Stroke Quality Initiative

Hospital Presentation
October 20, 2014

Anna Colello, Esq.
NYS Dept. of Health,
Office of Quality and Patient Safety

Presentation Outline

- Enhancing ED-EMS Communication
- Supporting Data Elements
- Dissemination of Information
- Strategies for Stroke Coordinators
- Sheree Murphy - GWTG Elements
Enhanced ED-EMS Communication Documentation

➢ Rationale:
  ➢ Informed by Physicians Workgroup and NECC EMS Workgroup
  ➢ Renewed focus on existing New York State EMS Stroke Protocol
    Issued in 2005
  ➢ Official collection will begin in January 2015 and included
    in the March 2016 submission for designation
  ➢ Elements will be available in GWTG in October/November 2014
  ➢ Hospitals will have option to begin entering data at that
    time

Hospital Strategies and DTN Times*

➢ Rapid Triage protocol with stroke team notification
  ➢ Mean reduction in DTN time: 8.1 minutes

➢ Single-call activation system
  ➢ Mean reduction: 4.3 minutes

➢ Trainees involved in the stroke team all the time
  ➢ Mean reduction: 3.6 minutes

➢ tPA being stored in ED
  ➢ Mean reduction: 3.5 minutes

*Strategies Used by Hospitals to Improve Speed of Tissue-Type Plasminogen Activator Treatment in Acute Ischemic Stroke. Stroke. 2014; doi: 10.1161/STROKEAHA.113.003898
New Requirements to be added 2015

- Pre-hospital stroke screen performed?
- Advanced notification by EMS?
- Date/Time patient last known to be well as documented by EMS
- Did EMS pre-notification contain the following:
  - Pre-hospital stroke screen findings
  - Last Known Well
- Was the stroke team activated prior to patient arrival?

How is EMS being informed?

- Letter from Lee Burns, Director Bureau of EMS
- Two Webinars
- Frequently Asked Questions posted for EMS
- Hospitals may include relevant information in the bi-annual trainings
Strategies for Coordinators to Improve EMS Measures

1. Work with Emergency Department Staff to determine who receives the notifying call from EMS
2. Develop informational checklist for Emergency Department staff who respond to the EMS call
3. Ensure information conveyed from EMS is given to the Emergency Department Physician

Potential Sources of EMS Information

1. The EMS provider calling in the information to the ED
2. Call log providing tracking information in the Emergency Department
3. ePCR, Paper PCR, Runsheet
Using the GWTG-Stroke PMT Updates for NYS DOH Stroke Center Designation EMS Initiative

Sheree Murphy, MS, CPHQ
Director, Quality and Systems Improvement
American Heart/America Stroke Association

Agenda

• Data Elements Required
  – Location in PMT
  – Data Definitions/Coding Instructions
  – Tracking specific EMS Agency

• Reports/Measures
  – Measure descriptions
  – Using filters to refine

• Questions
NYS DOH Stroke Center EMS Focused Data Elements in GWTG-Stroke PMT

<table>
<thead>
<tr>
<th>Current GWTG-Stroke Element</th>
<th>Standard EMS Form Group</th>
<th>Custom NYS DOH Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced notification by EMS? (of stroke patient)</td>
<td>Date/Time patient last known to be well as documented by EMS</td>
<td>Did EMS pre-notification contain the following:</td>
</tr>
<tr>
<td>Pre-hospital stroke screen performed?</td>
<td>• Pre-hospital stroke screen findings</td>
<td>• Last Known Well</td>
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</table>

If advanced notification by EMS, was the stroke team activated prior to patient arrival?
Find EMS elements on the Special Initiatives tab with the custom NYS DOH elements.

You will not be required to complete all of the EMS elements but may choose to collect additional elements such as EMS agency name or number for internal tracking and data analysis.
Data Collection Requirement for New Elements

- Same as stroke log/time target inclusion criteria:
  - All patients arriving within 6 hours of last known well
    - Including patients with suspected stroke/stroke mimic (later determined not to be stroke)
  - Pre-Hospital Stroke Screen AND Date/Time Last Known Well Documented by EMS
    - Arrive via EMS from home/scene
- Did EMS Pre-notification contain the following: AND If advanced notification by EMS was the stroke team activated prior to arrival
  - Arrive via EMS from home/scene AND Advanced notification by EMS= Yes

Now Available

2 additional NYS DOH custom elements related to EMS located with current NYS DOH elements also on the Special Initiatives tab.
Advanced Notification by EMS

Indicate whether EMS notified the receiving hospital prior to the arrival of possible stroke patient.

- **Yes**: EMS notified the receiving hospital prior to arrival
- **No/ND**: EMS either did not pre-notify the receiving hospital or this was not documented
- **N/A**: The patient did not arrive via EMS

In order to select “yes” there must be explicit documentation that advanced notification by EMS included that the patient was a suspected stroke. The following language is sufficient to identify patients with suspected stroke; any use of the word “stroke” or any documentation of signs & symptoms consistent with stroke is acceptable:

* Sudden numbness or weakness of face, arm or leg - especially on one side of the body.
* Sudden confusion, trouble speaking or understanding.
* Sudden trouble seeing in one or both eyes.
* Sudden trouble walking, dizziness, loss of balance or coordination.
* Sudden severe headache with no known cause.
Pre-hospital stroke screen performed?

- **Yes:** A pre-hospital stroke screen was performed by EMS
- **No:** A pre-hospital stroke screen was performed but it was not a nationally recognized nor EMS agency approved screen.
- **Not documented:** There is no documentation of a stroke screen by EMS

Notes for Abstraction

- A pre-hospital stroke screen includes any EMS agency approved or nationally recognized pre-hospital stroke screen
  - Examples of nationally recognized pre-hospital stroke screens include: Cincinnati Prehospital Stroke Scale and the Los Angeles Pre Hospital Stroke Screen (LAPSS).

Date/Time patient last known to be well as documented by EMS

Enter the date and time at which the patient was last known to be without the signs and symptoms of the current stroke (or at his or her prior baseline) as documented by the responding EMS agency

Date: MM/DD/YYYY
Time: HH:MM

24-hour clock (military time)

Notes for Abstraction:

- Use “last known well” to identify when the patient was either last seen or last known to be well (well means at the patient's baseline or usual state of health). This may change with various observers. If the last known well time cannot be identified, then indicate that last known well time and/or date is not known.
Did EMS pre-notification contain the following: (check all that apply)

Pre-hospital stroke screen findings:

- **Yes**: Findings of the pre-hospital stroke screen performed by EMS were communicated to the hospital prior to patient arrival.
- **No**: Findings of the pre-hospital stroke screen performed by EMS were NOT communicated to the hospital prior to patient arrival OR a pre-hospital stroke screen was NOT performed by EMS.

**Notes for Abstraction:**
- The purpose of this data element is to determine whether the stroke screen/scale findings were communicated AND NOT if suspected stroke was communicated. Communication of suspected stroke alone without documentation that indicates the stroke screen/scale results were communicated is NOT acceptable to select “Yes”. Communication of suspected stroke alone is collected as a separate data element “Advanced Notification by EMS?”.
- Documentation in the EMS patient care record or equivalent, the inpatient medical record or ED/ER EMS call log must indicate that the stroke screen/scale findings were communicated to the hospital as part of the EMS advanced notification that a stroke or suspected stroke patient was being transported to the hospital. Documentation of the stroke screen findings in the EMS patient care record (or equivalent) without specific documentation in the patient care record or other acceptable source that these findings were communicated to the hospital in advance of patient arrival is NOT sufficient to select “Yes”.
  - A pre-hospital stroke screen was performed but there is no documentation to indicate that the findings communicated to the hospital prior to patient arrival select “No”.

© 2010, American Heart Association
• Documentation of the following language is sufficient to indicate that the stroke screen/scale results were communicated:
  – Any mention of positive or negative results of a nationally recognized pre-hospital stroke screen/scale:
    • Example: Positive or negative Cincinnati Stroke Scale or positive or negative Los Angeles Pre Hospital Stroke Screen (LAPSS).
  – Documentation or mention of the specific component parts of the stroke scale/screen such as abnormal facial droop, arm drift or speech
• An EMS patient care record may also be termed a Run Sheet, Trip Sheet/Record/Ticket, EMS Form, EMS Event Record, or a Patient Care Report. This is the form on which EMS documents the details of the patient encounter.
• Documentation of the communication of pre-hospital stroke screen findings can be documented in the EMS patient care record or equivalent, hospital inpatient medical record or an ED/ER driven EMS call log.
• A pre-hospital stroke screen includes any EMS agency approved or nationally recognized pre-hospital stroke screen.
  – Examples of nationally recognized pre-hospital stroke screens include: Cincinnati Prehospital Stroke Scale and the Los Angeles Pre Hospital Stroke Screen (LAPSS).
  – Note that the NYS EMS protocol specifies that the Cincinnati Pre-hospital Stroke Scale be performed.

Last Known Well:
• Yes: When the patient was last known to be well as determined by EMS was communicated to the hospital prior to patient arrival.
• No: When the patient was last known to be well as determined by EMS was NOT communicated to the hospital prior to patient arrival OR no last known well was determined by EMS.

Notes for Abstraction:
• Documentation in the EMS patient care record or equivalent, inpatient medical record or ED/ER EMS call log must indicate that the date and time at which the patient was last known to be without the signs and symptoms of the current stroke (or at his or her prior baseline) as determined by the responding EMS agency were communicated to the hospital as part of the EMS advanced notification that a stroke or suspected stroke patient was being transported to the hospital. Documentation of when the patient was last known well in the EMS patient care record (or equivalent) without specific documentation in the patient care record or other acceptable source that these findings were communicated to the hospital in advanced of patient arrival is NOT sufficient to select “Yes”.
• An EMS patient care record may also be termed a Run Sheet, Trip Sheet/Record/Ticket, EMS Form, EMS Event Record, or a Patient Care Report. This is the form on which EMS documents the details of the patient encounter.
• Documentation of the communication of last known well can be documented in the EMS patient care record or equivalent, hospital inpatient medical record or an ED/ER driven EMS call log.

• Communication must include the specific date and time of last known well or that the last known well is unknown or cannot be determined.

• If a stroke "onset time" is noted without reference to the circumstances preceding its detection, then it should be assumed to be the time "last known well".

• If there is a specific reference to the patient having been discovered with symptoms already present, then this "onset time" should be treated as a "time of symptom discovery" rather than a time of "last known well". If no time of "last known well" was communicated (last known well communicated as unknown or unable to determine is acceptable), then "No" should be selected.

• The time last known well should be the time closest to the time of discovery for which we have clear evidence that the patient was at their previous baseline. Depending on the type of stroke symptoms, this might be established by a telephone or in person conversation. Family members, EMS personnel, and others, often mistakenly record the time of symptom discovery as the time the patient was last known well. It is imperative to distinguish these two times to avoid inappropriate use of IV t-PA (Intravenous Tissue Plasminogen Activator) in patients who are recently discovered to have symptoms but are many hours (>3 hrs) from their time of last being well.

If advanced notification by EMS, was the stroke team activated prior to patient arrival?

• Yes: The hospital’s stroke team was activated prior to patient arrival.

• No: The hospital’s stroke team was not activated prior to patient arrival.

• Not documented: The hospital’s stroke team was activated, but it cannot be determined from documentation whether the stroke team was activated prior to patient arrival.

• Not applicable: Advance notification from EMS occurred but the stroke team was not activated due to patient outside the 6 hour time window from last known well.

Notes for Abstraction:

• This data element is only applicable to patient’s who arrive to the hospital via EMS from home/scene and does not include transfers from another acute care hospital or ED.

• Pre-activation of the stroke team is defined as notification or activation of the stroke team via the hospitals stroke alert or stroke code policy/protocol prior to patient arrival at the hospital.

• If EMS pre-notified the hospital that they were bringing a stroke patient and the stroke team was activated but there is no documentation of the date and time of stroke team activation or documentation that indicates the stroke team was activated prior to patient arrival select “Not documented”.

• If EMS pre-notified the hospital that they were bringing a stroke patient but the stroke team was NOT activated because the patient was outside the required 6 hour time window from last known well select “Not applicable”. This is the ONLY acceptable reason to select “Not applicable”.
Tracking EMS Agency

- EMS Agency Name or Number
  - User defined field like Optional 11 & 12 and Physician/NPI
  - Instructions Provided

Reports
Measures

**Available Now**

- **Pre-notification**: Percent of cases of advanced notification by EMS for patients transported by EMS from scene.

**Available Winter 2015**

- **EMS Pre-hospital Stroke Scale**: Percent of patients arriving via EMS who had pre-hospital stroke scale performed.
- **Pre-Notification Content**: Histogram breakdown of what information was communicated in the EMS pre-notification.
- **Stroke Team Activated Prior to Arrival**: Percent of patients arriving via EMS for whom the stroke team was activated prior to patient arrival based upon EMS pre-notification.

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### Pre-notification: Percent of cases of advanced notification by EMS for patients transported by EMS from scene

<table>
<thead>
<tr>
<th>Description</th>
<th>Pertinent Form Fields</th>
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<tbody>
<tr>
<td><strong>Demominator</strong></td>
<td></td>
</tr>
<tr>
<td>Include</td>
<td></td>
</tr>
<tr>
<td>• Patients who were transported to your hospital for stroke by EMS</td>
<td>How patient arrived at your hospital: EMS</td>
</tr>
<tr>
<td>• Patients with a diagnosis of ischemic stroke, TIA, Subarachnoid hemorrhage, Intracerebral hemorrhage, or Stroke not otherwise specified</td>
<td>Final clinical diagnosis related to stroke:</td>
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<tr>
<td></td>
<td>Ischemic Stroke OR</td>
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<td></td>
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<tr>
<td>Exclude</td>
<td></td>
</tr>
<tr>
<td>• Age &lt; 18 years</td>
<td>Age: &lt; 18 OR</td>
</tr>
<tr>
<td>• Clinical Trial</td>
<td>During this hospital stay, was the patient enrolled in a clinical trial in which patients with the same condition as the measure were being studied? Yes OR</td>
</tr>
<tr>
<td>• Elective Cardiac Intervention</td>
<td>Was this patient admitted for the sole purpose of performance of elective cardiac intervention? Yes OR</td>
</tr>
<tr>
<td>Display</td>
<td></td>
</tr>
<tr>
<td>• Cases of Advanced notification by EMS</td>
<td>Advanced notification by EMS: Yes</td>
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**EMS Pre-hospital Stroke Scale:** Percent of patients arriving via EMS who had pre-hospital stroke scale performed.

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<td>Include</td>
<td>How patient arrived at your hospital: EMS from home/scene AND Arrival Date/Time – Date/Time patient last known to be well? ≤360</td>
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<tr>
<td>- Patients who were transported to your hospital for stroke by EMS</td>
<td></td>
</tr>
<tr>
<td>- Patients who arrived at the ED ≤360 minutes after time Last Known Well</td>
<td></td>
</tr>
<tr>
<td>Exclude</td>
<td>Final clinical diagnosis related to stroke: Elective Carotid Intervention only OR Patient location when stroke symptoms discovered: Stroke occurred after hospital arrival (in ED/Obs/Inpatient)</td>
</tr>
<tr>
<td>- Patients with a diagnosis of Elective Carotid Intervention only AND Stroke occurred after hospital arrival (in ED/Obs/Inpatient)</td>
<td></td>
</tr>
<tr>
<td>Numerator</td>
<td>Pre-hospital stroke screen performed?: Yes</td>
</tr>
<tr>
<td>- Patients who had a pre-hospital stroke screen performed</td>
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**Pre-Notification Content:** Histogram breakdown of what information was communicated in the EMS pre-notification.

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<td></td>
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<tr>
<td>Numerator</td>
<td>Did EMS pre-notification contain the following?:</td>
</tr>
<tr>
<td>- Percent of Patients in the following groups( bars)</td>
<td>1. Pre-hospital stroke scale findings: Yes 2. Patient last known well: Yes 3. Pre-hospital stroke scale findings AND Last Known Well AND Patient last known well: Yes</td>
</tr>
<tr>
<td>1. Pre-hospital stroke scale findings</td>
<td></td>
</tr>
<tr>
<td>2. Patient last known well</td>
<td></td>
</tr>
<tr>
<td>3. Pre-hospital stroke scale findings AND Last Known Well</td>
<td>(Note: The total of all bars may be greater than 100% because some patients may be included in more than one bar)</td>
</tr>
</tbody>
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Stroke Team Activated Prior to Arrival: Percent of patients arriving via EMS for whom the stroke team was activated prior to patient arrival based upon EMS pre-notification.

<table>
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<tr>
<td>Include:</td>
<td></td>
</tr>
<tr>
<td>• Patients who were transported to your hospital for stroke by EMS</td>
<td>How patient arrived at your hospital: EMS from home/scene AND Advanced notification by EMS: Yes AND Arrival Date/Time – Date/Time patient last known to be well &lt;360</td>
</tr>
<tr>
<td>• Cases of advanced notification by EMS</td>
<td></td>
</tr>
<tr>
<td>• Patients who arrived at the ED &lt;360 minutes after last Known Well</td>
<td></td>
</tr>
<tr>
<td>Exclude:</td>
<td>Final clinical diagnosis related to stroke: Elective Carotid Intervention only OR Patient location when stroke symptoms discovered: stroke occurred after hospital arrival (in ED/Obst/epatient)</td>
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<tr>
<td>• Patients with a diagnosis of Elective Carotid Intervention only</td>
<td>Final clinical diagnosis related to stroke: Elective Carotid Intervention only OR Patient location when stroke symptoms discovered: stroke occurred after hospital arrival (in ED/Obst/epatient)</td>
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Numerator:
- Patients for whom advanced notification by EMS resulted in stroke team activation prior to patient arrival
- If advanced notification by EMS, was the stroke team activated prior to patient arrival?: Yes

Using Filters To Specify Report Population

- Stroke v. No Stroke Diagnosis (Final Diagnosis)

Select All diagnosis EXCEPT “No stroke related diagnosis” to look at ONLY patients with final diagnosis of stroke.
Using Filters To Specify Report Population

- Stroke v. No Stroke Diagnosis (Final Diagnosis)

Select ONLY “No stroke related diagnosis” to look at ONLY patients with suspected stroke but not a final diagnosis of stroke - stroke mimic.

- Patients with different LKW to arrival

Select only “0-2 hr Arrival” to include ONLY patients arriving within 2 hours of LKW.

Select BOTH “0-2 hr Arrival” AND “2-3.5 hr Arrival” to include ONLY patients arriving with 3.5 hours of LKW.

Select “0-2 hr Arrival” AND “2-3.5 hr Arrival” AND “3.5-4.5 hr Arrival” to include ONLY patients arriving with 4.5 hours of LKW.