CARING FOR STROKE PATIENTS

Benchmarking Performance in HFAP-certified Stroke Centers
Caring for Stroke Patients: Benchmarking Performance in HFAP-certified Stroke Centers

INTRODUCTION

This is the third annual review of aggregate performance metrics reported by HFAP-certified stroke centers as compared to national benchmarks.

While all certified organizations are required to submit data on performance measures quarterly, participation in this benchmarking project is voluntary. Each year, an increasing number of stroke centers participate. They find value in comparing their performance against similarly-sized peer programs in addition to the overall national goals established by the American Heart Association/American Stroke Association. This year’s data come from 32 hospitals certified as Stroke Ready, Primary Stroke, or Comprehensive Stroke and the measures analyzed are those applicable across these programs. The data reflect care of stroke patients from January to December 2019. Because patient volume varies significantly, organizations with similar volumes are grouped as follows:

<table>
<thead>
<tr>
<th>STROKE PATIENT VOLUME</th>
<th>IDENTIFIERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-99</td>
<td>ID101 – ID107</td>
</tr>
<tr>
<td>100-199</td>
<td>ID108 – ID115</td>
</tr>
<tr>
<td>200-299</td>
<td>ID116 – ID119</td>
</tr>
<tr>
<td>300-399</td>
<td>ID120 – ID127</td>
</tr>
<tr>
<td>400+</td>
<td>ID128 – ID133</td>
</tr>
</tbody>
</table>

The goals of this report include:

- Contextualizing performance for individual HFAP stroke centers by presenting their performance in comparison with relevant peers.
- Supporting a culture of community, shared learning, and continuous improvement in the stroke programs HFAP serves.
- Validating HFAP certification as a driver of high-quality care for stroke patients.

HFAP’s mission is to be the valued partner for healthcare organizations committed to improving their quality of care through accreditation standards and continuing education, with a focus on advancing the health and welfare of their communities.

Thanks to Marci Ramahi, CAE, and Carol Roesch, MBA, RN, FACHE, for their analysis of the data in this report.
The year of this report’s data, 2019, was a very different year than this current year. The COVID-19 public health emergency (PHE) has posed new challenges to stroke programs regardless the size of the hospital. Strokes were observed in patients with COVID-19 and at a younger age than a typical stroke patient. As hospitals began to see more COVID-19 patients, many stroke coordinators were asked to return to bedside nursing, which impacted oversight of the stroke program. HFAP salutes the dedicated staff caring for patients and meeting the challenges of 2020.

A note to Stroke Program Coordinators
When collecting data, do not include patients in the stroke measures who have incidental findings of stroke on a CT after admission when the patient has NOT been actively treated for stroke.

Using the Report

On the following pages, you will find each performance metric represented by a bar chart. The chart includes an indication of the threshold established by the standard. Data are grouped by the size of the 2019 patient population; 1-99, 100-199, 200-299, 300-399, 400+.

For organizations with 1-199 stroke patients in 2019, the following data apply:

<table>
<thead>
<tr>
<th># STROKE PATIENTS 2019</th>
<th>1-199</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of stroke patients discharged</td>
<td>56%</td>
</tr>
<tr>
<td>Number of stroke patients transferred</td>
<td>31%</td>
</tr>
<tr>
<td>Number of stroke patients expired</td>
<td>2%</td>
</tr>
</tbody>
</table>

For organizations with 200+ stroke patients in 2019, the following data apply:

<table>
<thead>
<tr>
<th># STROKE PATIENTS 2019</th>
<th>200+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of stroke patients discharged</td>
<td>75%</td>
</tr>
<tr>
<td>Number of stroke patients transferred</td>
<td>11%</td>
</tr>
<tr>
<td>Number of stroke patients expired</td>
<td>4%</td>
</tr>
</tbody>
</table>

Below each graph is a description of what is being measured along with comments that summarize the overall result and, when relevant, recommendations for improvement based on the best practices of outstanding programs.

Overall, the results demonstrate that HFAP-certified Stroke Centers continue to meet or exceed the benchmarks established as national goals. Use this data to benchmark and communicate your own center’s performance.

1. Identify your organization. Or find the group that represents the size of your annual stroke patient population.

2. Compare your performance to that of your peer organizations and the overall group.

3. Compare your results with your community needs assessment. Does your stroke program meet the goals set in that report?

Communicate

- Share this report (and your analysis) with your stroke staff to show how their patient care is reflected in the data.
- Share this report with your Board, medical staff, leadership team, and hospital staff as evidence of the quality care you provide.
- Share this report with your marketing department to encourage active support of your program.
- Share relevant results at your community education events.
SM-1: Venous Thromboembolism (VTE) Prophylaxis

Description of the measure

This measure addresses patients with a diagnosis of acute ischemic stroke who are assessed to be at risk for VTE and for whom prophylaxis (including anticoagulant medications, sequential compression stockings, and early mobilization) is indicated.

This measure is related to standard 02.02.03.

Comment

A VTE risk assessment should be completed upon patient admission. The application of sequential compression devices are the best intervention for VTE risk.

Only two centers did not meet the benchmark, resulting in an overall achievement rate of 95%, equivalent to last year’s result but with a significantly larger pool of participants. Each of the two centers that missed the benchmark had fewer than 100 stroke patients in calendar year 2019. At lower patient volume, any individual failure to meet the measure will be prominent in the data.
**SM-2: Discharged on Antithrombotic Therapy**

**Description of the measure**
This measure addresses ischemic stroke patients prescribed antithrombotic therapy (anti-platelet and anticoagulants) at hospital discharge.

This measure is related to standard 02.02.03.

**Comment**
All programs met the 85% benchmark as they did in 2017 and 2018.

**SM-3: Anticoagulation Therapy for AF/Flutter**

**Description of the measure**
This measure addresses ischemic stroke patients with a clinical diagnosis of atrial fibrillation/flutter who are prescribed anticoagulation therapy at hospital discharge.

This measure is related to standard 02.02.03.

**Comment**
The benchmark was achieved by 97% of the participating stroke centers, an improvement from the 95% rate in calendar year 2018.

Cardiac monitoring for 24 hours after admission may be helpful in diagnosing AF/Flutter. There must be documentation of a reason for not prescribing anticoagulation in AF/Flutter patients if it is not prescribed.

Four programs are not included in this graph having had no relevant cases.
**SM-4: Thrombolytic Therapy within 4.5 hours**

**Description of the measure**
This measure addresses acute ischemic stroke patients who arrive at the reporting hospital within 2 hours (120 minutes) of time last known well and for whom IV tPA was initiated at this hospital within 4.5 hours of time last known well.

This measure is related to standard 02.00.06.

**Comment**
One program was below benchmark, resulting in a 97% achievement rate across participating stroke centers. Last year, 100% of participants met the threshold goal of 85%. Documentation of reasons for not meeting the 4.5-hour benchmark must be patient dependent, e.g., blood pressure or airway management. A failure based on a hospital-dependent issue, e.g., more than one critical patient at a time, is not acceptable.

Two programs are not included in this graph.

**SM-5: Antithrombotic Therapy (End of Day 2)**

**Description of the measure**
This measure addresses ischemic stroke patients administered antithrombotic therapy by the end of hospital day 2. Antithrombotic therapy is defined as medications which include anti-platelets and anticoagulants used in the treatment of ischemic stroke.

This measure is related to standard 02.02.03.

**Comment**
In 2019, 97% of centers achieved the benchmark. In 2018, all programs met this benchmark. Having the stroke coordinator or a stroke program champion review stroke patient medical records in real time can help identify medications that have not been ordered.

One program is not included in this graph.
**SM-6: Discharged on Statin Medication**

**Description of the measure**

The measure looks at ischemic stroke patients with LDL greater than or equal to 100 mg/dL, or LDL not measured, or those who were on a lipid-lowering medication prior to hospital arrival to address statin medication prescribed at hospital discharge.

This measure is related to standard 02.02.03.

**Comment**

For this measure, 97% of stroke programs surpassed the benchmark. Last year, 100% met the goal.

If a patient is not prescribed a statin, documentation reflecting the reason is expected in order to meet the goal of this metric, e.g., allergy or intolerance by patient.

Most centers find it helpful to have real time review of medical records to catch medications that have not been ordered.

One program is not included in this graph.

**SM-8: Stroke Education**

**Description of the measure**

This measure addresses ischemic or hemorrhagic stroke patients or their caregivers who, during the hospital stay, were provided educational materials addressing all of the following: activation of the emergency medical system, need for follow-up after discharge, medications prescribed at discharge, risk factors for stroke, and warning signs and symptoms of stroke.

This measure is related to standard 02.02.06.

**Comment**

In 2019, 91% of programs met this benchmark. This is a decline from 2018, when 95% of participating centers achieved the benchmark.

Pre-printed stroke education information can be very useful and assure all relevant topics are covered. Pre-printed material must be individualized for relevance.

One program is not included in this graph.
SM-10: Assessed for Rehabilitation

Description of the measure
This measure addresses ischemic or hemorrhagic stroke patients who were assessed for rehabilitation services. Initial physical rehabilitation must be conducted by a physical therapist and, as per clinical need assessments, includes occupational therapy or speech and language therapy. This measure is related to standard 02.02.04.

Comment
All centers surpassed this benchmark threshold by significant margins. This represents an improvement over 2018, when the goal was achieved by 95% of stroke programs.

One program is not included in this graph.

SM-11: Dysphagia Screening

Description of the measure
This measure addresses the number of eligible patients who received dysphagia screening prior to receiving anything by mouth. (The dysphagia screen may be performed by an RN.) This measure is related to standard 02.02.02.

Comment
In 2018, 100% of participating programs met the goal. In 2019, that rate declined to 88%.
This benchmark is met if the patient is kept NPO in the ED and subsequently transferred from the ED to a hospital with a higher level of care.
One program is not included in this graph.
**SM-12A: Door-to-Needle Time — 60 Minutes**

**Description of the measure**

This measure addresses acute ischemic stroke patients age 18 years and older receiving intravenous tissue plasminogen activator (tPA) therapy during the hospital stay and having a time from hospital arrival to initiation of thrombolytic therapy administration (door-to-needle) of 60 minutes or less.

This measure is related to standard 02.00.06.

**Comment**

In 2019, 75% of programs met the 50% benchmark, compared to 2018 when 84% met the benchmark. The American Stroke Association has raised this benchmark threshold to 85% and this change will be reflected in the next version of the HFAP stroke standards, planned for release in 2021.

Stroke programs should evaluate their processes to raise the bar on performance as expectations are increased. Meeting patients at the door, performing a quick assessment and taking the patient directly to CT has helped many hospitals reduce the times for door-to-needle.

**SM-12B: Door-to-Needle Time — 45 Minutes**

**Description of the measure**

This measure builds on SM-12A. For acute ischemic stroke patients age 18 years and older receiving intravenous tissue plasminogen activator (tPA) therapy during the hospital stay and having a time from hospital arrival to initiation of thrombolytic therapy administration (door-to-needle) of 60 minutes or less, this measure addresses how many received tPA in 45 minutes or less.

This measure is related to standard 02.00.06.

**Comment**

The measure saw a significant dip in achievement across stroke centers with only 36% successfully meeting the 45-minute threshold. In 2018, 71% met the benchmark, but more centers reported the measure as not applicable. The American Stroke Association has raised this benchmark threshold to 75% and this change will be reflected in the next version of the HFAP stroke standards, planned for release in 2021. Added to this measure will be a third category for door-to-needle within 30 minutes and a benchmark threshold of 50% compliance.
**SM-13: Stroke Team Arrival**

**Description of the measure**
This measure addresses the time between presentation of a patient in the ED with stroke symptoms and the arrival of the stroke team to the bedside or the time between inpatient onset of symptoms and the arrival of the stroke team to the bedside.

This measure is related to standard 02.03.03.

**Comment**
This measure saw aggregate improvement over 2018 with 88% achievement of the threshold compared to 84% the prior year.

Close communication with EMS regarding actual arrival time may assist with meeting this measure.

**SM-14: Glucose Results**

**Description of the measure**
This measure looks at patients with lab testing drawn and results delivered within 45 minutes of arrival in the ED, and inpatients with lab testing drawn and resulted within 45 minutes of onset of symptoms. This turnaround-time measure for lab testing includes: point of care glucose testing, INR and PT and PTT (if indicated, or; other as per stroke protocol/physician order).

This measure is related to standard 02.00.05.

**Comment**
This year’s data reflect improvement in achievement of this measure. In 2018, the glucose result measure was met by 79% of participating centers; 2019 data show 88% met the goal.

Glucose is the only lab required unless the patient has a blood clotting disorder. This can be by finger stick at the bedside. If allowed by policy, the hospital may accept the EMS glucose reading as well.
**SM-15: Neuroimaging Studies**

**Description of the measure**
This measure addresses the number of patients diagnosed with hemorrhagic stroke (as defined by hospital protocols) whose neuroimaging (CT scan or MRI) turnaround time (TAT) is within 45 minutes of arrival or onset presentation of acute stroke symptoms.

This measure is related to standard 02.00.07.

**Comment**
This measure also showed organizations improving over 2018 with 79% achieving the benchmark in 2019 and 74% reporting success the prior year.

Every minute counts. The neuroimaging time is the time from patient arrival until the time the ED provider has received results of the CT. When there is room for improvement, try breaking down where the minutes are being used and steps that delay the TAT. Is there lag time in getting the patient to CT? Is the CT not being read quickly?

**SM-16: Neurosurgical Services**

**Description of the measure**
This measure addresses the number of patients diagnosed with hemorrhagic stroke (as defined by hospital protocols) receiving neurosurgical services (or transferred for neurosurgical service) within 2 hours of need.

This measure is related to standard 02.00.07.

**Comment**
For hospitals that do not perform neurosurgery or neurointerventions, this two-hour window is measured from the time the decision is made that the patient may need surgery/intervention until the patient is transferred out the door. Alerting EMS early about potential transfer, having standardized transfer protocols, and early notification to the receiving hospital of potential transfer may assist with reducing times.
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PERFORMANCE MEASURES AND RELATED STANDARD DEFICIENCIES

HFAP standard 02.02.02 Assessments is the most frequently cited deficiency on HFAP Stroke Certification surveys. Performance measure SM-II is tied to this standard. Citations often include:

1. Vitals signs and neurological checks post-tPA not performed per tPA protocol.
   **TIP:** Be sure medical record documentation reflects times that the patient was due for checks but unavailable such as while undergoing a CT angiogram (CTA). The gap would then not be noted as a deficiency.

2. National Institutes of Health Stroke Scale (NIHSS) not being performed before and after administration of tPA or not being performed per hospital policy.

3. Swallow screen not being performed before the patient is allowed oral intake or oral medications.

4. Other assessments of the patient not being performed.

Conversely, standard 02.02.03 Plan of Care has multiple performance measures attached to it but is rarely a top deficiency.

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM-1</td>
<td>VTE Prophylaxis</td>
</tr>
<tr>
<td>SM-2</td>
<td>Discharged on Antithrombotic Therapy</td>
</tr>
<tr>
<td>SM-3</td>
<td>Anticoagulation Therapy for AF/Flutter</td>
</tr>
<tr>
<td>SM-5</td>
<td>Antithrombotic Therapy (End of Day 2)</td>
</tr>
<tr>
<td>SM-6</td>
<td>Discharged on Statin Medication</td>
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HFAP will continue to provide quarterly stroke teleconferences. Our practice-sharing sessions have been well-received by stroke coordinators and we look for suggestions to continue to support you. If you do not currently receive information to register for these programs and would like to, or have a topic you would like to present or propose for discussion, please let us know by emailing certadvisor@achc.org.

In 2020, HFAP began a thorough review of all stroke certification program standards and the revised manual will be published in 2021. A significant difference between the current manual and the upcoming revised manual will be the new door-to-needle measures and their benchmarks (SM-12A, SM-12B). As referenced earlier in this report, a new measure will be introduced for the door-to-needle time within 30 minutes, with a benchmark threshold of 50%. The threshold associated with SM-12A will be raised from 50% to 85% and that associated with SM-12B will be raised from 50% to 75%. In preparation for the new standards, the new measures for door-to-needle will be released in December 2020 for implementation beginning March 2021. A new data worksheet will be distributed in early 2021.

LOOKING AHEAD

HFAP will continue to provide quarterly stroke teleconferences. Our practice-sharing sessions have been well-received by stroke coordinators and we look for suggestions to continue to support you. If you do not currently receive information to register for these programs and would like to, or have a topic you would like to present or propose for discussion, please let us know by emailing certadvisor@achc.org.