

The 12th Annual NECC Summit



State Breakout Sessions

Massachusetts

GWTG-Stroke Data

January 2016 – December 2016

Agenda

1. Review data from GWTG-Stroke
2. Review Mission: Lifeline stroke triage algorithm
3. Review region's current protocol(s) & discuss next steps

Preview of GWTG-Stroke Data

Data by NECC State: Slides 5 – 12

Data by New York Region: Slides 14 – 21

- Stroke Diagnosis Type
- Arrival Mode
- Last Known Well to ED Arrival Times
- Stroke Care Measures
 - Pre-notification by EMS
 - Door to CT \leq 25min
 - Ischemic Stroke patients who received IV tPA
 - Ischemic Stroke patients who received IA catheter-based reperfusion
 - Time to IV tPA – 60min
 - Time to IV tPA – 45min

Notes:

- This data is a reflection of hospital documentation of pre-hospital care, and may not be a true reflection of care provided by EMS.
- At the present time, GWTG-Stroke doesn't collect data specific to LVO patients.

Stroke Diagnosis Type, 2016

by Region

% of patients (number of patients)



| Stroke Diagnosis Type | NECC States Region | | | | | | | |
|--|--------------------|-------------------|------------------|------------------|-------------------|-------------------|-------------------|--------------------|
| | ME, NH, & VT | MA | RI | CT | NY | NJ | North-east | Nation |
| Ischemic Stroke | 69.7% (2,824) | 66.8% (10,252) | 74.6% (1,743) | 71.5% (3,928) | 60.5% (29,546) | 62.2% (10,771) | 63.7% (83,004) | 67.7% (384,294) |
| TIA | 6.6% (269) | 18.4% (2,819) | 7.1% (165) | 9.7% (534) | 20.1% (9,825) | 20.9% (3,620) | 18.7% (24,373) | 12.5% (70,985) |
| Subarachnoid Hemorrhage | 4.0% (164) | 3.0% (459) | 3.5% (81) | 3.8% (207) | 3.5% (1,725) | 3.5% (600) | 3.4% (4,430) | 3.8% (21,812) |
| Intracerebral Hemorrhage | 13.1% (532) | 8.3% (1,279) | 13.4% (312) | 10.4% (573) | 10.2% (4,990) | 10.5% (1,823) | 10.1% (13,143) | 11.1% (63,081) |
| Stroke, not otherwise specified | 1.1% (43) | 0.7% (102) | 0.4% (9) | 0.1% (7) | 0.4% (193) | 0.2% (31) | 0.5% (696) | 1.0% (5,848) |
| Total cases in GWTG | 4,054 | 15,342 | 2,337 | 5,497 | 48,815 | 17,315 | 130,251 | 567,714 |

• The Northeast region benchmarking group includes the 8 NECC states and Pennsylvania

• Cases with a “missing diagnosis”, “no stroke related diagnosis” or “elective carotid intervention only” are not listed here, therefore the sum of the number of patients within each diagnosis may not equal the “Total cases in GWTG” for each region.

Arrival Mode, 2016

by Region

% of patients (number of patients)



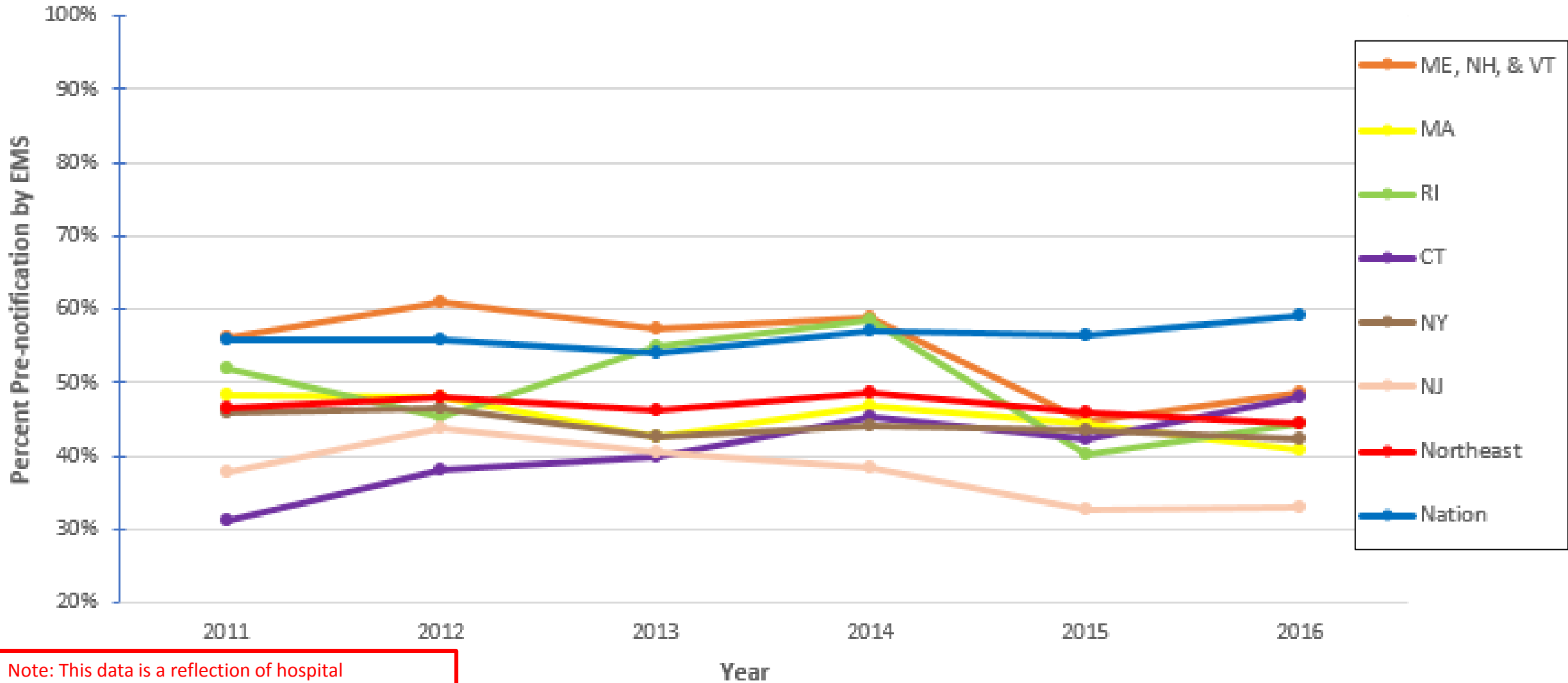
| Arrival Mode | Region | | | | | | | |
|--|------------------|------------------|------------------|------------------|-------------------|------------------|-------------------|--------------------|
| | NECC States | | | | | | North-east | Nation |
| | ME, NH, & VT | MA | RI | CT | NY | NJ | | |
| EMS from home/scene | 39.5% (1,550) | 54.6% (7,994) | 51.4% (1,169) | 53.1% (2,735) | 55.2% (24,340) | 53.6% (8,856) | 52.2% (63,510) | 45.8% (245,777) |
| Private transport/ taxi/other from home/scene | 25.7% (1,008) | 29.0% (4,250) | 22.3% (507) | 27.3% (1,406) | 31.3% (13,793) | 38.0% (6,275) | 32.5% (39,585) | 33.8% (181,265) |
| Transfer from other hospital | 23.8% (935) | 15.4% (2,262) | 25.8% (587) | 18.4% (948) | 12.8% (5,621) | 7.0% (1,162) | 13.8% (16,825) | 18.3% (98,298) |
| Not documented or unknown | 1.1% (43) | 0.8% (124) | 0.5% (12) | 1.1% (57) | 0.7% (293) | 1.4% (236) | 0.8% (965) | 0.8% (4,447) |
| Total N | 3,921 | 14,646 | 2,276 | 5,148 | 44,081 | 16,529 | 121,646 | 537,005 |

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• Cases with a “blank” for Arrival Mode are not listed here, therefore the sum of the number of patients for each arrival mode may not equal the “Total N” for each region.

Pre-notification by EMS, 2011-2016

(For patients who arrive by EMS from home/scene),
by Region

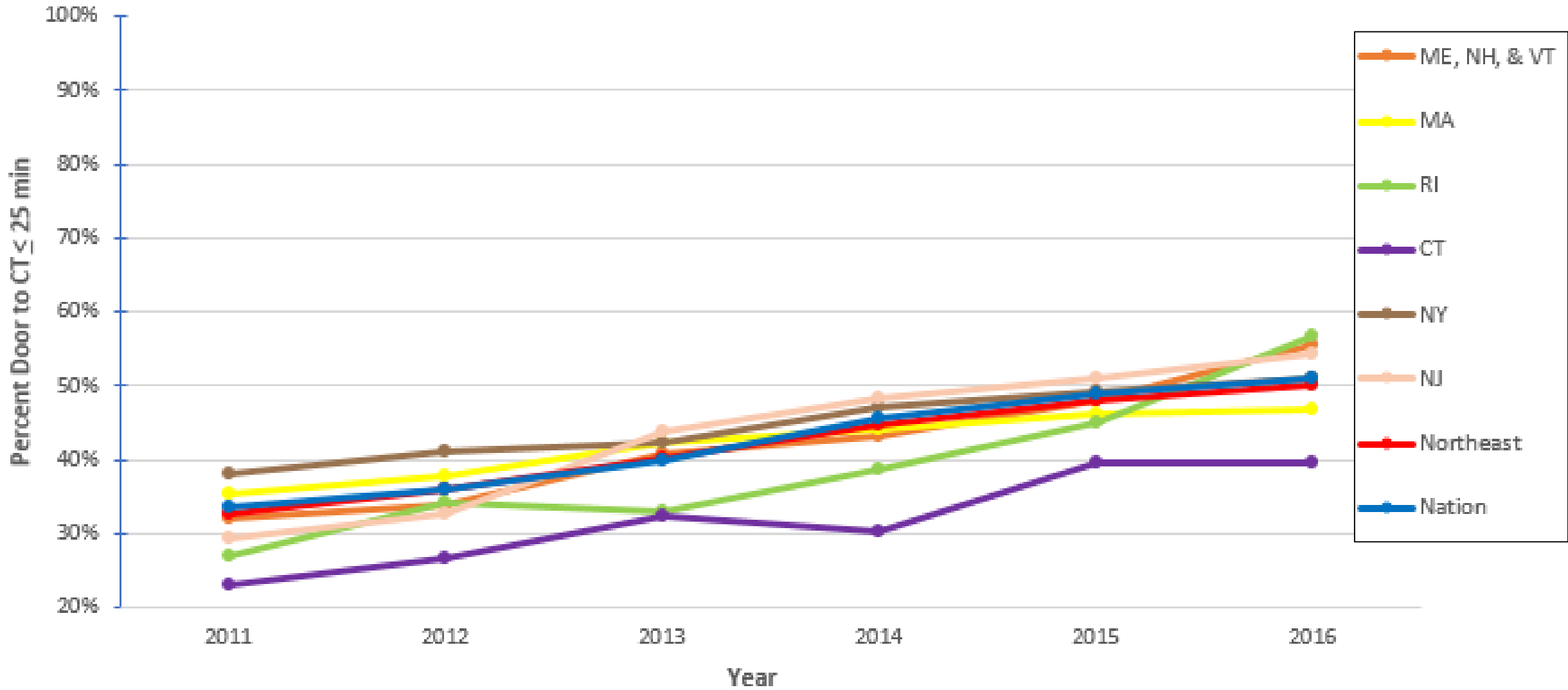


Note: This data is a reflection of hospital documentation of pre-hospital care, and may not be a true reflection of care provided by EMS.

• The Northeast region benchmarking group includes the 8 NECC states and Pennsylvania

Door to CT \leq 25 min, 2011-2016

(For patients who arrive by EMS from home/scene),
by Region



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Additional Stroke Care Measures, 2016

by Region
% of patients (number of patients)

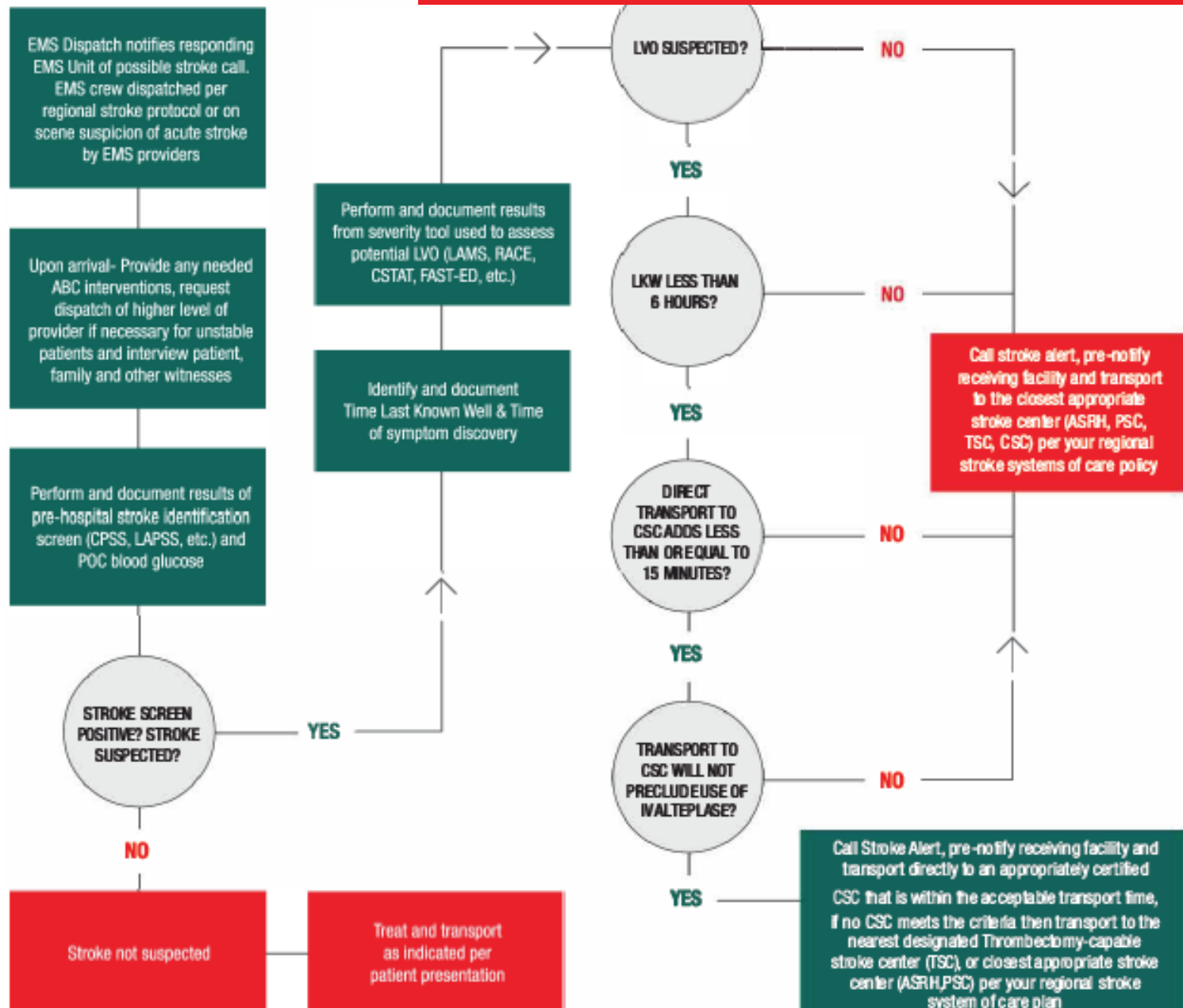
| Measure | Region | | | | | | | |
|---|----------------|----------------|----------------|----------------|------------------|----------------|------------------|-------------------|
| | NECC States | | | | | | North-east | Nation |
| | ME, NH, & VT | MA | RI | CT | NY | NJ | | |
| Time to IV tPA - 60min (in eligible patients) | 63.9% (124) | 63.2% (494) | 82.1% (124) | 70.6% (202) | 81.4% (1,869) | 78.5% (832) | 76.3% (4,801) | 78.4% (25,233) |
| Time to IV tPA - 45min (in eligible patients) | 27.3% (53) | 33.5% (262) | 49.0% (74) | 34.6% (99) | 45.2% (1,037) | 48.6% (515) | 41.7% (2,624) | 44.9% (14,457) |

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SEVERITY-BASED STROKE TRIAGE ALGORITHM FOR EMS



MISSION: LIFELINE



ON SCENE

- Interview patient, family members and other witnesses to determine Last Known Well (LKW) time and time of Symptom Discovery.
- Attempt to identify possible stroke mimics (eg. seizure, migraine, intoxication) and determine if patient has pre-existing substantial disability (need for nursing home care or inability to walk without help from others).
- Encourage family to go directly to Emergency Department if not transported with patient and obtain mobile number of next of kin and witnesses.
- If Mobile Stroke Unit available—follow Mobile Stroke Unit Protocol.
- Each EMS agency should utilize a published and validated stroke screen to assess patients with non-traumatic onset of focal neurologic deficits and validated tool to assess possible Large Vessel Occlusion (LVO).
- Patients who are eligible for IV Alteplase if transported to nearest Acute Stroke Ready Hospital (ASRH) or PSC should not be rerouted to a CSC or Thrombectomy-capable Stroke Center if doing so would result in a delay that would make them ineligible for IV Alteplase.
- Collect a list of current medications (especially anticoagulants) and obtain patient history including co-morbid conditions (eg. serious kidney or liver disease, recent surgery, procedures or stroke) that may impact treatment decisions.

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MA Stroke Systems Workgroup

- Consists of over 40 physicians and EMS Regional Leaders statewide
- Primary initiatives:
 1. Pre-hospital triage
 2. Inter-hospital transfer
 3. Communication/feedback

Developments:

- FAST-ED approved by Medical Services Committee-to be used statewide (likely approved late Fall 2017)
- EMS training on FAST-ED being organized
- Statewide CTA training wrapping in transfer protocols/procedures to take place in the next 3-6 months as well

Next Steps as a Region?
