The Stroke Clinician – Original Paper

Comprehensive Stroke Center Certification Series: Setting the Vision

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Stroke · Acute stroke · Stroke certification

Abstract

The road to Comprehensive Stroke Center (CSC) certification is challenging and requires full integration of neurological, neurosurgical, neurointerventional, and neurocritical care and rehabilitation services across the entire continuum of care. To successfully achieve this level of certification, centers must coordinate significant resources and services into an organized program. This paper is the first in a three-part series outlining common pitfalls facing many organizations during their journey to initial CSC certification and re-certification and offers a roadmap and pearls for success on this journey. Setting the vision for certification is a key first step in the certification process. This includes fully understanding the certification standards, requirements, and supporting documents. Program leadership must then conduct a thorough gap analysis and build a business plan to support the program as it transitions to a CSC. These key steps should inform the timeline for certification application.

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Introduction

In 2005, the American Heart & Stroke Association (AHA/ASA) worked out recommendations for developing stroke systems of care, envisioning a system of care where all patients who experience stroke in the US have access to expert caregivers [1]. The operationalization of a stroke system of care in the US over the past 2 decades has heavily relied on third-party certification programs [2]. Several levels of certification are available to organizations based on the complexity of patient illness and resources available and the specialty expertise offered, including Acute Stroke Ready Hospitals (ASRH), Primary Stroke Centers (PSC), Thrombectomy Capable Stroke Center (TSC), and Comprehensive Stroke Center (CSC). As CSC

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certification became available in 2012, centers offering care to patients with the most complex types of stroke rapidly sought this highest level of stroke certification [2].

The road to CSC certification is challenging and requires full integration of neurological, neurosurgical, neurointerventional, and neurocritical care and rehabilitation services across the entire continuum of care. To successfully achieve this level of certification, centers must coordinate significant resources and services into an organized program. Many centers that have achieved certification report this to be a significant challenge, even if they routinely cared for these patient populations in the past. Barriers to certification are many, and the journey to certification is fraught with challenges. This paper is the first in a three-part series outlining common pitfalls facing many organizations during their journey to initial CSC certification and re-certification and seeks to offer a roadmap and pearls for success on this journey. The series is based on this author's experience working with multiple centers across the United States toward the successful attainment of certification. This first paper will address setting the vision for CSC certification, which entails fully understanding the certification standards and requirements, conducting a gap analysis, and building a business plan and timeline for certification.

While there are several organizations that offer CSC certification, including state organizations, this paper will speak generally to pearls and pitfalls associated with certification by The Joint Commission (TJC) and Det Norske Veritas (DNV) as they comprise a large majority of the certification market [3]. The information provided herein is not meant to interpret standards on behalf of either organization. Instead, the content provides a general approach to successful certification and outlines key steps on the journey to certification regardless of the certifying body.

CSC Overview

CSCs represent a subset of hospitals capable of caring for the most complex and highest acuity of illness associated with ischemic stroke, intracerebral hemorrhage, and subarachnoid hemorrhage [2]. While standards do vary some between certifying organizations, CSCs generally offer expertise in vascular neurology, neurosurgery, neurocritical care, and physiatry, and provide care across the continuum of illness. Many CSCs offer expanded outreach services, coordinating telemedicine programs that bring patients from a wider region than their typical primary and secondary service area. As such, these hospitals may be managing extensive outreach networks, offering complex in-hospital care, and extended posthospital care coordination as patients are discharged throughout the extended region [4].

CSC certification was launched by TJC and DNV in 2012 after the stroke community had nearly a decade of experience with primary stroke center certification [2]. While CSC standards generally build on PSC standards for both TJC and DNV certification, the scope of the program was widened greatly to include complex neurosurgical cases, neuroendovascular patients, and those undergoing carotid revascularization. Additionally, the requirements for quality management are much larger in scope for CSCs when compared with other levels of certification. Additional quality standards and performance measures are included for both TJC and DNV certified centers. To successfully achieve initial CSC certification and to maintain a program through recertification requires an organized approach to program management and evaluation, and awareness of common pitfalls.

Journey Step 1: Understand the Certification Standards and Supporting Documents

A common pitfall that leads to delays in certification or an unpleasant certification experience is the lack of familiarity or understanding of certification standards and other supporting

documents. Centers seeking CSC certification have often been certified previously as a PSC and are looking to transition to CSC certification. However, the TJC and DNV PSC and CSC standards differ considerably and often require significant infrastructure and personnel investment for successful CSC transition. Therefore, once a decision is made to pursue CSC certification, a solid understanding of the standards followed by a comprehensive gap analysis are necessary and should precede any timeline predictions for certification readiness.

Standards Overview and Analysis

Organizations seeking CSC certification are reviewed according to a set of certification standards published by the certifying organization. However, program leadership must also stay abreast of any additional documents that provide clarification or interpretation of standards, as well as quality metrics and abstraction guidelines. This information may be disseminated differently according to processes specific to certifying agencies. Therefore, program leadership should be familiar with how often standards are reviewed and published, the process for public comment on newly proposed standards, the process for communicating interim standard clarification or interpretation, and additional performance metric documents that are not specified in the standards handbook.

A successful journey to CSC certification starts with a review and solid understanding of all certification standards and accompanying documents. The standards should be reviewed in-depth, and it is helpful to understand how the standards handbooks are organized. Both TJC and DNV have the minimum program and volume requirements an organization must meet before applying for certification. These minimum program requirements are not generally negotiable and should be top priority for any program to evaluate before investing in thorough analysis of the remaining standards.

Using Donabedian's structure, process and outcome model for healthcare, quality is helpful when reviewing certification standards. Certification standards generally fall into a structure, process or outcome category, and classifying the standards accordingly may be helpful when conducting a gap analysis. Structural standards may require more significant investment of time and resources to secure than process or outcome standards. For example, purchasing and installing a biplane angiography suite (structural equipment) takes more time and resources than to develop a process to use the suite or measure outcomes for patients treated in the suite. Securing specialist physicians and nurses necessary for CSC certification also often requires significant time and resources.

While the certification standards offer a roadmap for overall program management, a working knowledge of current best practice and published evidence in stroke care is necessary to apply those standards to patients with ischemic stroke, intracerebral hemorrhage and subarachnoid hemorrhage. Clinical practice guidelines (CPGs) are evidence-based consensus documents often developed by national organizations to guide the care of patients. CPGs are often used to guide the development of protocols and pathways within the stroke program. However, CPGs may only be updated once every 3 or more years, and program leadership must be informed of more recent evidence that advances or clarifies the science between CPG publications. Standards for certification often require that care is provided according to published best evidence or national standards. Therefore, standards cannot be interpreted without a sound understanding of the science in the stroke field. As this science is dynamic and rapidly evolving, leadership within the stroke program must be knowledgeable about current science and trends in stroke care long before becoming certified. Leadership must toggle between the certification standards, supporting documents, and published literature to truly understand what is required of the program to successfully achieve certification.

Current State	Desired State	Key Initiatives	Prioritization	Timeline
Program analysis:	Standards & publications	Analysis and Action Plans		Accountability
Structure <ul style="list-style-type: none"> 1 NIR physician, unable to cover call schedule 24/7 ICU nursing staff receive 3 hours of stroke-related education annually 	Structure <ul style="list-style-type: none"> Must offer NIR services 24/7 ICU nursing staff must receive 8 hours of stroke-related education annually 	<ul style="list-style-type: none"> Hire 1-2 additional NIR physicians Develop and provide 8 hours of stroke-related education for ICU nursing staff 	<ul style="list-style-type: none"> High Medium 	<ul style="list-style-type: none"> 6 months, CMO, Service Line Director 6 months, ICU nursing director, stroke coordinator, education department
Process <ul style="list-style-type: none"> DTN average 84 minutes 	Process <ul style="list-style-type: none"> DTN average < 45-60 minutes 	<ul style="list-style-type: none"> Conduct QI initiative to improve DTN process 	<ul style="list-style-type: none"> Medium 	<ul style="list-style-type: none"> 3 months, PI specialist, Medical Director, Stroke Coordinator, ED leadership
Outcome <ul style="list-style-type: none"> Not currently collecting any CSTK Performance metrics 	Outcome <ul style="list-style-type: none"> Must collect 4 months of CSTK performance measures and action plan 	<ul style="list-style-type: none"> Develop infrastructure to collect CSTK measures, QI initiatives 	<ul style="list-style-type: none"> High 	<ul style="list-style-type: none"> 6 months, Director PI department, stroke coordinator, physician leadership

Fig. 1. Example of a gap analysis.

While published literature may provide evidence to direct care, how standards are interpreted and processes are developed within programs is often specific to the context of the organization. What works as a process to provide a certain intervention in one organization may not work well in another organization with different resources or constraints. Therefore, the stroke program should be designed and evaluated in the context of published evidence and best practices in addition to the specific needs of the local organization, caregivers, and patient populations. A common pitfall is to assume that a process or program element that works at one setting is suitable or can be easily transferred to another setting.

To summarize, successful certification starts with an understanding of certification standards and supporting documents and must take into consideration the published CPGs and evidence guiding stroke care, as well as the organizational context of the stroke program. Stroke program leadership often find it helpful to develop a network of facilities who have successfully achieved certification to share best practices and solutions to complex problems.

Journey Step 2: Conduct a Gap Analysis

Another common pitfall in the journey to CSC certification is failing to systematically evaluate the stroke program prior to certification application submission. After understanding certification standards and other supporting documents, the existing stroke program should be assessed to analyze strengths and weakness. Often this is done as a gap analysis, or an assessment of the gap between the current program state and desired program state.

While a gap analysis is commonly used as a process for program management in numerous settings, no template or guide exists to conduct a gap analysis in stroke programs. Therefore, program leadership must develop a template that suits their program and needs. Generally speaking, a gap analysis should include an assessment of the strengths and weaknesses of the stroke program in its current state and assess compliance with both certification standards and published evidence (see Fig. 1 for a gap analysis example).

As gaps are identified, action plans should be developed with timelines and accountability. The gap analysis for a CSC certification is often complex and necessitates involvement from

senior hospital administration, as well as leadership from all departments routinely involved in stroke care. The program leadership should decide on a timeline for application for certification only after a thorough gap analysis has been completed and action plans have been developed.

Journey Step 3: Develop a Business Plan, Action Plan and Subsequent Timeline

As the gap analysis is completed and program leadership develops action plans, a business plan should be developed to address the identified gaps. While many organizations pursuing CSC certification have provided care to complex stroke patients for many years, leadership should not assume that all program elements exist and can be pulled together without investment in necessary resources. A common pitfall is to assume that the PSC business and operational structure can sustain a CSC. Even successful and busy PSCs who have provided care to complex patients with hemorrhagic stroke require restructuring and resource investment to develop a sustainable CSC program.

While PSC certification historically evolved heavily around vascular neurology, CSC programs require leadership and investment from neurosurgery, neurointerventional radiology, neurocritical care, hospitalist services, and physiatry. CSC leadership teams should include stakeholders from each of these services in addition to hospital administration, nursing, and ancillary department leadership. All stakeholders should have input into the gap analysis, action plans, and the subsequent business plan.

Once action plans and the business plan have been developed, the team can begin to commit to a certification application timeline. Centers that successfully pursue initial CSC certification often have a number of findings to address identified during the review. Therefore, the goal is not to build a program that is immune to findings or achieves perfect compliance with certification standards. Instead, the key to successfully navigating certification is to understand the organization's vulnerabilities for findings and the implication of the type and volume of findings.

Conclusion

In conclusion, centers must have a solid understanding of certification standards and supporting documents, conduct a thorough gap analysis and build a business plan to best navigate the road to CSC certification. Even with these key steps, the journey has just begun. Future CSC certification series will address methods to build and right-size teams to support a sustainable CSC program and managing both the initial and recertification reviews.

Disclosure Statement

Sarah Livesay: LLC – Stroke program Consulting; Lombardi Hill Consulting Group – Stroke Program Consulting; Stryker SPS/NV – Speakers bureau.

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