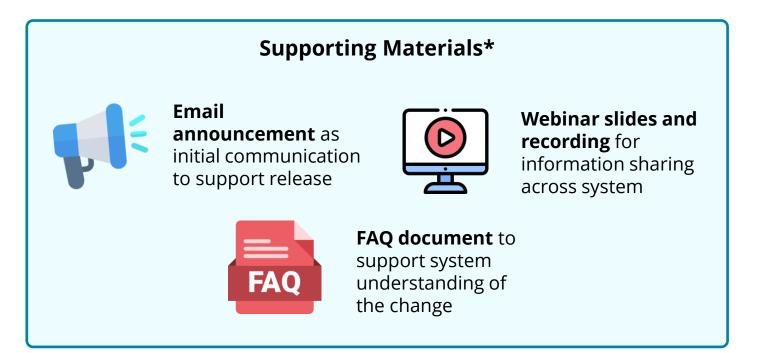
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# **Additional Supports**



**New Ontario Stroke Unit Definition\* (2023)** clarifies the definition and components of best practice stroke unit care



\*Materials to be uploaded to Ontario Health-CorHealth website (Resource Centre for Providers and System Planners)

