Stroke Distinction™ Report

Bermuda Hospitals Board

April 8, 2022

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About the Distinction Report

Bermuda Hospitals Board is participating in the Accreditation Canada Stroke Distinction™ program. As part of this ongoing quality improvement process, a hybrid (onsite/virtual) survey was conducted. Information from the survey and other data obtained from the organization were used to produce this Stroke Distinction™ Report.

Survey results are based upon information provided by the organization and gained through interviews with clients, families, caregivers, service providers, and community partners. Accreditation Canada relies on the accuracy of this information to evaluate the organization and produce the Stroke Distinction™ Report.

Confidentiality

This report is confidential and is provided by Accreditation Canada to the organization only. Accreditation Canada does not release the report to any other parties.

Accreditation Canada encourages the organization to disseminate its Stroke Distinction™ Report to staff, board members, clients, the community, and other stakeholders in the interest of transparency and accountability.

Any alteration of this Stroke Distinction™ Report compromises the integrity of the process and is strictly prohibited.

A Message from Accreditation Canada

On behalf of Accreditation Canada, I extend my congratulations to Bermuda Hospitals Board on your participation in a program that recognizes organizations that demonstrate clinical excellence and an outstanding commitment to leadership in stroke care. I hope you find the Stroke Distinction™ process to be an engaging and informative experience and that it provides valuable information to inform your quality and safety initiatives.

This Stroke Distinction™ Report shows your decision and the results of your recent onsite Stroke Distinction™ survey. I encourage you to use the information in this report to guide your ongoing quality improvement activities. Your Healthcare Improvement Advisor is available if you have questions or need guidance.

Thank you for your leadership and for demonstrating your ongoing commitment to quality by integrating Stroke Distinction™ into your quality improvement program. We welcome your feedback about how we can continue to strengthen the program to ensure it remains relevant to you and your services.

Sincerely,

Leslee Thompson, Chief Executive Officer

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Executive Summary

The Bermuda Hospitals Board (referred to in this report as "the organization") is participating in the Accreditation Canada Stroke Distinction™ program. As part of the Stroke Distinction™ program, the organization has undergone a rigorous evaluation process. External peer surveyors conducted a hybrid (onsite/virtual) survey, during which they assessed the organization's programs and services. The organization was assessed against the Acute Stroke Services and the Inpatient Rehabilitation Services standards.

Accreditation Canada's Stroke Distinction™ Program Decision Guidelines consider five factors in determining a Distinction award:

1. Requirements for the achievement of the Standards are met.
2. Performance Indicator thresholds are achieved.
3. A minimum of 60% of Protocols are adopted and consistently followed.
4. Requirements for a minimum of one and a maximum of two project(s) that meet the criteria for Excellence and Innovation are achieved.
5. Requirements for Client and Family Education are achieved.

*As the requirements of the Stroke Distinction™ Program have been met, Accreditation Canada is pleased to recognize Bermuda Hospitals Board for earning a **Stroke Distinction™ Award** for Acute Stroke Services and the Inpatient Rehabilitation Services standards.*

Areas of Success and Opportunities for Growth

Overall, the Stroke Distinction™ surveyors identified the following areas of success within the organization's stroke services:

- Leadership and Organization support
- Knowledgeable and committed staff
- Collaboration with Johns Hopkins Medicine International
- Alignment of the Integrated Stroke program plan with the Strategic Plan
- Community Partnerships
- Communication and promotion of the stroke program

Overall, the Stroke Distinction™ surveyors identified the following opportunities for continued growth and improvement within the organization's stroke services:

- Continue with the plan for integrated EMR – PEARL
- Use model to scale and spread integrated care in other priority areas
- People-centred care – patient and family input in planning and service design
- Patient-reported outcomes and experience measures
- Focus on transformation using a value-based health care approach

Bermuda Hospitals Board is commended on its commitment to using the Stroke Distinction™ Program to improve the quality and safety of the services it offers to its clients and its community.

Award of Distinction

Accreditation Canada's Stroke Distinction™ Program Decision Guidelines consider five factors in determining the award of Distinction.

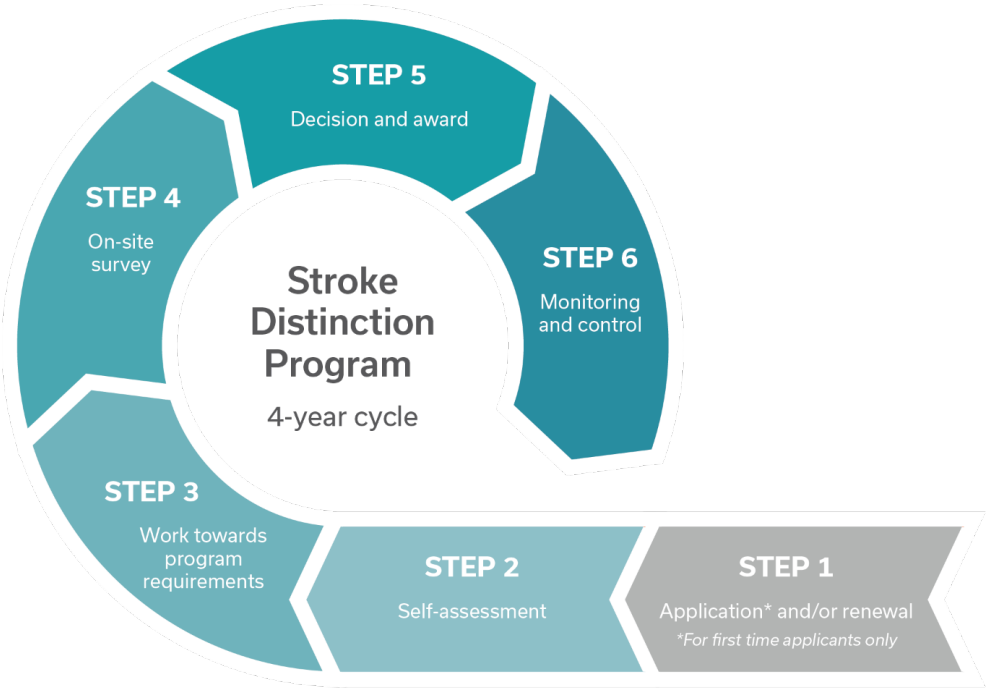
	REQUIREMENT	RATING
1.	Requirements for the achievement of the Standards are met.	MET
2.	Data submission and threshold requirements for Key Quality Indicators are met.	MET
3.	A minimum of 60% of protocols are adopted and consistently followed.	MET
4.	Requirements for a minimum of one and a maximum of two project(s) that meet the criteria for Excellence and Innovation are achieved.	MET
5.	Requirements for Client and Family Education are achieved.	MET

Based upon the results outlined above, Accreditation Canada is very pleased to recognize Bermuda Hospitals Board for earning an award of Stroke Distinction™ for the Acute Stroke Services and the Inpatient Rehabilitation Services standards.

Introduction

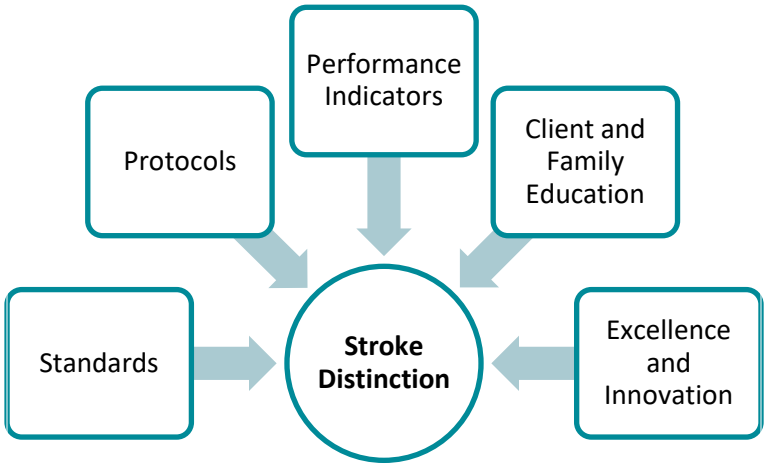
The Accreditation Canada Stroke Distinction™ program is a rigorous and highly specialized program that is condition-specific and assesses clinical team practices against the most current practice guidelines. The program recognizes organizations that demonstrate clinical excellence and an outstanding commitment to leadership in a specific field of expertise. The program is developed through a partnership with the Heart and Stroke Foundation. It is supported by close consultation with other key stakeholders and content experts to reflect detailed practices and the most up-to-date evidence. The program guides and supports organizations through a six-stage process conducted over a four-year cycle (see Figure 1), including an onsite survey conducted by expert surveyors who have extensive practical experience in the field every four years.

Figure 1 – Stroke Distinction™ Program Cycle



The Stroke Distinction™ program includes the following key components:

- **Standards:** Stroke Distinction™ Standards are based on the latest research and evidence related to excellence in the field.
- **Protocols:** Stroke Distinction™ program requires the use of evidence-based protocols to promote a consistent approach to care and increase effectiveness and efficiency.
- **Indicators:** A key component of the Stroke Distinction™ program is the requirement to submit data regularly and meet performance thresholds on a core set of performance indicators.
- **Education for People with Lived Experience of Stroke and Their Families and/or Caregivers:** Education and self-management support are integral parts of stroke care that should be addressed at all stages across the continuum of stroke services for stroke clients and their families and/or caregivers. Education is an ongoing and vital part of the stroke recovery process and must involve the stroke client as well as their family members and/or caregivers.
- **Excellence and Innovation Project(s):** The Stroke Distinction™ program requires organizations to demonstrate the implementation of at least one and a maximum of two project(s) that align with best practice guidelines, utilize the latest knowledge, and integrate evidence to enhance the quality of care.



Summary of the Surveyor Team's Overall Observations

Bermuda Hospitals Board is the only acute care service facility in Bermuda. The hospital delivers almost all general services and medical specialties for around 60,000 residents and approximately 700,000 tourists, pre COVID19. Given the changes in the demographic and lifestyle of people, risk factors of stroke and cardiovascular disease are higher than before and higher than the average worldwide. With an increasing number of patients with stroke and health and economic consequences for Bermuda, the hospital decided to invest resources in the stroke program and improve integrated services. Given the geographic location and limited resources, they had to implement a unique stroke program to facilitate access to critical care for this time-sensitive health issue.

The Bermuda Hospitals Board Stroke Program provides organized stroke care and leadership in stroke care for the Island of Bermuda. The hospital launched the Primary Stroke Center in July 2019, introducing several improvements throughout the past three years, despite COVID19. The organizational infrastructure introduced to provide leadership and drive change has been very effective. During the survey, it was evident that the stroke leadership team and staff are dedicated to excellence in stroke care and "doing the right thing." There was a notable engagement of all staff and excellent collaboration amongst the allied disciplines, nurses, specialists, and EMS. The organization highly respects the team, recognized as an exemplar of integrated care.

Since 2019, the hospital has had a clinical affiliation with Johns Hopkins Medicine International to provide clinical staff with accredited education and opportunities to improve service delivery. Providing education is a key pillar of the organized stroke program. All staff undertake 6 hours of stroke care training, either using Relias, an LMS, or through sessions led by the clinical educators. The hospital established an affiliation with the global Angels initiative to support nursing education. The Angels Initiative is designed to improve care and provider knowledge to improve outcomes for stroke patients. Approximately 35 nurses have received their certification, and 46 are completing the modules. Staff voluntarily embrace learning opportunities available to them. The staff proudly display their certificates on the unit "wall of success."

The program uses evidence, including the Canadian Best Practices in Stroke Care and the American Heart/Stroke Association Guidelines for the management of stroke. These standards are integrated within care processes and pathways. The team uses patient and family educational materials developed through the Canadian Heart and Stroke Association and the American Heart/Stroke Association. The team is encouraged to ensure that standards and educational materials consider the local context. Engaging clients and patients in the development of educational materials would be beneficial.

A comprehensive database for stroke care has been developed internally to measure and monitor performance. The team anxiously awaits the new integrated clinical information system- Cerner Millennium HER, which the organization has named PEARL - (Patients Electronic & Administrative Records Log). The new system is anticipated to go live later in 2022. It will provide performance indicators and administrative and clinical data linked to guidelines and decision support tools reducing some of the current burdens of data collection. The team has several research projects underway or planned. The team has an opportunity to examine its unique model of integrated inpatient rehabilitative care. The team is encouraged to develop a more robust mechanism to obtain patient and family feedback on stroke care and integration back into the community.

The introduction of an integrated Primary Stroke Centre in BHB has significantly improved outcomes for stroke patients. The program provides a full spectrum of stroke care delivery with solid partnerships. Building upon a culture of "taking care of our neighbours,"; the island community has embraced and promoted BE FAST. Through shared efforts across many partners and community members, the education and awareness programs have helped reduce the time of seeking help and patients react immediately when they have signs and symptoms of a stroke. The BE FAST program is embedded throughout the health sector and within the public and has helped staff, patients, and families to receive appropriate treatment when needed. The increased proportion of patients with ischaemic stroke who receive tPA has significantly increased.

The stroke team has been actively creating awareness of stroke-related risk factors and identifying barriers to care, as they recognize their roles in promoting the health and wellbeing of the community. The team has been a strong advocate for change. There are several notable examples. For example, the collaborative work currently underway with partners and insurers to reduce air transport time for access to mechanical thrombectomy. The team is encouraged to examine their compelling case for change through a value-based health care lens. Another example is the outreach to the community for hard-to-reach populations to deliver the BE FAST message. The team is encouraged to seek input from hard-to-reach populations to ensure their voices and perspectives guide the further development of programs and services. Lastly, health and wellness were observed through healthy meal choices available and information shared by staff on dietary content. Staff serve as "stroke champions."

The Emergency Department (ED) layout and close proximity to two CT devices are perfect, especially for stroke cases. The EMS staff are also located in the ED department and work very closely with ED nurses and doctors. The amazing cooperation between the ED, EMS and DI units facilitates the primary requirement for accepting patients with stroke and starting the process immediately. The BHB EMS team is located in the ED and part of the emergency room team. There is a strong connection with Bermuda Fire and Rescue Service with joint protocols, training, and standards to ensure standard stroke pre-hospital care regardless of the operator. The EMS team is in touch with the ED team, and whenever

they have a stroke case, they start BE FAST, and the ED doctor and nurse visit the patient on arrival at the entrance of the ED to assess the status and order for the next steps.

In December 2020, the stroke program started collaborating with Johns Hopkins University hospital (JHH) to implement Tele-Stroke services for acute care settings. Through this collaboration with JHH, the ED physician shares the CT with the JHH team and discusses the case, and IV tPA starts immediately in the ED resuscitation room. The time of the door to the needle is still not at the desirable level. The team has completed several PDSA cycles and introduced changes. The team remains committed to undertake further process reviews to identify possible bottlenecks and introduce further improvements as appropriate to meet the door to needle time. It remains unclear why the time is higher than the threshold with this practical, efficient layout.

The stroke team has access to 30 beds in one unit – two modules (each of 15) on the fourth floor, accommodating acute and rehabilitation patients. This overlap has advantages, such as more accessible teams working and collaborating. It also has some disadvantages for patients and staff. Delivering two levels of care with the same staff can be challenging. Interviewing patients who stay in the same bed and same unit for weeks to receive acute and then inpatient rehabilitation shows the level of tiredness and a high chance of depression without any feeling of improvement in their status. It is recommended to review the setting of these 30 beds with patients' and families' engagement to improve the inpatient delivery of care for stroke patients.

The rehabilitation team has most of the required specialties and physical environments to support inpatient and ambulatory care rehabilitation. Some areas have recently been renovated and are almost ready for staff and patients. The new setting provides more collaboration within the team in the same area for OT, PT and nutritionists.

The commitment of the team to excellence through improvement, to make Bermuda proud is commendable. The team is well-positioned with its leaders, local partners, and international partners to continue to improve upon stroke care and contribute to others as they begin a similar journey.

Standards

The Stroke Distinction™ standards identify policies and practices that contribute to high quality, safe, and effectively managed care in a specific area of expertise. Each standard has a set of criteria that are statements about the activities required to achieve the standard. High priority criteria are foundational requirements for delivering safe and quality services and are identified by a red exclamation mark within the standards.

During the survey, the surveyors assessed the organization's compliance with each section of the standards and provided the following results. As part of ongoing quality improvement, the organization is encouraged to address any unmet criteria.

Overall Ratings

REQUIREMENT	RESULTS	RATING
75% or greater of all criteria within the standards have been rated as "met."	96%	MET
80% or more of high priority criteria within the standards have been rated as "met."	100%	MET

Acute Stroke Services: Results Overview

THEME	MET %
Investing in comprehensive acute stroke services.	100%
Engaging a prepared and proactive acute stroke services team.	88%
Providing safe and appropriate hyperacute and acute stroke services.	98%
Helping clients, families, and/or caregivers live with stroke.	100%
Maintaining accessible and efficient clinical information systems.	100%
Monitoring quality and achieving positive outcomes.	100%

Inpatient Stroke Rehabilitation Services: Results Overview

THEME	MET %
Investing in comprehensive inpatient stroke rehabilitation services.	100%
Engaging a prepared and proactive stroke rehabilitation team.	93%
Providing safe and appropriate inpatient stroke rehabilitation services.	100%
Helping clients and families live with stroke.	100%
Maintaining accessible and efficient clinical information systems.	100%
Monitoring quality and achieving positive outcomes.	100%

Results by Standard Set and Theme

Acute Stroke Services

Investing in Comprehensive Acute Stroke Services

Surveyor Comments

BHB is the only acute care setting on the Island, and almost all data from the stroke cases in the hospital show the incidence and prevalence of cases. The stroke team also collects information about high-risk populations' risk factors and demographic information. The team uses this information for research opportunities to develop better services for the community, do better prevention, and plan and expand services.

UNMET CRITERIA

There were no unmet criteria relating to Investing in Comprehensive Acute Stroke Services.

Surveyor Comments

The stroke team has proper resources to deliver required services in Acute and rehabilitation units. Dedicated 30 beds in two separate units (each has15 beds) aligned with ICU beds help the team provide enough physical environment. Integrated teamwork and collaboration with other hospital healthcare delivery units provide seamless and timely service.

UNMET CRITERIA

CRITERION		COMMENTS
#	2.7	The organization has no proper process to implement the annual performance appraisal for staff.
#	3.2	The stroke team has no clear and formal process to work with the community in defining the goal and objectives.

Surveyor Comments

Hospital has a strong team working for stroke. All team members work together collaboratively to deliver safe care. They use different standardized tools to reduce the variation and risk. All patients are visited daily with the team and receive essential services. Teamworking and an interdisciplinary approach are perfect.

UNMET CRITERIA

CRITERION		COMMENTS
#	6.12	Hospital has no ability to implement interventional radiology or neurosurgery. Those cases who need these kinds of services have to transfer to the US, which could cause a delay in service delivery.

Surveyor Comments

The team provides all required education and support to patients and families. Comprehensive support. The stroke team informs patients about all the next steps in their care and helps them with follow-up and prevention for stroke recurrence. Patients receive all required rehabilitation in the hospital and after discharge in an outpatient facility. There are also follow-up services in outpatient clinics for patients to control risk factors and help them to improve their lifestyles.

UNMET CRITERIA

There were no unmet criteria relating to Helping Clients, Families, and/or Caregivers Live with Stroke.

Surveyor Comments

The clinical information system is hybrid- paper-based in the pre-hospital, electronic in Emergency Department and paper-based in acute and inpatient rehabilitation. Standardized forms and documentation processes are in place. An integrated stroke care pathway is in place with evidence-based protocols embedded into standardized orders and processes, is in place.

The Stroke system performance measures and protocols are obtained from clinical records. Also, a password-protected database has been created, and reports are generated. Stroke performance information is displayed publicly throughout the facility and is available on the website.

As the team transitions to an integrated electronic health record, clinical practice guidelines, protocols and pathways will be fully embedded into documentation and workflow processes. KQI will be easily extracted. Custom reports will be created as new KQIs are introduced or modifications are made with changing evidence and practices.

UNMET CRITERIA

There were no unmet criteria relating to Maintaining Accessible and Efficient Clinical Information Systems.

Surveyor Comments

Several research projects are underway within the stroke program centered around pre-hospital and acute stroke care.

The team is encouraged to develop more robust mechanisms to obtain client and family feedback and consider integrating quality of life as an outcome measure.

The team is using the KQI to guide performance targets. The team is encouraged to continue to seek benchmarking opportunities with peers, and if no appropriate peer organization can be found to set internal benchmarks. The current design of an integrated acute and inpatient rehabilitation unit presents a unique opportunity for evaluation to identify benefits, opportunities for improvement, and inform practice.

The team is encouraged to consider sharing the design and outcomes of the collaborative model with JHH. This model holds promise for increasing access to best practices in stroke care through partnerships in care.

UNMET CRITERIA

There were no unmet criteria relating to Monitoring Quality and Achieving Positive Outcomes.

Results by Standard and Theme

Inpatient Stroke Rehabilitation Services

Investing in Comprehensive Inpatient Stroke Rehabilitation Services

Surveyor Comments

The Stroke program leaders have an understanding of the gaps in rehabilitation services. This data is being used in future state planning related to integrated care. The leadership team is encouraged to engage clients, families, community partners, and staff in planning rehabilitation services. Tele-rehabilitation has been employed minimally. Exploring future use of telerehabilitation may be beneficial.

Public campaigns have focused on improved understanding of risk factors for stroke and the need to seek care urgently for stroke and outcomes of the stroke program. Future consideration could be given to creating a broader awareness of inpatient stroke rehabilitation - the current model in place of intensive and functional- and the impact on clients, families and/or caregivers.

UNMET CRITERIA

There were no unmet criteria relating to Comprehensive Inpatient Stroke Rehabilitation Services.

Surveyor Comments

The rehabilitation team has the required resources and works closely with the acute care team to meet the clients' needs proactively. Two physical environments have been renovated to deliver inpatient services and put patient services for the new rehabilitation units. These two areas accommodate all services for the stroke patient, and there is enough room for all teams to work collaboratively in the same physical environment.

UNMET CRITERIA

CRITERION	COMMENTS
# 3.6	The rehabilitation team doesn't use telehealth or telestroke services.

Surveyor Comments

The rehabilitation team starts the first assessment in less than 48 hours for all patients. There is a standing order in the files sent to the team to visit all stroke patients within this time limit. The team has occupational therapist, physiotherapist and speech therapist who check patients regularly and work together very well as a coordinated team. They run the assessment for the swallowing ability, cognitive issues, and nutritionists help with malnutrition and any dietary concern. The team does not have a specifically dedicated area in the stroke unit for rehabilitation services, but they cluster patients in the same unit. This space limitation for rehab could be an issue for staff, especially for patient emotional and mental improvement. Patients stay in the same bed and unit for days and even more. When they hand over from one team to another, they still have the same physical environment, same nursing staff, and no feeling of improvement, which could affect their mood and increase the chance of depression. It could also be challenging for nursing staff to deliver two different services simultaneously in the same unit. The rehabilitation team works with nurses and physicians to implement all related protocols for patient safety, such as fall prevention, pressure ulcer prevention, VTE prophylaxis, and controlling blood pressure, diabetes, and lipid levels.

UNMET CRITERIA

There were no unmet criteria relating to Providing Safe and Appropriate Inpatient Stroke Rehabilitation Services.

Surveyor Comments

The rehabilitation team delivers proper training and provides appropriate written and verbal instruction to patients and families for life after discharge and transfer to home. The team planned to assess the patients' homes the first day after discharge or before discharge to provide recommendations and make the environment safe and easy access for patients. Still, the COVID pandemic prevented this plan. They have it on the list of quality improvement initiatives as soon as the COVID situation allows them to approach the patient home. There is a follow-up process with the patient and family regarding further needs and transfer effectiveness. Based on these communications and verbal need assessments, they check with patients and families when they come back for additional treatments and improve their services as required. This improvement process is not formal, and it would be beneficial for the organization to set up a time frame for this evaluation and the specific form for assessment.

UNMET CRITERIA

There were no unmet criteria relating to Helping Clients and Families Live with Stroke.

Surveyor Comments

The team has a proper system to collect all the information about acute stroke and rehabilitation services. There is a mixture of electronic and paper-based information systems, making the data collection complicated and time-consuming. Both teams work together to collect valid data and use them for measuring the effectiveness and submitting indicators. There is an ongoing project to move all systems into one EMR platform, planned to be completed by August 2022. With current mixed services, teams in ED and units follow all requirements for confidentiality and protection of patient privacy.

UNMET CRITERIA

There were no unmet criteria relating to Maintaining Accessible and Efficient Clinical Information Systems.

Surveyor Comments

The rehabilitation team collects the required data for measuring its activity and submits it for Accreditation Canada KQIs. The team uses this information to identify areas of improvement and improve as needed. The 18 KQIs results are in an easy-to-understand run chart are available for the public view at the hospital's main entrance, and the quality team updates them monthly. This information is also accessible for the public in electronic format.

UNMET CRITERIA

There were no unmet criteria relating to Monitoring Quality and Achieving Positive Outcomes.

Key Quality Indicators for Stroke Services

A central component of the Stroke Distinction™ program is the requirement to collect and submit data on Key Quality Indicators. This section and the following table provides a list of the Key Quality Indicators collected by organizations to measure performance in delivering Acute Stroke Services and Inpatient Stroke Rehabilitation Services.

When Key Quality Indicators thresholds are Unmet or are In Progress, the organization develops action plans and take the necessary steps to improve performance towards the required thresholds.

After the first on-site survey, organizations must submit Key Quality Indicators data to maintain the award of Distinction.

Key Quality Indicator (KQI) Ratings

REQUIREMENT	RATING
1. Proportion of acute ischemic stroke clients who receive initial brain Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) on same day of arrival	MET
2. Treatment delay in acute ischemic stroke clients administered intravenous (IV) thrombolysis upon hospital arrival.	UNMET
3. Proportion of acute ischemic stroke clients administered intravenous (IV) thrombolysis.	MET
4. Proportion of acute ischemic stroke clients who receive endovascular thrombectomy (EVT).	N/A
5. The proportions of acute ischemic stroke clients with a successful endovascular thrombectomy procedure.	N/A
6. Proportion of acute ischemic stroke clients screened with a standardized screening tool for dysphagia on same day of hospital arrival.	MET
7. Proportion of acute ischemic stroke clients having an initial standardized rehabilitation assessment within 2 days of hospital arrival.	MET
8. Proportion of acute ischemic stroke clients admitted to a dedicated stroke unit or to a dedicated inpatient unit that provides a structured stroke program.	MET

REQUIREMENT	RATING
9. Proportion of acute ischemic stroke clients diagnosed with preventable complications during inpatient stay.	UNMET
10. Length of Stay (LOS) of acute ischemic clients in an acute inpatient unit.	MET
11. 30-day acute ischemic stroke client mortality during acute inpatient stay.	MET
12. Proportion of acute ischemic stroke clients transferred from acute inpatient unit to rehabilitation unit.	IN PROGRESS
13. Proportion of acute ischemic stroke clients admitted to inpatient rehabilitation assessed for falls risk with standardized tool within 2 days of hospital admission.	IN PROGRESS
14. Proportion of acute ischemic stroke clients screened for depression with a standardized screening tool during inpatient rehabilitation stay.	IN PROGRESS
15. Proportion of acute ischemic stroke clients screened for cognitive impairment with a standardized screening tool during inpatient rehabilitation stay.	IN PROGRESS
16. Proportions of acute ischemic stroke patients with an improvement in functional status, from the time of admission on inpatient rehab, to the time of discharge based on a standardized measuring tool.	MET
17. Length of stay of acute ischemic stroke clients in our rehabilitation unit.	MET
18. Proportions of acute ischemic stroke patients with a diagnosis of atrial fibrillation at discharge on appropriate anticoagulant therapy for both acute inpatient and rehabilitation patients	MET

Protocols for Acute Stroke Services

Stroke protocols are intended for organizations that provide acute and/or inpatient stroke rehabilitation services. The implementation of standardized stroke protocols is a key component of excellence in stroke services. Standardized protocols help ensure that stroke care is people-centred, consistent, adheres to evidence-informed practices, follows the latest evidence-based clinical guidelines for service delivery, and maintains safety and quality across the continuum of care.

Protocols must meet all the following requirements:

- Based on the current evidence-informed practices for stroke.
- Used by appropriate interdisciplinary team members.
- Included in the client's health record, as appropriate.
- Shared with other health care providers, as appropriate.
- Regularly reviewed, updated, and communicated to all members of the stroke team.

Ratings

To achieve an award of Distinction, organizations must adopt and consistently follow at least 60% of the protocols. Where an organization provides both acute stroke services and inpatient stroke rehabilitation services, at least 60% of the protocols must be adopted and consistently followed for each service:

PROTOCOL	IMPLEMENTED	Rating
Requirement: 60% of the protocols must be adopted and consistently followed.		
Emergency Medical Services (EMS) Stroke screening	Implemented	Met
EMS bypass / direct transport to stroke centres (including air ambulance)	Implemented	Met
EMS pre-notification of suspected stroke	Implemented	Met
Emergency Department notification of hospital-based stroke team	Implemented	Met
Neurovascular imaging for potential stroke clients (rapid access to CT)	Implemented	Met
tPA eligibility screening	Implemented	Met
tPA administration	Implemented	Met

PROTOCOL	IMPLEMENTED	Rating
Requirement: 60% of the protocols must be adopted and consistently followed.		
Administering acute ASA therapy	Implemented	Met
Formal criteria for identifying appropriate clients for referral to inpatient rehabilitation	Implemented	Met
Swallowing ability assessment	Implemented	Met
Initial assessment of rehabilitation needs	Implemented	Met
Assessing and managing diabetes mellitus (when present)	Implemented	Met
Pressure ulcer prevention	Implemented	Met
Falls prevention	Implemented	Met

Surveyor Comments

The stroke team prepared all required protocols for acute stroke services and implemented them appropriately. EMS bypass / direct transport to stroke centres (including air ambulance) is non-applicable for this setting. BHB is the only acute care and stroke center on Island, and there is no other option for EMS to transfer patients.

Protocols for Inpatient Rehabilitation Services

Protocols are recommendations for the performance or exclusion of specific procedures for services. The protocols are developed using a rigorous methodological approach that includes a systematic review of the evidence to outline recommended practices. Implementation of protocols ensures that services are delivered in a manner that is of high quality, evidence-based, and consistent across the organization. Protocols can be in the form of Clinical Practice Guidelines (CPGs), algorithms or checklists. The Stroke Distinction™ standards cover the protocols required to ensure safe and quality services across the care continuum.

Protocols are evaluated against the following criteria to determine if they meet the requirements for the award of Stroke Distinction™:

- Based on the current evidence-informed practices for stroke.
- Used by appropriate interdisciplinary team members.
- Included in the client's health record, as appropriate.
- Shared with other health care providers, as appropriate.
- Regularly reviewed, updated, and communicated to all members of the stroke team.

Ratings

To achieve an award of Distinction, organizations assessed against Inpatient Stroke Rehabilitation Standards must meet the following requirements related to protocols:

PROTOCOL	IMPLEMENTED	Rating
Requirement: 60% of the protocols must be adopted and consistently followed.		
Formal intake criteria for triaging client referrals and accepting clients for inpatient rehabilitation.	Implemented	Met
Swallowing ability assessment.	Implemented	Met
Initial assessment of rehabilitation needs.	Implemented	Met
Assessing and managing diabetes mellitus (when present).	Implemented	Met
Pressure ulcer prevention.	Implemented	Met
Falls prevention.	Implemented	Met

Surveyor Comments

The rehabilitation team developed and implemented all required protocols correctly. All team members know the protocols and follow them in their daily work and care delivery for stroke patients.

Education for People with Lived Experience of Stroke and their families and/or Caregivers

Education and self-management support are integral parts of stroke care that should be addressed at all stages across the continuum of stroke services for stroke clients and their families and/or caregivers. Education is an ongoing and vital part of the stroke recovery process and must involve the stroke client as well as their family members and/or caregivers. Information provided to stroke clients about their journey towards recovery can lead to improved understanding of coping and self-management strategies and improved ability to maintain the strategy over time. Skills training for stroke clients and their families and/or caregivers often prevents or reduces mental health disorders and can ease the perceived burden of self-management, consequently leading to improved quality of life. The information provided at each phase of the stroke journey – including acute care, rehabilitative care, community reintegration and long-term recovery should be relevant to the changing needs of stroke clients and their families and/or caregivers. Simply distributing information materials is not sufficient; client education must be interactive. The education process must also be informed by and developed with people with lived stroke experience.

Ratings

REQUIREMENT		RATING
Evidence that the stroke education program is an integrated component of stroke care delivery. **All four criteria must be achieved.**	Educational materials for stroke clients and their families and/or caregivers are available and accessible on the unit.	MET
	Educational materials for stroke clients and their families and/or caregivers are available in a variety of languages appropriate to the demographic needs of the defined population.	MET
	Educational materials for stroke clients and their families and/or caregivers are available in formats appropriate for persons with special communicative needs.	MET
	During tracer interviews, stroke clients and their family and/or caregivers report receiving education regarding their recovery	MET

REQUIREMENT		RATING
	and self-management from health care providers that care for them.	
Consistent documentation in the client health record that education has been provided to people with lived experience of stroke and their families and/or caregivers. **Two out of the four criteria must be achieved.**	Standardized tools are used to document education components to ensure that all critical elements are addressed prior to client discharge.	MET
	The client health record includes a standardized location for the documentation of client education activities.	MET
	Each health care professional involved in the stroke care team has documented all education provided within the discipline notes or common progress notes.	MET
	Specific content addressed during each educational session (e.g., skills taught and demonstrated, discharge preparation, etc.) has been documented	MET

Surveyor Comments

A significant amount of attention has been paid to this important aspect of care to ensure clients experience safe, quality transitions and to coach clients with lifestyle modifications to reduce risks of future occurrence of stroke. An education pathway has been introduced to support standardized documentation and education. The BE FAST is well integrated within education and awareness processes. The team engages with community partners to promote awareness.

The team has access to several different modes of delivering education, including videos using social media, videos on TVs in inpatient rooms, one-on-one teaching, and written handouts. There are standardized education requirements, and education is tailored to the individual client's needs. Clients speak highly of the information they receive about preparing their transition home.

The team has been reducing barriers to access to education through many mechanisms, including outreach to the community targeting underserved groups. The influence of

traditional medicines and practices to support client and family education would be beneficial. It would be helpful to have assessment tools translated into different languages. The team recognizes this need and has plans going forward specifically to support translating materials into Portuguese. The team is encouraged to consider introducing meaningful ways to involve clients and families in developing client and family education materials and processes. The team is also encouraged to explore how individuals with lived experience could play a significant role in supporting client and family education and integration into the community.

Excellence and Innovation

Excellence and innovation are key components to improve stroke care. Formally recognizing excellence and innovation as a priority in an organization empowers staff at all levels to make improvements. Excellence and innovation projects encourage knowledge sharing and collaboration around a common improvement goal.

To achieve an award of Distinction, organizations must implement a minimum of one and a maximum of two Excellence and Innovation project(s) that meet all the following requirements:

- Must be evidence-based and aligned with clinical and best practice guidelines for people-centred stroke care, including the latest Canadian Stroke Best Practice Recommendations1.
- Demonstrates improvement to the overall quality of services within the facility or region.
- Includes a completed project evaluation and measures the project's sustainability over time.
- Communicates findings within the organization and externally, as applicable.
- Notable for what it could contribute to the delivery of stroke services.

Implementation of the Bermuda Hospitals Board Primary Stroke Centre: A trans-Atlantic Collaboration

Project Description

The Implementation of the Bermuda Hospitals Board (BHB) Primary Stroke centre was an Institutional response to prevalent high-risk population markers for cerebrovascular disease observed over the preceding decade. The hallmark of the Implementation was the Trans –Atlantic collaboration between multidisciplinary teams from BHB and Johns Hopkins Hospital around a singular goal. This singular goal was to build out a hospital-wide framework of policies and protocols and to engender a culture of excellence in acute stroke care which would meet the standards and key quality indicators for the Accreditation Canada Stroke Distinction and Acute Stroke Inpatient Rehabilitation certification. This implementation was additionally highlighted by quality improvement processes that were mindful of our unique population characteristics and needs and our local geography.

[1] Heart and Stroke Foundation. (2018). Canadian Stroke Best Practice Recommendations. [https://www.strokebestpractices.ca/recommendations]

Ratings

REQUIREMENT	RATING
The project is evidence-based and aligned with clinical practice guidelines for people-centred stroke care, including the latest *Canadian Stroke Best Practice Recommendations*.	MET
The project demonstrates improvement to the overall quality of stroke services within the facility or the region.	MET
The project includes a completed project evaluation and measures the project's sustainability over time.	MET
The project communicates findings within the organization and externally, as applicable.	MET
The project is notable for its potential to contribute to the delivery of stroke services.	MET

Surveyor Comments

Key champions created synergies between the timing of a new relationship for continuing medical education with Johns Hopkins International and the emerging evidence of an urgent need for improved stroke care. The high percentage of the population diagnosed with co-morbidities of diabetes, hypertension and obesity, along with an ageing population and an increasing number of acute care admissions for stroke, established the need to build the foundation for a primary stroke care centre in Bermuda. Employing the Johns Hopkins (JH) Medicine International framework for stroke centre establishment and mentoring, the leadership team undertook this courageous journey beginning in 2019. With a comprehensive assessment of the current state by JH, the creation of a new BHB stroke organizational structure, and the introduction of intensive stroke observership for leaders, the team set upon a change process. Testing and implementing new standardized provider education, pathways, protocols, and telehealth processes to establish a primary stroke centre successfully. The collaboration resulted in creating a novel transoceanic telestroke program, the first of its kind in the world. This telestroke program has significantly increased the proportion of ischemic stroke patients receiving tPA, from 1% to 14%, and enabled the first transoceanic transfer for mechanical thrombectomy with successful revascularization and functional return.

This excellence and innovation project is an excellent example of strategically aligning decisions with vision, values and evidence of the power of developing strong partnerships through collaboration and the role of quality improvement in creating and sustaining an organized, integrated stroke care program.

Next Steps

Congratulations on completing your Stroke Distinction™ survey! We hope that the findings outlined in this report will guide Bermuda Hospitals Board's ongoing quality improvement activities.

As you know, Stroke Distinction™ requires an ongoing commitment to the highest levels of quality service. To maintain the Stroke Distinction™ award status, organizations must continue to submit performance indicator data. For additional information on submitting indicator data or any other aspect of the program, contact your Client Engagement Lead.

Thank you for participating in the Stroke Distinction™ Program and taking this opportunity to improve stroke services for clients, their families, and/or caregivers.