



STROKE DISTINCTION™ REPORT

Bermuda Hospitals Board

King Edward VII Memorial Hospital

Onsite Survey Dates: June 22 - 24, 2026

Final Report Issued: July 17, 2026



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About the Stroke Distinction™ Report

Bermuda Hospitals Board is participating in the Accreditation Canada Stroke Distinction™ program. As part of this ongoing process of quality improvement, an onsite survey was conducted from June 22 - 24, 2026. Information from the survey, as well as other data obtained from the organization, was 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.

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

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 is providing valuable information to inform your quality and safety initiatives.

This Stroke Distinction™ Report shows your decision and the results of your recent Stroke Distinction™ survey. I encourage you to use the information in this report to guide your ongoing quality improvement activities. Your Accreditation Specialist 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,

Frédéric Abergel, PhD
Chief Executive Officer



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Organization Profile

The Bermuda Hospitals Board (BHB) Primary Stroke Centre was established in July 2019 in collaboration with Johns Hopkins Medicine International. The Primary Stroke Centre is comprised of leader representatives from numerous departments and services involved in stroke care and is responsible for integration and implementation of best practice, problem solving, and planning for stroke care services across the continuum. BHB Primary Stroke Centre is the only stroke centre on the island of Bermuda, providing acute and rehabilitation interventions for stroke patients. Additionally, BHB stroke prevention strategies are in collaboration with community partner organizations and supported by BHB public relations department.

BHB Primary Stroke Centre works in partnership with John Hopkins Medicine International for rapid assessment and transfer of acute stroke patients by way of air evacuation to the comprehensive stroke centres along the eastern US border for neuro-critical, neuro-surgical, and neuro-interventional interventions.



Executive Summary

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 an onsite survey June 22 - 24, 2026, during which they assessed the organization's programs and services.

The following site at Bermuda Hospitals Board participated in the onsite survey:

- **King Edward VII Memorial Hospital**

To determine the award of Stroke Distinction™, Accreditation Canada verifies:

1. The degree of compliance with the standards
2. The achievement of Key Quality Indicator thresholds and required data submissions.
3. The implementation of stroke protocols.
4. The commitment to excellence and innovation.
5. The commitment to education for those with lived experience of stroke and their families and/or caregivers.

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

- BHB and teams at King Edward VII Memorial Hospital (KEMH) have done an incredible amount of work to develop a stroke program and implement stroke best practices over a relatively short period of time.
- The BHB Stroke Strategy 2026 – 2030 (pending publication) provides a comprehensive overview of stroke in Bermuda and a clear and comprehensive roadmap for the future.
- BHB have established strong and creative partnerships with Johns Hopkins Medicine International to deliver transatlantic comprehensive stroke care.
- The implementation of PEARL (Patient Electronic & Administrative Records Log) electronic medical record including the integration of stroke best practices and protocols.

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

- The BHB Stroke Program is encouraged to establish greater involvement of patients, families, and caregivers, including a patient and family advisory council (PFAC) to inform stroke service planning and delivery.
- Ensure that the stroke patient experience survey is implemented and develop patient reported outcome measures and / or patient reported experience measures specific to patients with stroke that can be used to inform stroke service delivery.
- Expand virtual care or telestroke services to address gaps in secondary prevention and community rehabilitation.
- Continue to establish and leverage partnerships with community agencies to support stroke service delivery across the continuum of care.
- There is an opportunity to become more engaged in international and local research initiatives.



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.

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



Award of Distinction™

Accreditation Canada's Accreditation Decision Committee (ADC) is responsible for conferring Distinction™ award decisions based on the decision guidelines. An organization or network is eligible for an award of Stroke Distinction™ that is valid for four years if all the following requirements are achieved.

REQUIREMENT	RATING
1. Standards criteria requirements are met.	MET
2. Key Quality Indicators baseline thresholds and data submission requirements are met.	MET
3. Protocol requirements are met.	MET
4. Client and Family Education requirements are met.	MET
5. Excellence and Innovation Project requirements are met.	MET

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





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 partnership with the Heart and Stroke Foundation and 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, including an onsite survey conducted by expert surveyors who have extensive practical experience in the field.

The Stroke Distinction™ program is comprised of the following key components:

- **Standards:** Stroke Distinction™ Standards are based on the latest research and evidence related to excellence in the field.
- **Protocols:** The Stroke Distinction™ program requires the use of evidence-based protocols to promote a consistent approach to care and increase effectiveness and efficiency.
- **Key Quality Indicators:** A key component of the Stroke Distinction™ program is the requirement to submit data and meet thresholds on all applicable Key Quality 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:** The Stroke Distinction™ program requires organizations to demonstrate the implementation of a project that align with best practice guidelines, utilizes the latest knowledge, and integrates evidence to enhance the quality of care.



Summary of the Surveyor Team's Overall Observations

Bermuda is comprised of over 130 individual islands over 53.7 square kilometers of land mass and is situated approximately 1000 km from North Carolina, USA. Bermuda is home to a permanent population of roughly 63,000 residents, with more than 600,000 people visiting annually. As of 2024, 17% of the population was over the age of 65, 75% of the population experiences at least one risk factor for stroke and 50% of the population experience a chronic disease, such as diabetes. About 12% of Bermudians have no health insurance, and 23% are under-insured. The unique geography and demographic have informed the development of the stroke strategy in Bermuda.

Bermuda Hospitals Board (BHB) comprises King Edward VII Memorial Hospital (KEMH), Mid-Atlantic Wellness Institute (MWI), and the Lamb Foggo Urgent Care Centre. KEMH has 188 Acute Care Beds, and sees approximately 30,000 Emergency Department visits annually. KEMH is the only acute care hospital on the island.

In 2018, health officials declared stroke an epidemic on the island. That declaration was a turning point for the community. In 2018 BHB signed an affiliation agreement with Johns Hopkins Medicine International (JHMI) to establish KEMH as a Primary Stroke Center. The comprehensive stroke care review undertaken by JHMI allowed BHB to produce a roadmap for stroke care including the establishment of an inpatient stroke unit, a rehabilitation unit, and many best practice approaches to stroke care. Individuals who require access to comprehensive stroke care, including neurointerventional and neurosurgical services, are transported via air to US Hospitals along the Eastern Border. Since 2020 BHB and KEMH emergency department have access to 24/7 telestroke services with John Hopkins Hospital (JHH), and in 2021 KEMH completed the first trans-oceanic thrombectomy transfer. BHB achieved its first Stroke Distinction in April 2022 for Acute and Inpatient Stroke Rehabilitation Services. The surveyors want to acknowledge the incredible amount of work by the BHB Stroke Program team in establishing a stroke program, a dedicated acute and rehabilitation stroke unit and implementing stroke best practices over a relatively short period of time.

The Bermuda Hospitals Board Strategic Plan 2021-2026 outlines the vision "To Pursue Excellence through Improvement, to make Bermuda Proud" and mission "To continuously strive to deliver the highest quality and safest care to our patients, every day". While stroke is not specifically mentioned in the current BHB Strategic Plan, the Stroke Strategy has a strong alignment to the organizations overall strategic plan. The organization provided the surveyors with a look at the 2026-2030 BHB Strategic Plan. This plan has not yet been published, but clearly identifies stroke as a clinical priority program. The executive leadership spoke of the importance of stroke to BHB and more importantly their commitment to ensuring the highest quality of stroke care to the community they serve.

The BHB Stroke Strategy 2026-2030 provides a more detailed outline of the vision and goals for stroke care in Bermuda. The strategy outlines the vision "every person in Bermuda who has a stroke will have access to receive fast, safe, world-class care from prevention through to life after hospital" and 10-point plan to achieve this. The 10-point plan focuses on key areas of improvement across the stroke journey from prevention, through treatment, rehabilitation, and community reintegration. This document is a comprehensive vision for the future that was created with input from several community partner organizations and members of the KEMH Stroke Program team. The organization is commended for the work to develop this plan and encouraged to continue to involve partners, patients and families and front-line staff in the implementation of the goals.

Bermuda Hospitals Board reported 229 strokes over the 2025/26 fiscal year. Of this 62% were ischemic, 10% hemorrhagic and 28% were TIA's. Of the population experiencing stroke, 30% were under the age of 65, 75% had high blood pressure and 87% had a major risk factor for stroke. Diabetes is experienced at twice the rate of the Organization for Economic Co-operation and Development (OECD) average. A review of the risk factors for stroke among their population shows that high blood pressure is the most prominent, followed by diabetes, high cholesterol, and irregular heart rate. Stroke is the 2nd leading cause of death in Bermuda and the 3rd leading cause of disability.



The stroke program is supported at the executive level by the physician Chief of Staff and the Chief of Nursing. At the program level the Stroke Medical Director and the Stroke Coordinator provide overall leadership and service delivery planning support. Clinical Directors, Clinical Managers, Clinical Educators and Clinical Resource Nurses provide leadership at the unit level.

BHB's Stroke Centre Working Group meets monthly to oversee the overall stroke program and ensure the highest quality of stroke care is provided based on evidence-based practices. The group includes representatives from across the organization: critical care and EMTs, inpatient care, diagnostic imaging, laboratory services, rehabilitation, education, communications, decision support, and senior leadership.

The Stroke Centre Working Group reports to the BHB Quality Council. The BHB Quality Council produces a Quality and Safety report that is published quarterly and available publicly. The Quality and Safety report does include two stroke indicators. There may be an opportunity expand this reporting and publish a stroke-specific quality report that is available to staff and the public. BHB is also encouraged to resurrect unit-based quality teams and quality structures that support front line quality improvement work.

Secondary Stroke Prevention

Currently, outpatient rapid TIA assessment and management clinics are not available in Bermuda. The BHB stroke program is proactive to ensure timely access to secondary prevention by routinely admitting people with TIA and minor stroke for diagnostic testing, and initiation of optimal medical management appropriate to risk profiles and co-morbidities. Carotid imaging is available at BHB and locum vascular surgeons conduct clinics on the Island several days each month. Carotid surgery is accessible through a partnership with Lahey Hospital in Boston. Once initial assessment and management is completed, people with TIA are transferred for ongoing care to their family physician. There is some access to a neurology clinic for people who are complex and/or high risk and require specialist follow-up, and access to geriatricians and a Mood and Memory Clinic for people exhibiting vascular cognitive changes. The BHB stroke team demonstrates strong interdisciplinary collaborations with local cardiology specialists and with the diabetic program and diabetes nurse to support people with stroke and diabetes.

The team is encouraged to consider future virtual technology modalities to increase access to specialized rapid TIA services with partners such as JHH and reduce inpatient admissions.

Hyperacute and Acute Stroke

BHB provides excellent hyperacute and acute stroke services to people experiencing an acute stroke in Bermuda, working within their available resources, and seeking innovative solutions to support decision-making and timely treatment. BHB collaborates with all partners for a strong multi-pronged approach to public awareness campaigns that include education on risk factor management and awareness of the signs of stroke using the BE FAST acronym. These campaigns include multimedia exposures, print and radio advertising.

BHB has a designated stroke coordinator and stroke medical director. The coordinator is a key liaison between the ED, ICU, and Integrated Stroke Unit (ISU). The BHB stroke team is comprised of a dedicated and qualified interdisciplinary team to coordinate and deliver hyperacute and acute stroke services. All members hold a strong sense of ownership for stroke care across the continuum. There is a smooth integration of acute stroke care pathways through the BE FAST alert into routine workflows and processes across the emergency department, diagnostic imaging, ICU, and the ISU. A strong and successful partnership with JHH enables BHB to provide timely hyperacute stroke treatments with additional expertise and decision-making support regarding thrombolysis, EVT candidacy and overall management of acute stroke. The PEARL electronic health record includes all stroke protocols and care pathways and collates all parts of the patient record into one platform, which supports interdisciplinary care and timely implementation of treatments and assessments.

Thrombolized and other acutely ill stroke patients (such as hemorrhagic patients) are transferred to the ICU for initial management. Patients receiving TNK usually stay for a minimum of 24 to 48 hours prior to transfer to the Integrated Stroke Unit. The ICU team are diligent in providing stroke rehabilitation assessment and treatment as soon as medically appropriate.



The Integrated Stroke Unit is a 33-bed unit that provides stroke patients with acute care and inpatient rehabilitation services, as well as other medical and surgical patients. The hospitalists are on a rotation and will be on the unit for several consecutive shifts. This model is effective in bringing continuity of care for people with stroke in both the acute and rehabilitation phases. The interdisciplinary team completes all required assessments according to protocols on the ISU. With the ISU model, transition from acute to rehabilitation status is seamless. Daily bullet rounds are held and all staff attend, with productive discussions that include patient goals, medical status, transition planning, and current needs. There is great sharing among the interdisciplinary team at these rounds and together they ensure all assessments are done, they share results, concerns and collaboratively work on solutions to optimize care and outcomes.

Patients report feeling well cared for by all members of the stroke team. Staff take time to talk with them and understand their fear and feelings of uncertainty. The addition of the Clinical Psychologist is a further acknowledgment of the importance of mental and emotional health, and use of this resource should be optimized by staff and made accessible to all patients.

The BHB stroke program has been proactive to ensure timely access to secondary prevention by routinely admitting people with TIA and minor stroke for diagnostic testing, and initiation of optimal medical management appropriate to risk profiles and co-morbidities. The BHB stroke program is encouraged to seek innovative models for management of high-risk TIA on an outpatient basis, along with the funding model required to sustain this approach. Virtual care is a viable option to consider, building links to providers off island to fill this gap, given the successful use of telestroke in hyperacute care.

Transition planning is done well by the BHB stroke program. It is started early and is included in daily bullet rounds and more in-depth stroke rounds. Patients and family are engaged in goal setting, although some of these interactions could be strengthened. There are often delays in discharge due to lack of community services and access to long term nursing home beds which is systemic across Bermuda and has not been well-addressed by senior health leadership. The team is encouraged to work proactively with community partners to raise these issues with healthcare and community service leaders.

Inpatient Rehabilitation

The ISU is on the Belco Partner Re Unit combining acute and rehabilitation services within a 33-bed medical/surgical unit. Within this footprint there are 4 dedicated rehabilitation beds, however this can be flexible. The ISU interdisciplinary team consists of a hospitalist, psychiatry, occupational therapy, physical therapy, speech language pathology, social work, dietitian, and nursing. Day to day physician coverage is provided through a hospitalist model. The hospitalist team provides good continuity of care and is well versed in stroke. The team has recently recruited a clinical psychologist, which was previously noted as a gap. This is already making a difference to patients who require support around depression and cognition. Rehabilitation therapy is provided 5 days / week with limited coverage over the weekend. There is a strong onboarding and stroke specific education program for staff with opportunity for ongoing professional development.

Patients transition seamlessly from an acute focus to a rehabilitation focus of care. Care planning is done in partnership with patients and their families/caregivers. Daily huddles and weekly rounds provide the opportunity for each team member to update on progress and adjust care plans, as necessary. Weekly rounds are held outside patient rooms, and family members are encouraged to join and participate in the conversation. This multidisciplinary weekly rounds model is a real strength for the organization.

Recruitment and retention are described as being a challenge for the BHB and KEMH. While the majority of nursing positions are filled, or are in the process of being filled, there can be long delays associated with immigration and licensing requirements for guest staff. The allied health team described vacancies of up to 50% for some disciplines. This is impacting both inpatient rehabilitation and outpatient rehabilitation in terms of the number of hours of direct therapy on inpatients and waitlist on outpatients.



The ISU is an organized and uncluttered environment for care, with spacious patient rooms. The teams describe good access to rehabilitation equipment with the organization and auxiliary supporting requests. The newly created therapy space on the ISU has improved access and efficiency for patients receiving inpatient rehabilitation. The staff have a vision to enhance this space with the addition of social programming and recreation areas.

There is a quality board on the unit with information on patient safety events, such as falls and pressure injuries. There is a binder behind the nursing station that has data on stroke performance indicators that staff can access, and staff are being onboarded to the newly developed stroke dashboard. The surveyors heard about many front-line staff initiated quality improvement opportunities. It is suggested that the organization formalize the approach to quality improvement at the unit level, with quality improvement teams and highly visible quality improvement boards.

Capturing rehabilitation outcome measures is a challenge for the program. With the recent implementation of the Activity Measure for Post Acute Care (AMPAC) / Johns Hopkins Highest Level of Mobility (JHLM) tools, all staff on the unit are now engaged in functional and cognitive improvement. This tool, however, does not replace a comprehensive functional rehabilitation assessment tool and the teams are encouraged to continue their efforts to introduce this as soon as feasible.

Outpatient and Community Rehabilitation

Outpatient rehabilitation services are provided through the Rehabilitation Day Hospital (RDH) program at KEMH. The RDH is supported by a multidisciplinary team including physical therapy, occupational therapy, speech language pathology, dietitian, physiatrist, and clinical psychology. Referrals come from the ISU, physiatry, general practitioners, neurology clinic, and community rehabilitation teams. Patients with stroke who have been discharged from the program can re-access services through their general practitioner (GP). The program strives to achieve first intake within 15 days, however, intake can often be longer due to vacancies across allied health positions in the program. The waitlist is monitored and patients are prioritized for intake based on need. The team expressed that it is currently difficult to consistently provide 3 x / week therapy with the resource constraints they are experiencing. Upon discharge clients may be independent with home exercise programs, or can be referred to private therapy in the community or the Department of Health community rehabilitation team. Some clients are followed up with a visit or phone call 30 days following discharge from the program, however there is no formal structure around this and there may be an opportunity to develop this approach more formally. The outpatient rehabilitation space is conducive to providing therapy, although they are lacking access to a kitchen and bathroom for ADL assessment. There is a business case that has been developed to support this request, and the organization is encouraged to support this work to move forward as soon as financially feasible.

The Department of Health community rehabilitation team is comprised of occupational therapy and physical therapy resources. Referrals can come from the ISU rehabilitation team or community GP's. The team has limited resources and it can be long waits for service. There is no early supported discharge programming or enhanced community-based teams for patients discharged from the stroke unit. There was funding provided to create an enhanced community team called "care closer to home," however recruitment was a barrier to execution. BHB should continue to pursue community-based rehabilitation models such as "care closer to home" in order to improve transitions and enhance access to ongoing therapy outside of the inpatient hospital environment.

Research

The BHB stroke program is currently not actively engaged in local or multi-site research initiatives. They have been actively involved in quality improvement initiatives. They have collaborated with JHH to evaluate the impact and outcomes of their partnership in treating acute stroke patients with the current telestroke model. Preliminary positive results demonstrate the success of this program in reducing door to needle times, reducing length of stay and improving functional outcomes. This could serve as an excellent model for other small regions, that is based on strong evaluation methods. Future research partnerships with JHH are being planned.



The stroke program team are encouraged to explore opportunities to participate in multi-centre trials as a local site and to be inquisitive and develop local research questions along the continuum of care, including working with partners in rehabilitation and community services. When their current manuscript is published, it would be very beneficial to share the findings at conferences and through group presentations to other regions with similar structures and limitations, and take a leading role for ongoing development of this model.

Community Partnership

Community partnership and engagement are clearly a priority for BHB, and it is important to recognize the efforts made to engage community partners and establish formal relationships between community organizations and BHB. Most recently, the BHB Stroke Program collaborated with the Bermuda Stroke Association, the Bermuda Diabetes Association, and Evolution Rehabilitation in the development of the BHB Stroke Strategy. BHB is encouraged to build on these partnerships by continuing to strengthen relationships with community organizations and identifying opportunities to further increase their involvement in stroke service planning, implementation, and ongoing improvement.

Patient and Family Partners

Currently there is no formal process to identify and engage with people with lived experience of stroke and/ or their families and caregivers. BHB Strategic Plan and the BHB Stroke Strategy both identify patient and family engagement has a high priority. The Stroke Program has identified the desire to formalize a patient and family advisory council (PFAC) and is strongly encouraged to action this as soon as possible. Patient and family partners are key members of the stroke team and their involvement in identification of opportunities, development of initiatives and policies produces superior results. With the recent re-establishment of the Bermuda Stroke Association there may be an opportunity to partner in identifying candidates to act as advisor as well as to establish a peer support program.



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 outlining 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 standard and provided the following results. As part of ongoing quality improvement, the organization is encouraged to address any unmet criteria.

Overall Ratings: King Edward VII Memorial Hospital

Acute Stroke Services

REQUIREMENT	RESULTS	RATING
75% or greater of all criteria within the acute stroke standard have been rated as "met".	97%	MET
80% or more of all high-priority criteria within the acute stroke standard have been rated as "met".	100%	MET

Results Overview: King Edward VII Memorial Hospital

Acute Stroke Services

Theme	Met %
Investing in comprehensive stroke services	100%
Engaging a prepared and proactive acute stroke services team	100%
Providing safe and appropriate hyperacute and acute stroke services	100%
Helping clients, families, and/or caregivers live with stroke	95%
Maintaining Accessible and efficient clinical information systems	100%
Monitoring quality and achieving positive outcomes	75%



Results by Theme: King Edward VII Memorial Hospital

Acute Stroke Services

Investing in comprehensive stroke services

Surveyor Comments

Bermuda Hospital Board is about to launch their new Stroke Strategy for 2026 – 2030. Their aim is that by 2030 every person in Bermuda who has a stroke will have access to fast, safe, world-class care from prevention to life after hospital. This plan has been designed and informed by a robust process for collecting and reviewing information from multiple sources on sociodemographic variables, stroke incidence, prevalence, and major risk factors. They have been especially responsive to risk demographics such as the high rates of hypertension, obesity, high cholesterol and diabetes, disparities for Black Bermudians, and the increase in younger people experiencing stroke in Bermuda (one in three people with stroke younger than 65 years). The stroke program has also examined access to care based on insurance status and affordability, recognizing that a large portion of Bermudians rely on publicly funded health insurance that provides limited support for advanced therapies that may require transfer to trans-oceanic partners. The team uses this information to tailor messages to specific populations with their multi-pronged BE FAST public awareness campaigns that include education on risk factor management and awareness of the signs of stroke. These campaigns include multimedia exposures, print and radio advertising. BHB has recently launched a detailed database which is linked to powerful decision-support tools and a dashboard that will help to inform their work of implementing the new Stroke Strategy. The goal will be to further develop and expand access to the dashboard to drive more engagement of front-line staff in quality improvement efforts across the continuum. BHB is encouraged to continue to closely monitor demographic and incidence and prevalence data and be dynamic in adjusting their course of action to response to shifting patient and population profiles.

UNMET CRITERIA

There were no UNMET CRITERIA for this theme.



Results by Theme: King Edward VII Memorial Hospital

Acute Stroke Services

Engaging a prepared and proactive acute stroke services team

Surveyor Comments

The BHB stroke team is comprised of a dedicated and qualified interdisciplinary team to coordinate and deliver hyperacute and acute stroke services. The team includes EMTs, nursing, physicians (emergency physicians, hospitalists, radiologists, geriatricians, anesthesia, and neurology), diagnostic imaging technologists, allied health specialists, clinical psychology, and quality management. The team applies current evidence-based stroke best practices from Canada, the American Stroke Association and protocols developed by John Hopkins Hospital. These guidelines form the basis for a suite of stroke protocols across the continuum of care and applied through detailed care plans. All protocols and care plans are integrated into the patient electronic administrative records log (PEARL). Staff demonstrated strong knowledge of stroke guideline content, hyperacute and acute stroke protocols and care plans, and are nimble at accessing them in PEARL and consistently implement them. This was evidenced by observation and review of charts and documentation. It is recommended that the stroke guidelines that inform protocols and care plans be made readily available to staff to encourage further learning and understanding of stroke care.

There is a structured onboarding, orientation, and mentorship program for staff new to the emergency department, ICU and on the ISU. The educators for each area communicate well and coordinate some learning activities. Many of the staff nurses are internationally trained, and there is one college nursing training program in Bermuda and students from this program do practicums on the unit. Nursing staff are required to complete the online Apex Innovations Hemispheres stroke training program (approximately 30 hours across several modules). The staff value the opportunity to participate in this program and feel it gives them a solid foundation in stroke care. There are ongoing professional development learning events for all staff throughout the year as well as real-time learning moments through stroke rounds and discussions among staff. EMT staff participate in learning activities with the ED staff as well as their own stroke modules and annual updates. Mock code strokes take place in the ED and on the ISU and there are annual updates and recertification requirements such as for the NIHSS. Some financial assistance is available for staff to attend learning events off island, although these are not used as often as they could be. Managers value the input they receive from staff during performance reviews and staff huddles, and do incorporate this information into ongoing learning opportunities, as well as opportunities for staff to lead quality initiatives.

BHB should consider developing more formalized simulation modules for staff across all areas that care for people with stroke, and consider holding an annual stroke education day that brings all interdisciplinary stroke care providers together to learn and to share their quality improvement and innovative initiatives. Further, to enrich these learnings, people with stroke and their caregivers should also be invited as learners and speakers.

There are a few nursing vacancies and some rehabilitation team vacancies. Four of six nursing vacancies do have new hires slotted in; however, these staff are from out of country and there are significant delays in the immigration process. In addition, over the next few years BHB will be faced with senior medical staff who may be retiring (e.g., radiology). Senior leaders are strongly encouraged to find solutions with the Ministries of Health and Immigration to expedite critical healthcare staff entry, and to begin plans for succession as soon as possible. BHB has a designated stroke coordinator and stroke medical director.

The coordinator is a key liaison between the ED, ICU, and ISU. They track the location of all stroke patients, support stroke codes and help facilitate transfers to maximize access to the ISU. In addition, they are a valuable stroke resource for all staff and develop detailed quality reports, working closely with the decision support and operations teams.



There is an interdisciplinary and cross-continuum Bermuda Stroke Working Group that is actively involved in planning and monitoring the stroke program, ensuring alignment with the organizational strategic goals. The terms of reference for this committee clearly identify its responsibilities to provide advice, support and be a credible clinical voice to the Board, the Stroke Centre, and the community. This committee meets monthly and is inclusive and consultative. They regularly review current functioning of the stroke program, stroke performance indicators, challenges, and ongoing needs to meet their goal of world-class stroke care. They have been integral in the development of the 2026 – 2030 Stroke Strategy. BHB is encouraged to include people with stroke and their family members on the stroke working group to ensure that they are continually reminded that people with stroke are at the centre of all they do and bring valuable experiences and insights into planning and care delivery.

The BHB team has formalized a highly valuable collaborative relationship with John Hopkins Hospital (JHH) in Baltimore, Maryland. The stroke team and emergency physicians work closely with the Telestroke team of neurologists, radiologists and neurointerventionalists at JHH to consult on all acute stroke activations in the ED, share decision-making for acute stroke treatments and overall hyperacute management. This process is seamless and well-integrated into daily workflows. This relationship also promotes knowledge sharing and continuous evaluation of processes and outcomes. The Telestroke model uses telephone consultation, and the program has conducted research and evaluations on the effectiveness. The results indicate that outcomes are equivalent to ones where video cameras are also used, and the telephone modality gives the BHB ED physicians greater ownership of the patient and processes of care with JHH in a valued consulting role. They have recently collaborated on an evaluation of the BHB hyperacute stroke activations, and this is soon to be submitted for publication. The teams are encouraged to share the findings with all stroke program staff and facilitate dialogues about this partnership and opportunities for growth.

BHB has developed and implemented a strong multi-pronged approach public awareness about the signs of stroke (BE FAST) and risk factors. The stroke program has worked closely with public relations, communities, schools, EMTs, and multiple media channels to increase awareness of the signs of stroke using the BE FAST acronym. They have distributed wallet cards, pens, mugs and worked with schools, churches, community groups and local print and radio media. They have worked hard to raise awareness of the higher risk for many Bermudians and that stroke is increasing in younger populations. BE FAST is included in patient education materials and can be seen on public TV screens throughout KEMH. BHB actively participates in World Stroke Day activities in October each year, and collaborates with their community partners on public awareness events. BHB data indicates that only about half of their stroke cases arrive to the ED by ambulance and a significant number arrive outside the 4.5-to-6-hour time windows. BHB should consider targeted messaging campaigns about the importance of calling 9-1-1 and that 'time is brain' to try and improve these numbers. In addition, they should purposely plan for evaluation of the effectiveness of their strategies at raising knowledge and changing behaviours regarding rapid access to care when a stroke is suspected. BHB could consider adding BE FAST logos to ambulances as evidence from other regions has shown this is effective. BHB is also encouraged to continuously promote BE FAST and risk factor management as part of public awareness campaigns as evidence demonstrates that when these messages are 'off-air' recall and appropriate response behaviours decrease.

UNMET CRITERIA

There were no UNMET CRITERIA for this theme.



Results by Theme: King Edward VII Memorial Hospital

Acute Stroke Services

Providing safe and appropriate hyperacute and acute stroke services

Surveyor Comments

Stroke services are well organized and coordinated. Bermuda has one acute care hospital, the King Edward Memorial Hospital (KEMH), and all stroke patients are cared for at KEMH. People with stroke are initially managed by the ED staff, working closely with EMS, DI, and ICU, and inpatient services to deliver coordinated care.

There are both basic and advanced Emergency Medical Technicians (EMTs), who work for the BHB and are based at the KEMH. There are additional ambulances located at sites near the airport and at Dockyard to provide rapid access to EMT from all parts of the island. BHB EMTs work closely with Bermuda Fire and Rescue Services, where most of the firefighters are also trained EMTs. Bermuda Fire are able to provide first response EMT care to suspected stroke cases on scene until an ambulance is able to arrive and transport patients. An ED physician serves as medical lead for all EMTs, and Fire and Rescue, ensuring consistent training and processes of care for stroke and other medical situations. Stroke is included in annual EMT training and re-certifications, as well as frequent opportunities for onsite learning at KEMH.

EMT often notifies the ED staff of a suspected stroke call when it first comes in, on their way to the scene, and maintain frequent communication on arrival to the patient and provide notification when enroute back to the ED. All EMTs use a BE FAST screening tool onsite, developed in conjunction with John Hopkins. EMT's goal is to keep on-scene time to less than 10 minutes, which is achieved in most cases. The 911 dispatcher calls the receiving KEMH ED on a secured line with patient personal information, enabling the patient to be pre-registered prior to arrival and expedite imaging. The stroke coordinator is also notified of pending stroke cases. All suspected stroke patients are met on arrival to the ED by a physician and/or charge nurse for a rapid assessment and then taken directly to CT under a BE FAST protocol on the ambulance trolley. There is also a rapid identification and assessment process in place for suspected stroke patients who do not arrive to the ED by ambulance. These patients are identified at registration and fast-tracked to triage and then started on the BE FAST rapid imaging protocol. People with suspected stroke are consistently initially triaged at a level two (second highest) unless clinical situation warrants a level one. Blood glucose levels are measured as part of the rapid assessment process.

There are two new CT scanners, and they are located next door to the ED. Non-contrast CT is first-line imaging for all suspected stroke patients. They are then returned to the ED while the scans are read and decision-making occurs. Some patients are brought back to the imaging department to undergo CT angiography (CTA). While this is less efficient than conducting CTA as first line imaging, the given set up does not enable TNK administration in the DI suite. BHB has invested in RAPID AI software and plans to add CT perfusion (CTP) to its diagnostic abilities in the near future. When a potential stroke patient starts their imaging, an alert is sent to the ED and to John Hopkins Hospital. Imaging review and intervention decision-making is made once a radiology report is available in conjunction with telestroke neurologists at the JHH. There is a high-functioning and efficient system in place for pre-notifying JHH of potential stroke cases and real time simultaneous access to imaging on the PACS system. JHH response times to the KEMH ED physician are very efficient and, based on available data, this is not a cause for delays in decision-making or treatment.

Telestroke is an essential component of ED stroke care delivery. Consultation between BHB ED physician and JHH Telestroke neurologist happen by phone. The BHB ED staff treat eligible patients with TNK based on joint decision-making. In large vessel occlusion cases, EVT may be offered at JHH for eligible patients, provided several logistical criteria are able to align in a timely way. Appropriate hemorrhagic stroke cases may also be transferred to JHH for advanced care as there is no neurosurgery in Bermuda.



Currently only confirmed ischemic stroke patients arriving in the 4.5-hour window for TNK and 6 hours for EVT are able to access treatment. There is no process in place at this time to manage patients in extended time windows. BHB is urged to implement CTP training and imaging ability as soon as possible. JHH is poised and ready to expand services to this population which will be an important next step given the high volume of stroke patients who arrive outside the current time windows. Efforts to educate and collaborate with radiologists at KEMH and through the international radiology service should be a priority, and also seeking other potential options for radiology support, such as through their existing JHH partnership or new partnerships.

A process is in place to manage patients already admitted to hospital who experience and 'in-hospital' stroke. This process has evolved over time based on lessons learned from recent cases, and now all patients with in-hospital stroke are quickly seen by an attending hospitalist, then sent to imaging under a BEFAST protocol and taken to the ED, and then follow the same pathway as all other new stroke cases.

All ED nurses are trained to perform NIHSS and closely monitor people who have received TNK for secondary complications. They are also trained to use a standardized Nursing Swallow Screen which is usually completed in the ED prior to transfer to the next stage of care. For people who fail the swallow screen, an SLP referral is made and the patient is kept NPO. The SLP is very responsive and referred patients are assessed quickly. ED nurses will initiate education, mostly with family members. People with ischemic stroke who are not eligible for TNK or EVT are started on loading doses of aspirin and Plavix, followed by daily dosing regimens. Blood pressure is treated in the ED and they recently have added nicardipine to their formulary along with labetalol, which is faster acting and can help reduce treatment times for TNK.

Thrombolized and other acutely ill stroke patients (such as hemorrhagic patients) are transferred to the ICU, usually within 2 - 3 hours of a bed request. Patients receiving TNK usually stay for a minimum of 24 - 48 hours prior to transfer to the Integrated Stroke Unit (ISU). The ICU team are diligent in providing stroke rehabilitation assessment and treatment as soon as medically appropriate. There is a dedicated physiotherapist in the ICU who initiates the stroke rehabilitation assessment. An OT and SLP from the stroke unit will also assess ICU stroke patients.

Transfers from the ICU to the ISU are often delayed due to bed capacity and flow challenges. People with stroke continue to receive rehabilitation therapy in the ICU, and may be taken off unit to a therapy gym, although this is not an ideal environment as people recover and make progress. Transfers from the ED directly to the ISU take longer than transfers to the ICU. People with stroke could spend more than one day in the ED after admission. Rehabilitation therapists do visit them in the ED but this is not an ideal situation. Rarely, a person with stroke may be admitted to the third-floor nursing unit while awaiting a bed on the ISU. The stroke coordinator is aware of the location of all stroke patients daily and works closely with the ISU and bed flow teams to move stroke patients to the ISU as high priority. The coordinator attends the twice-daily bed flow rounds and is a key liaison between the ED, ICU, ISU, and the rare off-service unit. BHB is encouraged to continue to work through solutions to prioritize transfers of people with stroke from the ICU and ED to the ISU.

The BHB stroke program is proactive to ensure timely access to secondary prevention by routinely admitting people with TIA and minor stroke for diagnostic testing, and initiation of optimal medical management appropriate to risk profiles and comorbidities. Carotid imaging is available at BHB and locum vascular surgeons conduct clinics on the island several days each month. Carotid surgery is accessible through a partnership with Lahey Hospital in Boston for those meeting eligibility, although financial and logistical barriers may impede access. Once initial assessment and management is completed, people with TIA are transferred for ongoing care to their family physician. Detailed notes are provided to GP's and patients and families receive education on TIA, risk factor management, lifestyle modifications, and BEFAST. Follow-up appointments are made prior to discharge when possible. The BHB stroke program is encouraged to seek innovative models for management of high-risk TIA on an outpatient basis, along with the funding model required to sustain this approach. Virtual care is a viable option to consider, building links to providers off island to fill this gap, given the successful use of Telestroke in hyperacute care.



The Integrated Stroke Unit (ISU) is a 32-bed unit that provides stroke patients with acute care and inpatient rehabilitation services, as well as other medical and surgical patients. It is staffed by nurses, nursing assistants (ratio of 1 RN and 1 nursing assistant per 5 patients) and an inpatient rehabilitation team. The ISU is divided into two 15 bed 'sides' and each side is covered by a hospitalist. The hospitalists are on a rotation and will be on the unit for several consecutive shifts. This model is effective in bringing continuity of care for people with stroke in both the acute and rehabilitation phases. ED or ICU nurses accompany people with stroke to the ISU and provide a detailed handover. Stroke care pathways and protocols are built into the EMR - PEARL making them easily accessible. With the one chart system the ISU team are able to access all ED and ICU documentation and notes easily to follow patient progress and confirm outstanding assessments and testing.

The interdisciplinary team completes all required assessments according to protocol on the ISU. With the integrated unit model, transition from acute to rehabilitation status is seamless. Recently once patients are admitted to inpatient rehabilitation, they are moved to one section of the unit in a clustered model where they are closer to the new therapy room. That said, the team is excellent at seeing all stroke patients regardless of room location. Daily bullet rounds are held and all staff attend, with productive discussions that include patient goals, medical status, transition planning, and current needs. There is great sharing among the interdisciplinary team at these rounds and together they ensure all assessments are done, they share results, concerns and collaboratively work on solutions to optimize care and outcomes. Weekly stroke specific rounds are also held which are more in-depth and are an excellent sharing and planning opportunity that includes the patient and family as part of the team. The nurse manager holds morning staff huddles where information is shared with staff including quality data, and staff have the opportunity to raise ideas for unit improvements as well as concerns. The manager fosters a strong sense of team cohesiveness, which is excellent to observe.

Screening for falls, skin integrity, nutrition, complications, depression, and cognitive issues are routinely completed and documented in the PEARL system. The staff complete daily mobility assessments using the Activity Measure for Post-Acute Care (AM-PAC) assessments and these are shared during rounds and real-time discussions with the rehabilitation team. There are clear diabetes management protocols developed in collaboration with the diabetes specialists. A new clinical psychologist has been added to the team and participates in rounds. The team are encouraged to optimize access to psychological services for all people with stroke on the ISU, even those who may pass the depression screening as in the early stages of recovery issues may not be apparent. There is a Mood and Memory Clinic at KEMH and people with stroke and actual or suspected cognitive issues receive referral to this clinic. Hospitalists attend rounds and ensure medical therapies for secondary prevention are optimized and adjusted as needed prior to discharge.

In discussions with staff, they note that there are no alert systems built into the PEARL system and this would be helpful to ensure key assessments and follow-up are done in a timely way, and reduce the time spent having to review multiple screens and pages of notes to verify status.

Criteria Rated Not Applicable:

5.2 The team has protocols and memoranda of understanding (MOUs with EMS providers that address direct transport to stroke facilities, bypass of facilities not resourced to provide immediate diagnosis of stroke, and the use of air ambulance services for suspected stroke clients. There is one acute care hospital in Bermuda and all stroke patients are treated at KEMH, whether transported by EMS or as walk-ins.

UNMET CRITERIA

There were no UNMET CRITERIA for this theme.



Results by Theme: King Edward VII Memorial Hospital

Acute Stroke Services

Helping clients, families, and/or caregivers live with stroke

Surveyor Comments

The BHB stroke program has put considerable effort into developing patient education materials over recent months and are commended for their efforts. The My Stroke Journey booklet is provided to all stroke patients both in the ICU and on the ISU (if they have not already received it). It is well done and provides clear and comprehensive information. All staff provide patient and family education throughout the day during care interactions. Patients have reported that staff took the time to go through sections of the booklet with them, though at times it was hard for patients to process a lot of information at one time. They did confirm that teaching was repeated and reinforced by other staff members. There is a specific section in the PEARL for documenting completed educational topics and to indicate whether further follow up is required. Educational encounters are also documented in nursing and allied health notes. The BHB should consider adding alerts to the educational section of PEARL that would flag areas that have not been covered to ensure people with stroke and their families receive all necessary information and reduce the amount of time staff spend navigating through several screens to fully understand what has been done and still needs to be addressed. Additional information is also provided to people with stroke related to their specific risk factors, such as hypertension and diabetes.

At present, information is only available in English, and that is the predominant language spoken and understood in Bermuda. There is a significant Portuguese population and some efforts have been made to create a Portuguese document, but efforts to produce it have been stalled. The team is encouraged to continue to pursue resources in other languages. There are several excellent resources available in Canada and regional stroke programs are always happy to share. With appropriate agreements, BHB would be able to customize these and are encouraged to consider this option for timely resolution of this gap.

It is also strongly recommended that the ISU create a patient and family education resource centre that is highly visible and accessible on the unit. It should include the current booklets and the resource directory, as well as information from community partners and on topics such as return to work, accessing driving assessments, home supports, and leisure activities. BHB are encouraged to broaden their consultation and engagement with front line staff and people with lived experience as they continue to further develop resources on a range of topics related to stroke and longer-term recovery and community participation.

Patients report feeling well cared for by all members of the stroke team. Staff take time to talk with them and understand their fear and feelings of uncertainty. The addition of the clinical psychologist is a further acknowledgment of the importance of mental and emotional health, and use of this resource should be optimized by staff and made accessible to all patients. A good next step for the BHB stroke program is to engage people more fully with lived experience of stroke as peer visitors on the ISU to provide an additional source of information and hope to current patients. In addition, the BHB is encouraged to continue building their relationship with the recently renewed Bermuda Stroke Association and explore joint peer-support initiatives.

The BHB stroke program has been proactive to ensure timely access to secondary prevention by routinely admitting people with TIA and minor stroke for diagnostic testing, and initiation of optimal medical management appropriate to risk profiles and comorbidities. Carotid imaging is available at BHB and locum vascular surgeons conduct clinics on the Island several days each month. Carotid surgery is accessible through a partnership with Lahey Hospital in Boston for those meeting eligibility, although financial and logistical barriers may impede access. Once initial assessment is completed and medical management is optimized, people with TIA are discharged and referred to their family physician for ongoing secondary prevention care. Detailed notes are provided to GP's with copies given to patients and families.



People with TIA and families receive education on TIA, risk factor management, lifestyle modifications, and BEFAST. Follow-up appointments are made prior to discharge when possible. The BHB stroke program is encouraged to seek innovative models for management of high-risk TIA on an outpatient basis, along with the funding model required to sustain this approach. Virtual care is a viable option to consider, building links to providers off island to fill this gap, given the successful use of Telestroke in hyperacute care.

Transition planning is done well by the BHB stroke program. It is started early and included in daily bullet rounds and more in-depth stroke rounds. Patients and family are engaged in goal setting, although some of these interactions can be strengthened. There is a social worker on the team who works with patients and families to address discharge needs, financial matters, and caregiver ability. The team works closely with in-hospital Home-Care staff and community service providers. There are considerable delays in discharge for some people with stroke due to the lack of home support systems (family, caregivers) and a shortage of nursing home beds, which is systemic across Bermuda. The team is encouraged to work proactively with community partners to raise these issues with healthcare and community service leaders.

UNMET CRITERIA

CRITERION		COMMENTS
10.8	Where programs are available, the team uses eligibility criteria to assess clients for early supported transition.	Early supported discharge programs and other similar services are not available in Bermuda at this time.



Results by Theme: King Edward VII Memorial Hospital

Acute Stroke Services

Maintaining Accessible and efficient clinical information systems

Surveyor Comments

There are strong data security, privacy and confidentiality systems in place and constantly monitored. Access to internal systems require two-factor authentication that times out after a certain period and requires password access. These processes are aligned to current practice standards and are PIPA (Personal Information Privacy Act) compliant. Access to patient records is limited to units and service areas and there are built in alerts to the privacy and security offices for any suspicious activity. Staff are required to complete annual privacy and confidentiality training and reminders are provided during unit huddles and throughout hospital on communication boards. Regular privacy audits are conducted and reported.

BHB has implemented the patient electronic record (PEARL) that is a Cerner based EMR system. This is a comprehensive and powerful electronic medical record that includes all information in one place throughout a patient's stay. Protocols and care plans are embedded into PEARL and easily accessible by all staff. Staff report the value of this system in managing patient care, tracking assessments, and evolving care needs.

The Decision Support, Quality and Operations teams have collaborated to develop a stroke care dashboard with quality information from across the continuum. BHB is commended for undertaking such a complex initiative and their success in doing so. They are able to seamlessly extract data for the Stroke Distinction Program - Key Quality Indicators (KQIs) plus additional stroke analytics that can be viewed in real time where the data is available. There is still a significant amount of data that has to be entered into the database manually and this is done by the stroke coordinator. The team should continue their development work and look for innovative AI based solutions to minimize manual entry and free up coordinator time to focus on patient care and flow, and reduce backlogs following periods of vacation or time off.

The dashboard is accessible by a limited number of stroke leaders and managers. Data is reviewed at the monthly Bermuda Stroke Working Group meetings and trended over time, and against targets. The working group actively monitors demographics, prevalence and incidence data which informs ongoing planning. The working group tracks and responds to shifts in performance and develops and evaluates mitigation action plans. The stroke leaders are also encouraged to conduct root cause analyses for indicators that are steadily trending negatively (such as change in functional status during inpatient rehabilitation) to better understand contributing factors and ensure action places are specific and appropriately targeted. The team is encouraged to broaden access to the dashboard to all stroke staff, even if they are just selected indicators.

Managers are encouraged to share the data with their teams. On the ISU the data reports are kept in a single red binder for staff to access. The data is also discussed at morning huddles. There is lots of clean wall space on the ISU and the team is encouraged to develop a very visible quality board that includes stroke indicator data, trends, and quality improvement initiatives. This will make quality information more visible and available to front line staff, patients and families and encourage their input, feedback, and participation in owning the data and solutions.

Three stroke quality indicators are integrated into the overall KEMH quality and safety report. These reports are available on the BHB public website and regularly updated. The public relations staff promote positive stroke quality findings through several media channels – BHBLife newsletters, local media releases, social media and at events.



The team are also encouraged to share data on areas that are challenging and be transparent about actions being taken to address these areas.

UNMET CRITERIA

There were no UNMET CRITERIA for this theme.



Results by Theme: King Edward VII Memorial Hospital

Acute Stroke Services

Monitoring quality and achieving positive outcomes

Surveyor Comments

The BHB stroke program regularly collect and report on 16 applicable Stroke Distinction Key Quality Indicators (KQIs). Their performance has steadily improved over the past 6 years of data collection with all KQI's meeting or exceeding target thresholds. Data for the 2024/25 reporting period reveals that all people with suspected stroke receive a CT scan on same day of arrival. The team is encouraged to also continue to trend door-to-CT times. Review of this data onsite indicated that door-to-CT times are close to international guideline targets of a median of 15 minutes, and radiology rapid reporting times should also be considered. Median door-to-needle times (treatment with TNK) were quite long in 2023/24 with a median of 90 minutes and only 14% within 60 minutes. 2024/25 data reviewed shows marked improvement in DTN times with a median now down to 56 minutes and 60% treated within 60 minutes. The team is encouraged to continue to make efforts to improve DTN times with a target to achieve guideline directed targets of 50% of cases treated within 30 minutes and 90% within 60 minutes. JHH response times and times to decision regarding thrombolysis are also valuable indicators for comprehensive quality monitoring, and the data is available in the stroke database.

There is excellent performance in admitting people with stroke to the ISU, and the team is now encouraged to track times more closely from admission to hospital to actual arrival on the ISU as these times seem significantly long in some cases due to bed flow challenges. Screening for dysphagia, falls risk, depression and cognitive issues have steadily improved through targeted quality improvement initiatives by staff. Rehabilitation assessments are well above target, and length of stay, mortality and complications remain low.

The rate of admission to inpatient rehabilitation remains above target, but is negatively trending, as has the percentage of people with measured gains in functional status. The stroke and quality teams are strongly encouraged to conduct some root cause analyses for these indicators to better understand contributing factors, whether system-level, process, or patient, and ensure action plans are developed that are specific and appropriately targeted.

The stroke program leadership (medical lead, coordinator, operations, decision support, and quality leads) monitor the data continuously and response to variations or unmet thresholds. There is a detailed timeline analysis documentation conducted manually by the stroke coordinator and operational performance manager for every acute ischemic stroke case, usually within a couple of days. The results are shared with the hyperacute stroke team at the KEMH ED and with the JHH team. Monthly meetings are held with JHH and cases are reviewed with a goal of continuous improvement. Currently results are compared within BHB against historical performance. They are also considered against the Stroke Distinction target thresholds. Some comparison of hyperacute data is planned with JHH as they have two other sites involved in their Telestroke consultation service. The team is encouraged to consider other sources to benchmark performance such as community hospitals in other jurisdictions.

The KQIs within the dashboard are accessible by a limited number of stroke leaders and managers. Data is reviewed at the monthly Bermuda Stroke Working Group working group meetings and trended over time, and against targets. The working group tracks and responds to shifts in performance and develops and evaluates mitigation action plans. The team is encouraged to broaden access to the dashboard to all stroke staff, even if they are just selected indicators.

Currently the stroke program does not formally collect specific feedback from their patients, family, and caregivers. They receive anecdotal feedback from some patients and families. BHB regularly collects and reports on patient quality and satisfaction data, with three stroke specific quality indicators; however for satisfaction, stroke patients are not reported separately.



The ISU has developed their own satisfaction survey and are awaiting approval for implementation. BHB is strongly encouraged to launch a process to receive stroke specific patient and family experience data and to regularly review this information to inform planning and ongoing quality improvement.

The BHB stroke program is currently not actively engaged in local or multi-site research initiatives. They have been actively involved in quality improvement initiatives. They have collaborated with JHH to evaluate the impact and outcomes of their partnership in treating acute stroke patients with the current Telestroke model. Preliminary positive results demonstrate the success of this program in reducing door to needle times, reducing length of stay and improving functional outcomes. This could serve as an excellent model for other small regions, that are based on strong evaluation methods. Future research partnerships with JHH are being planned.

The stroke program team are encouraged to explore opportunities to participate in multi-centre trials as a local site and to be inquisitive and develop local research questions along the continuum of care, including working with partners in rehabilitation and community services. When their current manuscript is published, it would be very beneficial to share the findings at conferences and through group presentations to other regions with similar structures and limitations, and take a leading role for ongoing development of this model.

UNMET CRITERIA

CRITERION	COMMENTS
12.4 The team conducts research, clinical trials, and assessments of new interventions to look for innovations in acute stroke services.	The BHB stroke program is currently not actively engaged in local or multi-site research initiatives. They have been actively involved in quality improvement initiatives. They have collaborated with JHH to evaluate the impact and outcomes of their partnership in treating acute stroke patients with the current Telestroke model. Future research partnerships with JHH are being planned. The stroke program team are encouraged to explore opportunities to participate in multi-centre trials as a local site and to be inquisitive and develop local research questions along the continuum of care, including working with partners in rehabilitation and community services.
12.5 The team monitors client, family, and/or caregiver perspectives on the quality of acute stroke services.	Currently the stroke program does not formally collect specific feedback from their patients, family, and caregivers. They receive anecdotal feedback from some patients and families. The BHB regularly collects and reports on patient quality and satisfaction data, with three stroke specific quality indicators; however, for satisfaction, stroke patients are not reported separately. The ISU has developed their own satisfaction survey and are awaiting approval to implement this. BHB is strongly encouraged to launch a process to receive stroke specific patient and family experience data and to regularly review this information to inform planning and ongoing quality improvement.



Overall Ratings: King Edward VII Memorial Hospital

Inpatient Stroke Rehabilitation Services

REQUIREMENT	RESULTS	RATING
75% or greater of all criteria within the inpatient rehabilitation stroke standard have been rated as “met”.	95%	MET
80% or more of all high-priority criteria within the inpatient rehabilitation stroke standard have been rated as “met”.	100%	MET

Results Overview: King Edward VII Memorial Hospital

Inpatient Stroke Rehabilitation Services

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	97%
Helping clients, families, and/or caregivers live with stroke	83%
Maintaining accessible and efficient clinical information systems	100%
Monitoring quality and achieving positive outcomes	86%



Results by Theme: King Edward VII Memorial Hospital

Inpatient Stroke Rehabilitation Services

Investing in comprehensive inpatient stroke rehabilitation services

Surveyor Comments

The Bermuda Hospitals Board reported 229 strokes over the 2025/26 fiscal year. Of this 62% were ischemic, 10% hemorrhagic and 28% were TIA's. Of the population experiencing stroke, 30% were under the age of 65, 75% had high blood pressure and 87% had a major risk factor for stroke. Diabetes is experienced at twice the rate of the OECD average. A review of the risk factors for stroke among their population shows that high blood pressure is the most prominent, followed by diabetes, high cholesterol, and irregular heart rate. Bermuda is also experiencing an aging population. The number of seniors is expected to grow from 19% to 33% by 2039. Social inequality and racism are mentioned as concerns in the Strategic Plan that may lead to challenges effectively accessing services. The stroke coordinator is responsible for collecting data about stroke prevalence and stroke risk factors in the population. The local teams are aware of the demographic trends, although they did not describe receiving formal reports. The rehabilitation team described an increase in the number of young people experiencing stroke, with some quality improvement ideas being generated within the team. Driving assessment and driver rehabilitation was a theme that came up related to strokes in younger people and it is recommended that the organization pursue resources to support this service need.

The BHB Stroke Strategy 2026 – 2030, which is pending formal publication, further provides a detailed outline of the aims and goal for stroke care in Bermuda. There is a 10-point plan detailed within the strategy that is an excellent roadmap for the future of stroke care in Bermuda. The organization is encouraged to continue to share and promote this plan, along with the strategy and to engage front line teams in the implementation of the actions associated with the plan.

BHBLife is an organization-wide monthly newsletter for staff. The Stroke Edition published June 2026 contained information on the stroke related statistics and outcome indicators and highlighted the activities associated with the upcoming Stroke Distinction survey. This is a great way to communicate organizational activities to a broad range of staff. This tool cannot be relied upon for regular and ongoing reporting of stroke specific and rehabilitation specific indicators to staff and the teams should explore other ways to effectively do so. The recently developed stroke dashboard is a great example of a tool that can be more broadly shared. The team shared that they used to have unit-based quality committees, but this has lapsed. It would be beneficial to re-establish these committees, and formalize the approach to quality improvement.

There are a number of community agencies that the BHB partners with for the delivery of stroke care. A lot of effort has gone into raising stroke awareness through the B EFAST campaign, with newspaper, radio, and television advertising in addition to attendance at community events. St. John Ambulance has assisted with distribution of BE FAST education at their community events as well. These efforts are planned to continue with emphasis on establishing the relationship with Bermuda Stroke Association, and partnering with the Diabetes Association for management of diabetes and weight loss as some examples. The Government of Bermuda is viewed as a critical partner in prevention, public health, community services, insurance reform, and funding. Partnering to ensure that uninsured people have equitable access to stroke care is a priority.

While it is recognized that the overall hospital capacity challenges can lead to delays in patients being transferred from ICU or the emergency department to the ISU, once the patients are on the ISU they experience a seamless transition to rehabilitation. There are 4 dedicated rehabilitation beds on the ISU and these beds can flex up as needed. Some clients who require ongoing or more intensive rehabilitation are transferred off island to Spaulding Rehabilitation Hospital in Boston, USA. This is generally restricted to those clients who have insurance that covers the cost for such transfers and care, as it would be cost prohibitive for uninsured clients to access this care.



With 12% of the population not having insurance, and 28% described as underinsured, there is a potential barrier here. The need for a valid passport and the ability to engage in international travel are additional potential barriers. There is a future plan to enhance access to long term rehabilitation through the addition of 6 neurorehabilitation beds at KEMH. This would go a long way to providing options for long-term rehabilitation for clients who are unable to access services off island and potentially reduce the number of transfers off island. Should the organization move forward with this plan, it will be important to ensure that there are the appropriate multidisciplinary resources and education to support this approach.

UNMET CRITERIA

There were no UNMET CRITERIA for this theme.



Results by Theme: King Edward VII Memorial Hospital

Inpatient Stroke Rehabilitation Services

Engaging a prepared and proactive stroke rehabilitation team

Surveyor Comments

BHB has an Integrated Stroke Unit (ISU) with an interdisciplinary team consisting of hospitalist, physiatry, occupational therapy, physical therapy, speech language pathology, social work, dietitian, rehabilitation assistants, and nursing. There is a stroke coordinator who provides clinical leadership, particularly as it relates to stroke best practice and the key quality indicators for stroke. The stroke medical director provides medical oversight in stroke best practice care and attends multidisciplinary rounds. A clinical psychologist has recently joined the team, which has been a great benefit for patients who are experiencing depression and/or cognitive changes. The physiatrist is based out of the day hospital and works 2 weeks on and 2 weeks off. The staff describe excellent involvement from the physiatrist in rehabilitation care and care planning. Day to day physician coverage is provided through a hospitalist model. There are 2 hospitalists on the ISU during the day with on call coverage overnight, the hospitalist strive to cover one week at a time. The hospitalist team provides good continuity of care and is well versed in stroke. Good access to multi-denominational spiritual care support exists for those patients wishing to access. Consideration for the addition of recreation therapy resources is encouraged.

The staff function as a fully integrated and cohesive team, which facilitates seamless transitions from the acute focus to the rehabilitation focus phase of the stroke journey. The allied team members work closely with nursing and physicians to provide a coordinated and comprehensive rehabilitation experience for patients with stroke. Team members feel comfortable to bring ideas forward and supported by leadership. Care planning is done in partnership with patients and their families / caregivers. Daily huddles and weekly rounds provide the opportunity for each team member to update on progress and adjust care plans, as necessary. Weekly rounds are held outside patient rooms, and family members are encouraged to join and participate in the conversation. This approach to rounding is relatively recently implemented by the ISU team, and this survey was very impressed by the collaboration and inclusiveness of the approach.

Nursing and allied health staff are credentialed every two years and any professional bodies will advise the employer if credentialing is not maintained within prescribed timelines. The orientation and onboarding for new staff members is comprehensive, and includes stroke specific training using the Hemispheres modules. All education is documented through the online RELIAS system, which regularly produces reports for educators and managers. The team members describe having access to ongoing education and training, including overseas opportunities. The organization provides some funding that staff can apply for, as well as paid education days. The team members produced lots of different examples of educational opportunities, such as in services, conferences, and courses.

Recruitment and retention are described as being a challenge for BHB and KEMH. While the majority of nursing positions are filled, or are in the process of being filled, there can be long delays associated with immigration and licensing requirements for guest staff. The allied health team described vacancies of up to 50% for some disciplines. This is a concern for the inpatient allied health team on the ISU, the outpatient allied health team, and the Department of Health community allied health team. This can impact access to direct therapy time, and longer wait lists for outpatient and community-based care. The surveyors acknowledge that recruitment and retention is a key strategic area of focus, and the organization is encouraged to continue to put significant effort to optimizing and supporting existing staff as well as facilitating recruitment of new staff members.

The BHB Stroke Strategy 2026-2030 was developed in collaboration with leadership, staff, the Bermuda Stroke Association (newly formed and comprised of individuals with lived experience of stroke), and other community partners. This document aligns very well with the organizations existing strategic plan and provides a roadmap for the next 5 years.



The organization is encouraged to ensure ongoing involvement of staff, community partners, and patient and family partners as this moves to implementation.

The ISU provides an organized and uncluttered environment for care, with spacious patient rooms. The teams describe good access to rehabilitation equipment with the organization and auxiliary supporting requests. There is an aim to continue to enhance access to state-of-the-art rehabilitation equipment and the team would benefit from driver rehabilitation equipment, visual field assessment and training tools, a standing frame, and a walking track for example. With the recent commitment to develop an on-unit rehabilitation space, the organization is encouraged to continue to look at ways to enhance and expand this space or other adjacent spaces. There is a desire to increase access to social space or recreation therapy space for the rehabilitation patients on the ISU and this would be a positive addition to the program.

The Rehabilitation Day Hospital (RDH) space is conducive to providing comprehensive outpatient therapy and the team describes having access to the equipment they need to do the same. The RDH is lacking in access to a kitchen and bathroom for ADL assessment. There is a business case that has been developed to support the same, and the organization is encouraged to support this work to move forward as soon as financially feasible.

Community partnerships and engagement are clearly a priority for BHB, and it is important to recognize the efforts made to engage community partners and establish more formal relationships between community organizations and BHB. Most recently, the BHB Stroke Program collaborated with the Bermuda Stroke Association, the Bermuda Diabetes Association, and Evolution Rehabilitation in the development of the BHB Stroke Strategy. BHB is encouraged to build on these partnerships by continuing to strengthen relationships with community organizations and identifying opportunities to further increase their involvement in stroke service planning, implementation, and ongoing improvement.

UNMET CRITERIA

CRITERION		COMMENTS
3.6	The team uses telestroke/telehealth services to increase access to stroke rehabilitation expertise.	At this time telestroke and telehealth is focused on hyperacute stroke services and neurointerventional care through the partnership with JHH. There is an opportunity to explore expanding this partnership to include support for tele-rehabilitation.



Results by Theme: King Edward VII Memorial Hospital

Inpatient Stroke Rehabilitation Services

Providing safe and appropriate inpatient stroke rehabilitation services

Surveyor Comments

There is a formal policy supporting assessment for transfer to rehabilitation. The policy is up to date and includes the expectation that it is completed within 48 hours of admission to the ISU. The occupational therapist and physical therapist will often perform joint assessments. The allied health team members use a number of different validated functional assessment tools for mobility, balance, visual perception, cognition, and activities of daily living. The organization has recently introduced the Activity Measure for Post Acute Care (AMPAC) / Johns Hopkins Highest Level of Mobility (JHLM) tool to define current functional baseline and next functional goal. This is based on an 8-point scale. It appears to be an effective way to promote activation as well as communicate across team members. The team recognizes that in the absence of using a comprehensive assessment tool such as the FIM, it will be difficult to benchmark against other organizations and to cohesively report functional rehabilitation outcome measures. The FIM tool provides a broader range of assessment parameters, including cognitive evaluations and may be a more comprehensive tool to work towards incorporating into the rehabilitation assessment framework. The allied health team did look into implementing the FIM tool, but was advised that no new clients are being onboarded at this time. This surveyor would like to encourage the team to continue to pursue this goal.

There is a seamless transition from the acute focus phase of stroke care to the rehabilitation focus phase due to the colocation of patients with stroke on the ISU. There is effectively no waitlist and rehabilitation patients are not placed off service. The ISU will accommodate patients beyond the dedicated 4 beds if necessary. Rehabilitation patients are prioritized for inpatient rooms located near the therapy space.

Patients with stroke and their families/caregivers are involved in care planning and goal setting from the beginning and are encouraged to attend rounds and therapy sessions. The goal of the team is to provide 3 hours of rehabilitation therapy 5 days a week, this is not currently measurable or achievable with the resources available. The allied health team is experiencing vacancies that impact the number of hours of direct therapy time able to be provided to each patient. Patients may be referred to the Spaulding Rehabilitation Hospital in Boston, USA for ongoing intensive rehabilitation therapy if the multidisciplinary rehabilitation team determines that their medical complexity and / or need for higher intensity rehabilitation cannot be provided through the BHB programs. Patients may take advantage of this opportunity if their insurance covers the costs and / or they have the financial means. At this time there is no virtual rehabilitation support for inpatient, outpatient, or community-based programs. There may be an opportunity to partner with JHH to establish a program. This may be as simple as providing virtual education sessions, or as complex as partnering with more experienced therapists in the delivery of intensive rehabilitation services.

Outpatient rehabilitation services are provided through the Rehabilitation Day Hospital (RDH) program at KEMH. The RDH is supported by a multidisciplinary team including physical therapy, occupational therapy, speech language pathology, dietitian, physiatrist, and clinical psychology. Referrals come from the ISU, physiatry, general practitioners, neurology clinic, and community rehabilitation teams. Patients with stroke who have been discharged from the program can re-access services through their GP. The program strives to achieve first intake within 15 days, however, intake can often be longer due to vacancies across allied health positions in the program. Waitlist are monitored and patients are prioritized for intake based on need. The team expressed that it is currently difficult to consistently provide 3 x /week therapy with the resource constraints they are experiencing. Upon discharge clients may be independent with home exercise programs, or can be referred to private therapy in the community or the Department of Health community rehabilitation team.



The Department of Health community rehabilitation team is comprised of occupational therapy and physical therapy resources. Referrals can come from the ISU rehabilitation team or community GP's. The team has limited resources and it can be long waits for service. There is no early supported discharge programming or enhanced community-based teams for patients discharged from the stroke unit. There was funding provided to create an enhanced community team called "care closer to home," however recruitment was a barrier to execution. BHB should continue to pursue community-based rehabilitation models such as "care closer to home" in order to improve transitions and enhance access to ongoing therapy outside of the inpatient hospital environment. The positive long-term impact of investing in community-based supports cannot be understated.

The falls prevention protocol is up to date and outlines the use of the Johns Hopkins Falls Risk Assessment Tool (JHFRAT). Universal falls precautions are in place for all patients admitted to the ISU. Interventions are applied based on high, medium, or low risk for falls. Risk is communicated through orange ID bands, documented care plans, and orange posters at the patient bedside.

The PHQ-9 is used to screen patients for depression, the SADQ-H10 is used for patients experiencing aphasia. The policy supporting depression screening is up to date and outlines the expectation to complete at transitions, including within 48 hours of transfer to rehabilitation. Patients who screen positive are identified to the primary physician for medical intervention or referred to clinical psychology and social work.

Patients are assessed for pressure injury prevention using the Braden risk assessment tool. The process is supported by a policy which is up to date. Patients are reassessed every 24 hours and / or at transfer or with any changes to skin integrity. Interventions are applied based on the assessment findings.

A 3 oz swallow screen is completed on all patients at admission by a trained registered nurse. This is supported by an up-to-date policy with a clear algorithm for intervention. Clients at risk are referred to SLP for full assessment and made NPO. After hours SLP can be contacted to perform a telephone screen and determine appropriate next steps. It is possible that clients may remain NPO for 24-48 hours, however, in the absence of additional SLP resources the team is at their maximum capacity for services they can provide.

Hypoglycemia management guidelines exist at an organizational level and are further embedded within the care planning policies for stroke care. These policies are up to date.

Criteria Rated Not Applicable:

5.5 The team monitors its responsiveness to referrals by setting targets and tracking times to respond to requests for service. KEMH has an integrated stroke unit with nursing and allied health teams that follow all stroke patients, acute, and rehabilitation. The teams do not rely on a formal referral process as patients seamlessly transition from acute to rehabilitation as soon as they are deemed ready to participate in therapy.

5.6 The team collaborates with its referral sources to proactively manage its waitlist and respond to the needs of clients who are waiting for service. There are no waitlists for rehabilitation as clients transfer seamlessly from an acute to rehabilitation focus on the integrated stroke unit.

7.1 When clients are not managed on a dedicated stroke unit, there is a process to cluster them. All rehabilitation patients are admitted to the ISU at KEMH, there are no 'off-service' rehabilitation patients. The unit will flex up if needed to accommodate additional patients.



UNMET CRITERIA

CRITERION	COMMENTS
7.4	The team ensures that the intensity and duration of direct therapy are in accordance with current best practice guidelines. The goal of the team is to provide 3 hours of rehabilitation therapy 5 days a week, this is not currently measurable or achievable with the resources available. Each individual allied health team member can review by patient how many hours of direct time they have provided to that one patient in PEARL. It may be possible to extract the data from PEARL and create a rolled-up report, this should be explored. The allied health team is experiencing vacancies that impact the number of hours of direct therapy time able to be provided to each patient. If a client would benefit from intensive rehabilitation the team can refer overseas, and clients may take advantage of this opportunity depending on level of insurance or financial means.



Results by Theme: King Edward VII Memorial Hospital

Inpatient Stroke Rehabilitation Services

Helping clients, families, and/or caregivers live with stroke

Surveyor Comments

The surveyor had an opportunity to speak with patients and families who were eager to share their stories and experiences of care across the stroke continuum. They spoke highly of the ability to engage in rehabilitation and early activation on the ISU. The majority of patients and families felt supported in terms of stroke care, education, and transition.

The multidisciplinary rehabilitation team discusses transition plans with patients and families, including establishing family meetings to review progress, treatment goals, and discharge plans. Patients and their families are included in multidisciplinary weekly rounds, where progress and transition plans are discussed. The patients with stroke and their families that were interviewed reported receiving education documents and education about their stroke and risk factors. Beginning in April 2026, BHB introduced the *BHB Stroke Directory of Services*, a comprehensive resource for patients, caregivers, and families. The directory outlines a wide range of emergency, acute care, rehabilitation, and community-based services and supports available to individuals affected by stroke. This guide is provided to all stroke patients to help them navigate care and access appropriate resources throughout their recovery journey. The team will work with patients and families around which supports are most appropriate to support their ongoing recovery, however, all team members acknowledged that community-based resources are quite limited. There may be an opportunity to establish a structure to ensure that family meetings are booked for every patient with stroke at a set time frame during their stay (e.g., 1-2 weeks post-acute admission).

BHB has an organizational patient satisfaction survey with very general ratings for inpatient units that is available on the public facing website. At this time there is no formal process for post discharge follow up with patients and their families. The Rehabilitation Day Hospital team will do a 30-day follow-up phone call with some clients, but there is no formal criteria and no formal process for capturing information. At present, there is no stroke-specific patient experience survey in place; however, the stroke team has developed a survey that is ready for implementation once privacy-related concerns have been addressed. This represents an important opportunity for BHB to strengthen its patient and family-centred approach by implementing a stroke-specific patient experience and follow-up process following discharge. Such a process could incorporate Patient Reported Outcome Measures (PROMs) and Patient Reported Experience Measures (PREMs), providing valuable insights into patient outcomes, care experiences, and unmet needs across the continuum of care. The information gathered would support ongoing quality improvement efforts and help ensure services remain responsive to the needs of patients and families. BHB may also wish to consider co-designing these tools and processes in partnership with stroke survivors, families, caregivers, and a Patient and Family Advisory Council (PFAC), helping to ensure that the measures capture what matters most to those with lived experience.



UNMET CRITERIA

CRITERION		COMMENTS
9.6	Following transition or end of service, the team contacts clients, families, and/or caregivers to evaluate the effectiveness of the transition and uses the information to improve its transition and end-of-service planning.	At this time there is no formal process for post discharge follow up with patients and their families. The Rehabilitation Day Hospital team will do a 30-day follow-up phone call with some clients, but there is no formal criteria and no formal process for capturing information. There is no stroke specific patient experience survey at this time, although the team has developed a survey that is ready to be implemented once privacy concerns are addressed. The surveyors strongly recommend that the organization move forward with this and work to formally use patient reported outcome measures and patient reported experience measures to inform stroke service delivery.



Results by Theme: King Edward VII Memorial Hospital

Inpatient Stroke Rehabilitation Services

Maintaining accessible and efficient clinical information systems

Surveyor Comments

There are strong data security, privacy and confidentiality systems in place and constantly monitored. Access to internal systems require two-factor authentication that times out after a certain period and requires password access. These processes are aligned to current practice standards and are PIPA (Personal Information Privacy Act) compliant. Access to patient records is limited to units and service areas and there are built in alerts to the privacy and security offices for any suspicious activity. Staff are required to complete annual privacy and confidentiality training and reminders are provided during unit huddles and throughout hospital on communication boards. Regular privacy audits are conducted and reported.

BHB has implemented the patient electronic record (PEARL) that is a Cerner based EMR system. This is a comprehensive and powerful electronic medical record that includes all information in one place throughout a patient's stay. Protocols and care plans are embedded into PEARL and easily accessible by all staff. Staff report the value of this system in managing patient care, tracking assessments, and evolving care needs.

The Decision Support, Quality and Operations teams have collaborated to develop a stroke care dashboard with quality information from across the continuum. BHB is commended for undertaking such a complex initiative and their success in doing so. They are able to seamlessly extract data for the Stroke Distinction Program - Key Quality Indicators (KQIs) plus additional stroke analytics that can be viewed in real time where the data is available. There is still a significant amount of data that has to be entered into the database manually and this is done by the stroke coordinator. The team should continue their development work and look for innovative AI based solutions to minimize manual entry and free up coordinator time to focus on patient care and flow, and reduce backlogs following periods of vacation or time off.

The dashboard is accessible by a limited number of stroke leaders and managers. Data is reviewed at the monthly Bermuda Stroke Working Group meetings and trended over time, and against targets. The working group actively monitors demographics, prevalence and incidence data which informs ongoing planning. The working group tracks and responds to shifts in performance and develops and evaluates mitigation action plans. The stroke leaders are also encouraged to conduct root cause analyses for indicators that are steadily trending negatively (such as change in functional status during inpatient rehabilitation) to better understand contributing factors and ensure action places are specific and appropriately targeted. The team is encouraged to broaden access to the dashboard to all stroke staff, even if they are just selected indicators.

Managers are encouraged to share the data with their teams. On the ISU the data reports are kept in a single red binder for staff to access. The data is also discussed at morning huddles. There is lots of clean wall space on the ISU and the team is encouraged to develop a very visible quality board that includes stroke indicator data, trends, and quality improvement initiatives. This will make quality information more visible and available to front line staff, patients and families and encourage their input, feedback, and participation in owning the data and solutions.

Three stroke quality indicators are integrated into the overall KEMH quality and safety report. These reports are available on the BHB public website and regularly updated. The public relations staff promote positive stroke quality findings through several media channels – BHBLife newsletters, local media releases, social media and at events.



The team are also encouraged to share data on areas that are challenging and be transparent about actions being taken to address these areas.

UNMET CRITERIA

There were no UNMET CRITERIA for this theme.



Results by Theme: King Edward VII Memorial Hospital

Inpatient Stroke Rehabilitation Services

Monitoring quality and achieving positive outcomes

Surveyor Comments

The BHB stroke program regularly collect and report on 16 applicable Stroke Distinction Key Quality Indicators. Their performance has steadily improved over the past 6 years of data collection with all Stroke Distinction KQI's meeting or exceeding target thresholds. Data for the 2024 – 2025 reporting period reveals excellent performance in admitting people with stroke to the ISU, and the team is now encouraged to track times more closely from admission to hospital to actual arrival on the ISU as these times seem significantly long in some cases due to bed flow challenges. Screening for dysphagia, falls risk, depression and cognitive issues have steadily improved through targeted quality improvement initiatives by inpatient acute and stroke rehabilitation staff. Completion of rehabilitation assessments within 48 hours of admission are well above target, and length of stay, mortality and complications remain low. Atrial fibrillation is addressed and managed before discharge from inpatient rehabilitation.

The rate of admission to inpatient rehabilitation remains above target, but is negatively trending, as has the percentage of people with measured gains in functional status. The stroke and quality teams are strongly encouraged to conduct some root cause analyses for these indicators to better understand contributing factors, whether system-level, process, or patient, and ensure action plans are developed that are specific and appropriately targeted. The inpatient rehabilitation team is encouraged to also collect and monitor data on rehabilitation intensity. During the onsite visit it was noted that due to staff capacity the guideline directed targets of one hour per required therapy per day, five days a week is not able to be met, especially with limited weekend access to rehabilitation therapists.

The stroke program leadership (medical lead, coordinator, operations, decision support, and quality leads) monitor the data continuously and respond to variations or unmet thresholds. Currently results are compared within BHB against historical performance. They are also considered against the Stroke Distinction target thresholds. The team is encouraged to consider other sources to benchmark inpatient rehabilitation performance such as community hospitals in other jurisdictions.

The KQIs within the dashboard are accessible by a limited number of stroke leaders and managers. Data is reviewed at the monthly Bermuda Stroke Working Group meetings and trended over time, and against targets. The working group tracks and responds to shifts in performance and develops and evaluates mitigation action plans. The team is encouraged to broaden access to the dashboard to all stroke staff, even if they are just selected indicators.

Currently the stroke program does not formally collect specific feedback from their patients, family, and caregivers. They receive anecdotal feedback from some patients and families. The BHB regularly collects and reports on patient quality and satisfaction data, with three stroke specific quality indicators; however, for satisfaction, stroke patients are not reported separately. The ISU has developed their own satisfaction survey and are awaiting approval for implementation. BHB is strongly encouraged to launch a process to receive stroke specific patient and family experience data and to regularly review this information to inform planning and ongoing quality improvement.



UNMET CRITERIA

CRITERION		COMMENTS
11.4	The team monitors client, family, and/or caregiver perspectives on the quality of inpatient stroke rehabilitation services.	Currently the stroke program does not formally collect specific feedback from their patients, family, and caregivers. They receive anecdotal feedback from some patients and families. The BHB regularly collects and reports on patient quality and satisfaction data, with three stroke specific quality indicators; however, for satisfaction, stroke patients are not reported separately. The ISU has developed their own satisfaction survey and are awaiting approval to implement this. BHB is strongly encouraged to launch a process to receive stroke specific patient and family experience data and to regularly review this information to inform planning and ongoing quality improvement.



Key Quality Indicators

The Key Quality Indicators (KQIs) are a core component of the Stroke Distinction™ program. Organizations are required to collect and submit data on all applicable KQIs. The Stroke Distinction™ program KQIs define thresholds that must be achieved, as well as quality improvement targets and best practice targets (where applicable) to help organizations compare themselves against established benchmarks to improve quality over time. Please refer to the Stroke Distinction™ Key Quality Indicators document for a full list of the KQIs and their related data definitions, applicability, thresholds, and quality improvement or best practice targets.

After the first on-site survey, organizations must submit KQI data to Accreditation Canada annually to maintain the award of Distinction™.

Ratings: King Edward VII Memorial Hospital

The following section provides a list of the KQIs collected by organizations assessed against the Integrated Key Quality Indicator standard. Ratings are based upon data submitted by the organization for each applicable KQI. BHB submitted KQI data for the period of April 1, 2024 - September 30, 2025, for survey review. Additional 2025/26 KQI data was made available to the surveyors onsite, but will not be formally submitted to Accreditation Canada until September 30, 2026.

Integrated Key Quality Indicator

REQUIREMENT	RATING
Collect and submit data on all applicable KQI's	MET
Achieve baseline thresholds for all applicable KQI's	MET

Surveyor Comments

The BHB stroke program regularly collects and reports on 16 applicable Stroke Distinction Key Quality Indicators (KQI's) plus additional stroke performance indicators such as mode of arrival (walk-in vs EMT), door to CT times and readmission rates. Their performance has steadily improved over the past 6 years of data collection with all Stroke Distinctions KQIs meeting or exceeding target thresholds.

Data for the 2024/25 reporting period reveals that all people with suspected stroke receive a CT scan on day of arrival. The team is encouraged to continue to trend Door-to-CT times. Review of this data onsite indicated that Door-to-CT times are close to the international guideline target of a median of 15 minutes. Tracking radiology reporting times should also be considered. Median Door-to-Needle times (DTN - treatment with TNK) were quite long in 2023/24 with a median of 90 minutes and only 14% within 60 minutes. Updated 2024/25 data reviewed onsite shows marked improvement in DTN times with a median down to 56 minutes and 60% treated within 60 minutes. The team is encouraged to continue to make efforts to improve DTN times with a target to achieve guideline directed best practice targets of 50% of cases treated within 30 minutes and 90% within 60 minutes. JHH response times and times to decision regarding thrombolysis are also valuable indicators for comprehensive quality monitoring, and the data is available in the stroke database.



There is excellent performance in admitting people with stroke to the ISU, and the team is now encouraged to track times more closely from admission to hospital to actual arrival on the ISU as these times seem significantly long in some cases due to bed flow challenges. Screening for dysphagia, falls risk, depression and cognitive issues have steadily improved through targeted quality improvement initiatives by staff. Rehabilitation assessments are well above target, and length of stay, mortality and complications remain low.

The rate of admission to inpatient rehabilitation remains above target, but is negatively trending, as has the percentage of people with measured gains in functional status. The stroke and quality teams are strongly encouraged to conduct some root cause analyses for these indicators to better understand contributing factors, whether system-level, process, or patient, and ensure action plans are developed that are specific and appropriately targeted.

KQI	Threshold	Result	Rating
KQI #1: Proportion of acute ischemic stroke clients who receive initial brain Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) on same day of arrival.	Minimum 60%	100%	MET
KQI #2: Treatment delay in acute ischemic stroke clients administered intravenous (IV) thrombolysis upon hospital arrival.	Minimum 50% within 60 min	60% within 60 min	MET
KQI # 3: Proportion of acute ischemic stroke clients administered intravenous (IV) thrombolysis.	Minimum 5%	9.5%	MET
KQI #6: Proportion of acute ischemic stroke clients screened with a standardized screening tool for dysphagia on same day of hospital arrival.	Minimum 40%	67.6%	MET
KQI #7: Proportion of acute ischemic stroke clients having an initial standardized rehabilitation assessment within 2 days of hospital arrival.	Minimum 40%	82.5%	MET
KQI #8: Proportion of acute ischemic stroke clients admitted to a dedicated stroke unit or to a dedicated inpatient unit that provides a structured stroke care program.	Minimum 60%	94.3%	MET
KQI #9: Proportion of acute ischemic stroke clients diagnosed with preventable	Maximum 30%	13.3%	MET



KQI	Threshold	Result	Rating
KQI # 10: Length of Stay (LOS) of acute ischemic stroke clients in an acute inpatient unit.	Maximum 50% within 14 days.	10%	MET
KQI #11: 30-day acute ischemic stroke client mortality during acute inpatient stay.	Maximum 10%	8.1%	MET
KQI #12: Proportion of acute ischemic stroke clients transferred from acute inpatient unit to rehabilitation inpatient unit.	Minimum 20%	60.4%	MET
KQI #13: Proportion of acute ischemic stroke clients admitted to inpatient rehabilitation assessed for falls risk with standardized tool within 2 days of hospital admission.	Minimum 40%	91%	MET
KQI #14: Proportion of acute ischemic stroke clients screened for depression with a standardized screening tool during inpatient rehabilitation stay.	Minimum 40%	74.6%	MET
KQI #15: Proportion of acute ischemic stroke clients screened for cognitive impairment with a standardized screening tool during inpatient rehabilitation stay.	Minimum 40%	73.1%	MET
KQI #16: Proportion of acute ischemic stroke clients with an improvement in functional status from time of admission to inpatient rehabilitation unit to time of discharge based on a standardized measurement tool.	Minimum 40%	58.2%	MET
KQI # 17: Length of Stay (LOS) of acute ischemic stroke clients in an inpatient rehabilitation unit.	No more than 50% of clients should have a rehabilitation stay of more than 44 days.	37%	MET



KQI	Threshold	Result	Rating
KQI # 18: Proportion of acute ischemic stroke clients admitted to acute or rehabilitation inpatient unit with diagnosis of atrial fibrillation on appropriate anticoagulant therapy at discharge.	Minimum 75%	97.1%	MET



Protocols

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

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 and/or inpatient stroke rehabilitation services, at least 60% of the protocols must be adopted and consistently followed for each service. Additionally, protocols must meet the all of the following requirements:

REQUIREMENT	RATING
Protocols are based on the current evidence-informed practices for stroke.	MET
Protocols are used by appropriate interdisciplinary team members.	MET
Protocols are included in the client's health record, as appropriate.	MET
Protocols are shared with other health care providers, as appropriate.	MET
Protocols are regularly reviewed, updated, and communicated to all members of the stroke team.	MET



King Edward VII Memorial Hospital

Acute Protocol Ratings

REQUIREMENT	PROTOCOL	RATING
60% of the protocols must be adopted and consistently followed.	Emergency Medical Services (EMS) Stroke screening	MET
	EMS bypass / direct transport to stroke centres (including air ambulance)	N/A
	EMS pre-notification of suspected stroke	MET
	Emergency Department notification of hospital-based stroke team	MET
	Neurovascular imaging for potential stroke clients (rapid access to CT)	MET
	tPA eligibility screening	MET
	tPA administration	MET
	Administering acute ASA therapy	MET
	Formal criteria for identifying appropriate clients for referral to inpatient rehabilitation	MET
	Swallowing ability assessment	MET
	Initial assessment of rehabilitation needs	MET
	Assessing and managing diabetes mellitus (when present)	MET
	Pressure injury prevention	MET
	Falls prevention	MET

Surveyor Comments

BHB has developed and implemented all acute stroke protocols. They have recently been reviewed and updated and have a schedule for regular future review and updates. Frontline staff in the ED, DI, ICU, and ISU demonstrate strong awareness of the required protocols, their location, content, and the individual staff's responsibility in implementing protocols relevant to their roles. All protocols are integrated into the PEARL electronic record and are easily located and accessed. Protocol implementation is well documented in PEARL and staff regularly review required protocols for completion or follow up actions.

There is clear dialogue among staff on a daily basis during rounds and individual discussions to share findings of protocol assessments.



There is an opportunity to consider adding an alert system within PEARL for staff to be notified of outstanding time-sensitive protocols in an efficient manner to support meeting KQI timelines. To support further understanding of protocols and evidence and ongoing learning, the stroke team may consider linking protocols to the evidence-based guidelines they are derived from.

Rated Not Applicable:

EMS bypass/direct transport to stroke centre (including air ambulance). There is only one hospital in Bermuda, so EMS bypass and direct transport protocols are not applicable.



King Edward VII Memorial Hospital

Rehab Protocol Ratings

REQUIREMENT	PROTOCOL	RATING
60% of the protocols must be adopted and consistently followed.	Formal intake process for triaging client referrals and accepting clients for inpatient rehabilitation	MET
	Swallowing ability assessment	MET
	Initial assessment of rehabilitation needs	MET
	Assessing and managing diabetes mellitus (when present)	MET
	Pressure injury prevention	MET
	Falls prevention	MET

Surveyor Comments

BHB has developed and implemented all inpatient rehabilitation stroke protocols. They have recently been reviewed and updated and have a schedule for regular future review and updates. Frontline staff on the ISU demonstrate strong awareness of the required protocols, their location, content, and the individual staff's responsibility in implementing protocols relevant to their roles. All protocols are integrated into the PEARL electronic record and are easily located and accessed. Protocol implementation is well documented in PEARL and staff regularly review required protocols for completion or follow up actions. There is clear dialogue among staff on a daily basis during rounds and individual discussions to share findings of protocol assessments.

There is an opportunity to consider adding an alert system within PEARL for staff to be notified of outstanding time-sensitive protocols in an efficient manner to support meeting KQI timelines. To support further understanding of protocols and evidence and ongoing learning, the stroke team may consider linking protocols to the evidence-based guidelines they are derived from.



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 strategies over time. Skills training for stroke clients, as well as 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 in nature. The education process must also be informed by and developed with people with lived experience of stroke.

Ratings: King Edward VII Memorial Hospital

To achieve an award of Stroke Distinction™, the organization's education for people with lived experience of stroke must meet the following requirements:

Client and Family Education Requirements - Integrated Stroke Unit

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 (e.g., posters, display boards, booklets, etc.).	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 that are appropriate for clients with special communicative needs.	MET
	During tracer interviews, stroke clients and their families and/or caregivers report receiving education regarding their recovery and self-management from the health care providers that care for them.	MET
Consistent documentation in the client health record that education has been provided to people with lived experience of stroke	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



and their families and/or caregivers.
Two out of the four criteria must be achieved.

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

Resources available online include some from Canadian sources (My Stroke Journey) and American Sources (American Heart Association) and cover stroke background, living with stroke, stroke risk factors, and lifestyle modification through online links on the BHB public website. BHB has recently developed their own education tool called My Stroke Journey based on the best practices for hemorrhagic stroke, ischemic stroke, and TIA. The resources are comprehensive and include information about stroke, discharge checklists, follow up appointments, Blood Pressure Monitoring charts, post stroke check in questions and caregiver support information. BHB has recently published a directory of stroke services which outlines resources and supports available on the island for individuals who have experienced a stroke and their family / caregivers. These resources were noted to be available in English but no other languages. English is the predominant language spoken by up to 96% of the Bermudian population, however, Portuguese is also recognized as a language that is commonly spoken and the organization is encouraged to ensure these materials can be made available in Portuguese as well as English. For clients with aphasia, the SLP will tailor the communication methods for the teams to use when educating the patients to each individual patient's needs and stage of recovery. The SLP was noted to be using very creative and personalized methods, such as family photos, that also encourage family involvement.

The resources are provided to all patients at the point of entry to the stroke pathway and are used throughout the patient journey. Education resources are primarily located at the nursing station. Some patients with stroke and family members the surveyors spoke to were not aware of where to look for resources on stroke. There is no central location on the ISU that is dedicated to patient and family resources or information. The ISU team is encouraged to look at developing a space or location for patient and family resources that could house information beyond the My Stroke Journey, including the Stroke Directory of Services and other community-based resources that are available.

The team documents in education provided in PEARL. There is a central location to document education including the component of education and the date given and by which team member. Nursing and allied health staff may also document education in their progress notes. Team members did describe some challenges navigating PEARL to see what education has been provided, when and by whom. There may be an opportunity to streamline this within the EMR.



Excellence and Innovation Project

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 an Excellence and Innovation project 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 Recommendations.
- Demonstrates improvement to the overall quality of services within the facility or region.
- Includes a completed project evaluation, and measures sustainability of the project over time.
- Communicates findings within the organization and externally, as applicable.
- Notable for what it could contribute to the delivery of stroke services.

Ratings

To achieve an award of Distinction™, the organization's excellence and innovation project must meet the following requirements:

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



Surveyor Comments

The BHB Excellence and Innovation project presented is titled “Enhancing the trans-Oceanic Partnership using Digital Technology and Artificial Intelligence.” BHB has established a valuable partnership with Johns Hopkins Hospital, to run a live, image-shared Telestroke partnership supporting joint decisions on thrombolysis and trans-oceanic transfer for thrombectomy. In addition, the partnership provides mentorship and exchange of knowledge and learnings for all partners.

The current excellence and innovation project reflects the next stage in advancing hyperacute stroke care in Bermuda and moving BHB closer to delivering care as defined in current evidence-based acute stroke guidelines. The aim is to deliver pathway-driven hyperacute stroke care by strengthening the existing Telestroke partnership through digital technology and AI, using the RapidAI software package, an FDA-cleared cloud platform.

Two of the four objectives of this project have now been implemented and target thresholds have been met. This has been enabled through successful implementation of the RapidAI software on BHB CT and MRI as a resilient backup route for image availability and improved visualization. The first objective of accelerated decision-making measures time from JHH activation to treatment decision, with a target of less than 20 minutes. Individual review of all activations with JHH have shown that the connection to decision times have decreased and most are within the 20-minute goal. The second objective of increasing thrombolysis rates has been achieved within the 4.5-hour time window. Currently 16% of acute ischemic stroke patients arriving within the 4.5-hour time window are treated with TNK. Additionally, door-to-needle times have improved with 52% treated within 60 minutes in 2025/26.

This is an innovative and highly valued initiative for BHB. The collaborative nature of this project demonstrates the value of both partnerships and the effort to engage and include key leaders across departments. This initiative serves as an excellent model that can be replicated in other smaller and isolated regions globally with limited access to specialists and advanced technologies. The BHB and JHH teams are strongly encouraged to move to the next stage of CT perfusion implementation to extend the treatment time window and identify the best candidates for late window EVT.



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 a Stroke Distinction™ award status, it is important to continue to submit Key Quality Indicator (KQI) data. For additional information on submitting KQI data, or on any other aspect of the program, please contact your Accreditation Canada 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.