STROKE SYSTEMS OF CARE

American Stroke Association

Deb Motz MS, RN, SCRN

- Nurse x 40+ years

- Stroke Coordinator in Iowa x 10 years – single center

- Stroke Coordinator in San Antonio – 6- hospital system x 7 years

- SR Director QSI – for South West Region x 3 years (Stroke/AFib specialty)
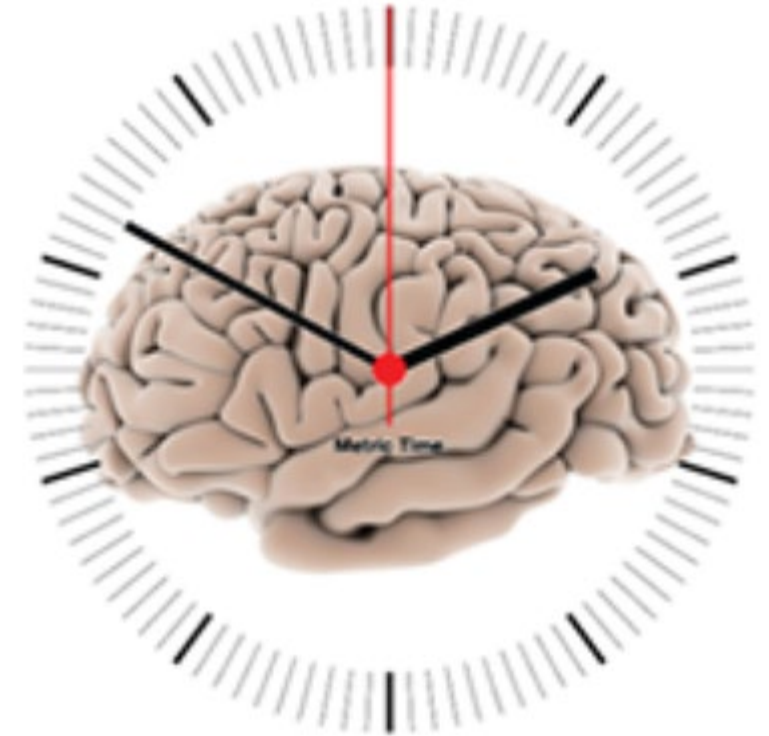
American Heart Association.

DISCLOSURES

FINANCIAL DISCLOSURE:
No financial relationships to disclose

UNLABELED/UNAPPROVED USES DISCLOSURE:
None to disclose

American Heart Association®

TIME IS BRAIN – QUANTIFIED

- 120 million neurons, 830 billion synapses, and 714 km (447 miles) of myelinated fibers are lost each hour

- In each minute, 1.9 million neurons, 14 billion synapses, and 12 km (7.5 miles) of myelinated fibers are destroyed

- Compared with the normal rate of neuron loss in brain aging, the ischemic brain ages 3.6 years each hour without treatment

Saver JL.; Stroke. 2006 Jan;37(1):263-6. Epub 2005 Dec 8.

https://www.ncbi.nlm.nih.gov/pubmed/16339467

American Heart Association.

8 DOMAINS OF A STROKE SYSTEM OF CARE

Community Education → Primordial Prevention → Primary Prevention → EMS Response → Acute Stroke Treatment → Secondary Prevention → Stroke Rehabilitation → Continuous Quality Improvement

Focus – EMS Response and Acute Stroke Treatment

American Heart Association.

EMS

- 50 – 60% arrive via EMS (recommend <15 min on scene time

- Prenotification by EMS (67%)

- Pre-hospital stroke screening tools important
  - Cincinnati Pre-hospital Stroke Scale
  - Los Angeles Prehospital Stroke Scale

- Pre-Hospital stroke severity scores for LVO and rerouting patients
  - If several IV Alteplase capable hospitals in geographic area – highest level transport should be limited to no more than 15 min if severity score suggests LVO

American Heart Association.

MISSION: LIFELINE STROKE - PREHOSPITAL CARE MEASURES

1. Door-in-Door-Out Time ≤ 60 Minutes at First Hospital Prior to Transfer for Acute Therapy

2. Documentation of Time Last Known Well

3. Documentation of Time of Discovery of Stroke Symptoms

4. EMS First Medical Contact to ED Arrival

5. Evaluation of Blood Glucose

6. Identification of Suspected Strokes- Rate Based

7. On-Scene Time for Suspected Stroke

8. On-Scene Time ≤ 15 Minutes for Suspected Stroke - Rate

9. Stroke Screen Performed and Reported

10. Stroke Screen Performed and Reported Distributed

11. Stroke Severity Screen Performed and Reported- Rate Based

12. Stroke Severity Screen Performed and Reported- Distribution

13. Time from First Medical Contact to Thrombectomy for Acute Ischemic Stroke

14. Time from First Medical Contact to IV alteplase for Acute Ischemic Stroke

In addition to the edits made to existing measures, 3 new measures have been created

American Heart Association.

GWTG – STROKE EMS LAYER

⊕	EMS data collection form	27 elements related to EMS care and times
✓	14 Prehospital Care Measures	EMS process measures Outcome measures
▤	EMS Feedback Log	Single click feedback document in PDF Includes outcome elements and time metrics
⏱	EMS Time Tracker	Segmented time calculations from FMC to treatment
⚛	Centralized EMS Agency List	Unique ID for all EMS agencies across platforms and sites

American Heart Association.

EMS FEEDBACK REPORTING – NEW!!

NEW FEATURE ADDED JULY 2019

Site-Level Reports

Configurable Measure Reports
Build your own Quality Measure Reports

Pre-Defined Measure Reports
Select from the Most Common Measure Reports or run your
previously saved report types.

PMT Patient List
Provides a list of patient records entered for this study.

**Comprehensive Stroke: List of Patients Expected to Have a
Follow-Up**
Provides a listing of CSTK patients that require a follow up form
entered.

Stroke (STK) Initial Patient Population Report
STK Initial Patient Population and Sample Count Report

Patient Time Tracker Report
Provides time tracking for patient records entered for this study.

Due to the size of this report, unfortunately, our Print to PDF
feature is not well supported for this report at this time. In order to
print this report more effectively, please use the "Export to Excel"
feature in the top right hand corner of the report and print from
Excel.

Stroke InSights Data Quality Report

Stroke Mortality Report

EMS Feedback Log
Provides the feedback details of the patients entered for the study

EMS Time Tracker
Displays relevant information for patients at a site.

American Heart Association.

LEVELS AND CAPABILITIES OF HOSPITAL STROKE DESIGNATION

Table 1. Levels and Capabilities of Hospital Stroke Designation

	ASRH	PSC	TSC	CSC
Location	Likely rural	Likely urban/suburban	Likely urban	Likely urban
Stroke team accessible/available 24 h/d, 7 d/wk	Yes	Yes	Yes	Yes
Noncontrast CT available 24 h/d, 7 d/wk	Yes	Yes	Yes	Yes
Advanced imaging (CTA/CTP/MRI/MRA/MRP) available 24 h/d, 7 d/wk	No	Yes	Yes	Yes
Intravenous alteplase capable	Yes	Yes	Yes	Yes
Thrombectomy capable	No	Possibly	Yes	Yes
Diagnoses stroke pathogenesis/manage poststroke complications	Unlikely	Yes	Yes	Yes
Admits hemorrhagic stroke	No	Possibly	Possibly	Yes
Clips/coils ruptured aneurysms	No	Possibly	Possibly	Yes
Dedicated stroke unit	No	Yes	Yes	Yes
Dedicated neurocritical care unit/ICU	No	Possibly	Possibly	Yes

ASRH indicates acute stroke-ready hospital; CSC, comprehensive stroke center; CT, computed tomography; CTA, computed tomography angiography; CTP, computed tomography perfusion; ICU, intensive care unit; MRA, magnetic resonance angiography; MRI, magnetic resonance imaging; MRP, magnetic resonance perfusion; PSC, primary stroke center; and TSC, thrombectomy-capable stroke center.

https://www.ahajournals.org/doi/epub/10.1161/STR.0000000000000173

TEN REASONS TO PURSUE STROKE CERTIFICATION

1. Designation for excellence in the care of stroke patients

2. Creates a loyal, cohesive clinical team

3. Assists organizations in establishing a consistent approach to care, reducing variation and the risk of error

4. Demonstrates commitment to a higher standard of clinical service

5. Provides a framework to improve patient outcomes

6. Helps to organize teams across the continuum of care

7. Provides a competitive edge in the marketplace — supports marketing, contracting and reimbursement

8. Enhances the facility's ability to attract top-level talent

9. Strengthens community confidence in the quality and safety of care, treatment and services

10. Potential to increase patient volumes due to EMS routing protocols

American Heart Association.

ACUTE STROKE READY PERFORMANCE MEASURES

ACUTE STROKE READY INPATIENT (ASR-IP)

- ASR-IP-1 Thrombolytic Therapy: Inpatient Admission
- ASR-IP-2 Antithrombotic Therapy By End of Hospital Day 2
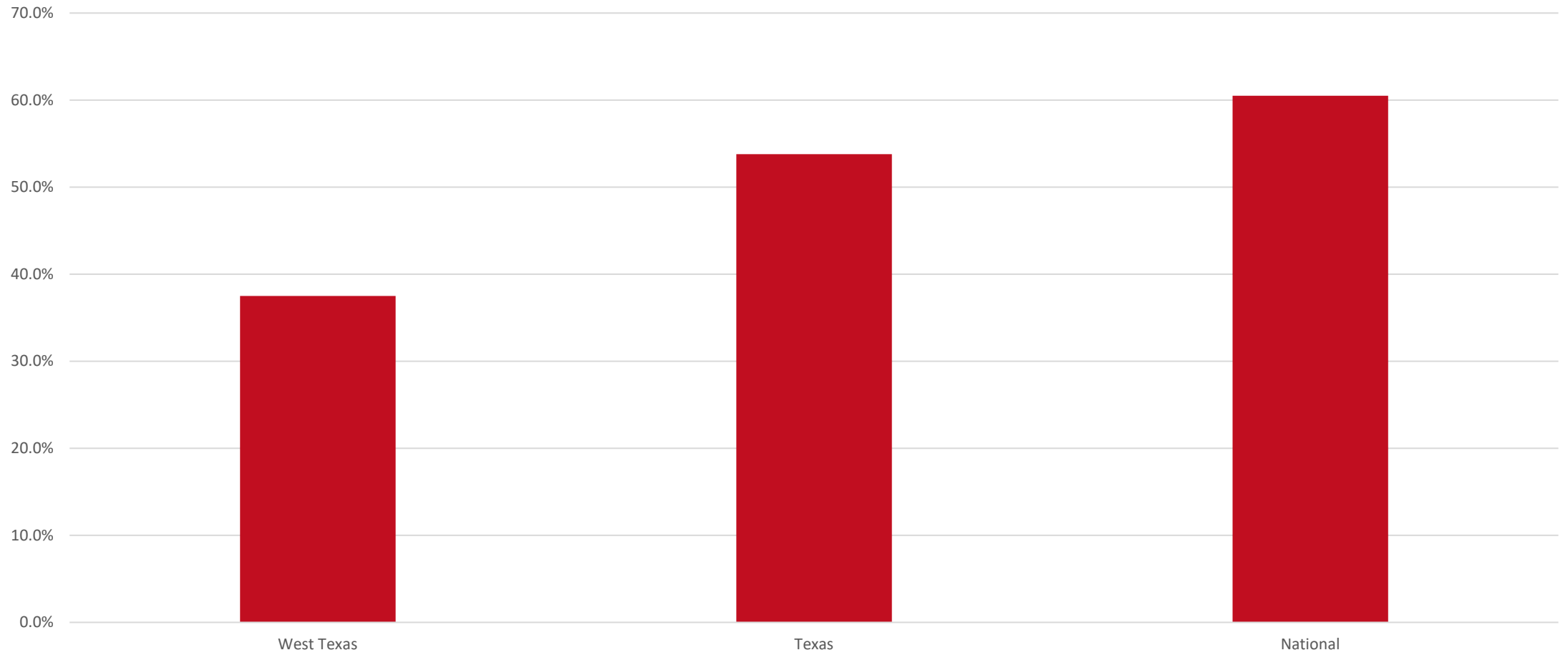- ASR-IP-3 Discharged on Antithrombotic Therapy

ACUTE STROKE READY OUTPATIENT (ASR-OP)

- ASR-OP-1 Thrombolytic Therapy: Drip and Ship
- ASR-OP-2 Door to Transfer to Another Hospital

American Heart Association.

GET WITH THE GUIDELINES® – STROKE

- Powerful Patient Management tool

- Since 2003 – 3,300+ Hospitals; 6.4 million patients

- Access to the most up-to-date research and scientific publications

- Professional education opportunities, such as workshops and webinars

- Clinical tools and resources

- Patient education resources

- QI field staff support

- A competitive advantage in the healthcare marketplace

- National and local recognition for hospital team program achievement

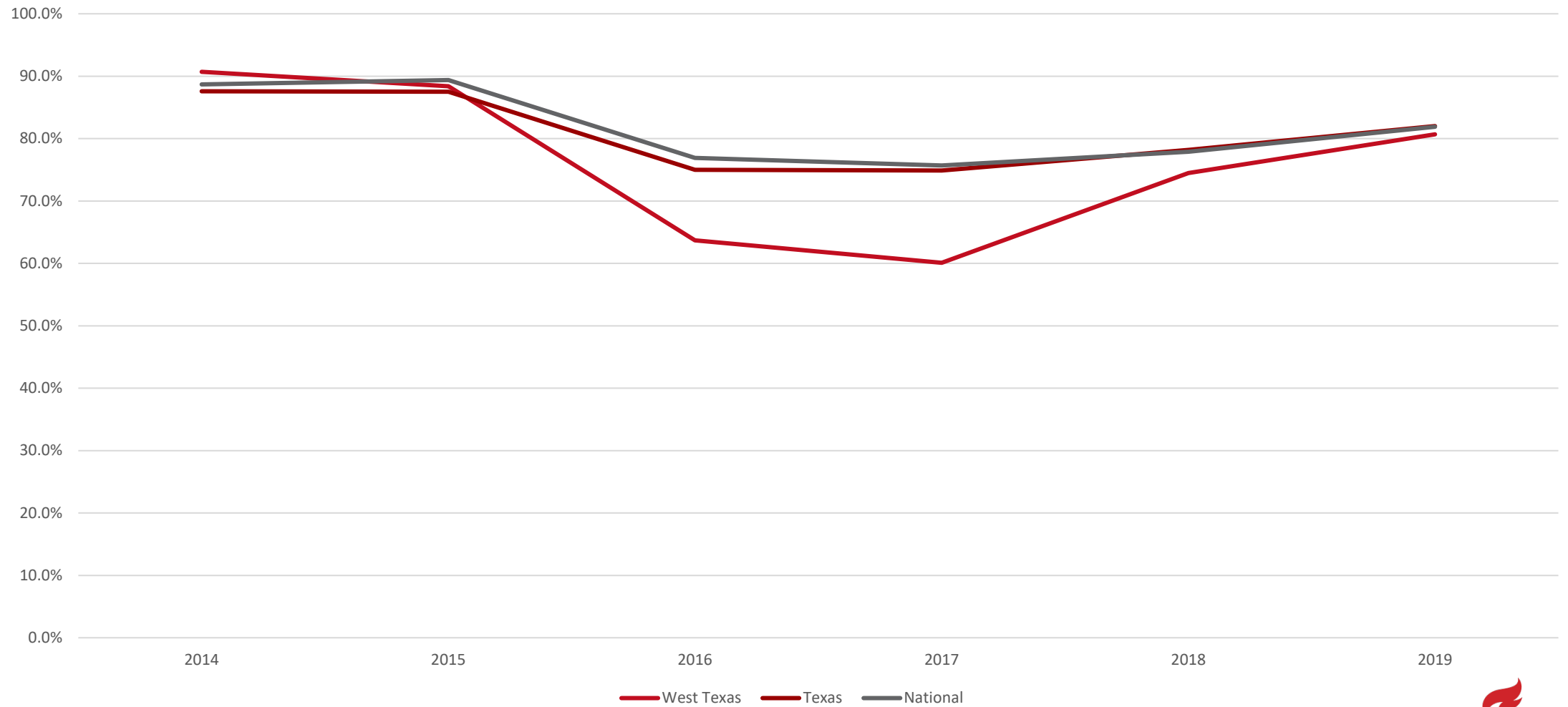- Performance feedback reporting for continuous quality improvement

American Heart Association®

ADVANCED NOTIFICATION BY EMS FROM SCENE

MODE OF ARRIVAL – 2019

Arrival Mode 2019

Legend: West Texas, Texas, National
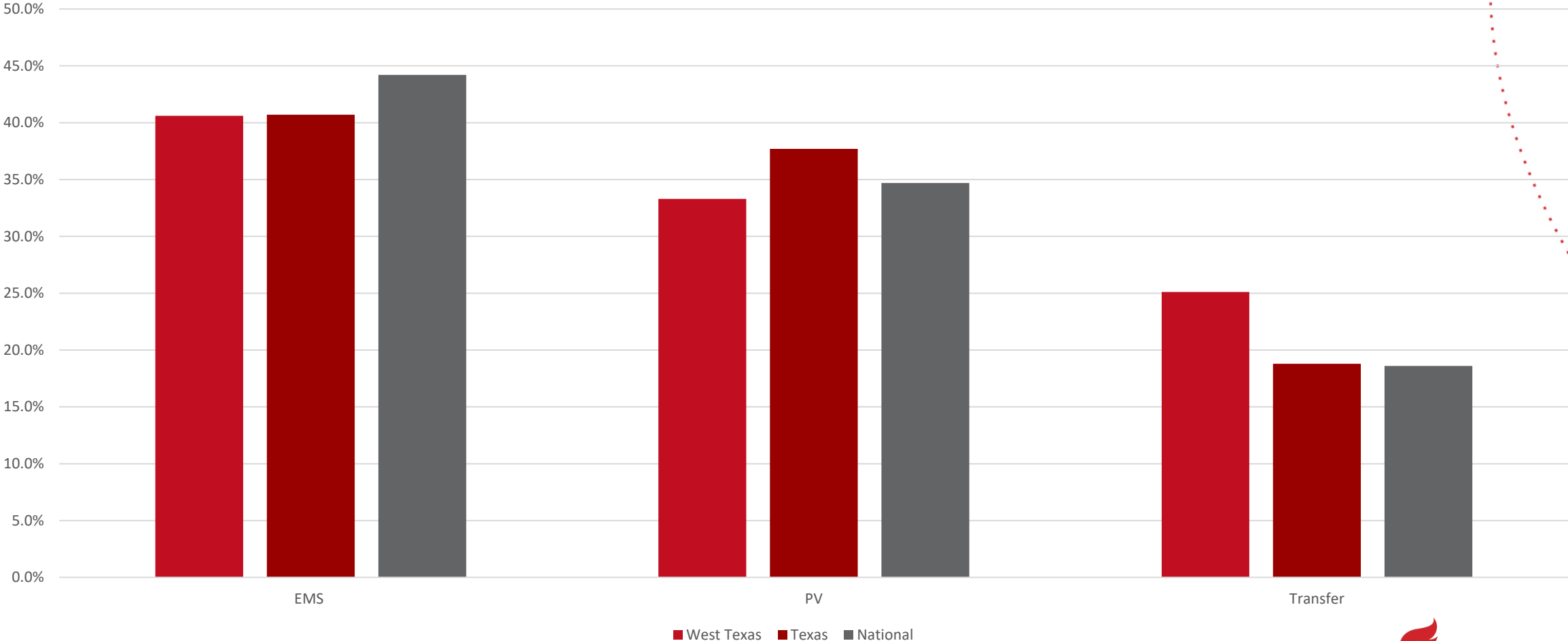
ARRIVE BY 2 HOURS; TREAT BY 3 HOURS
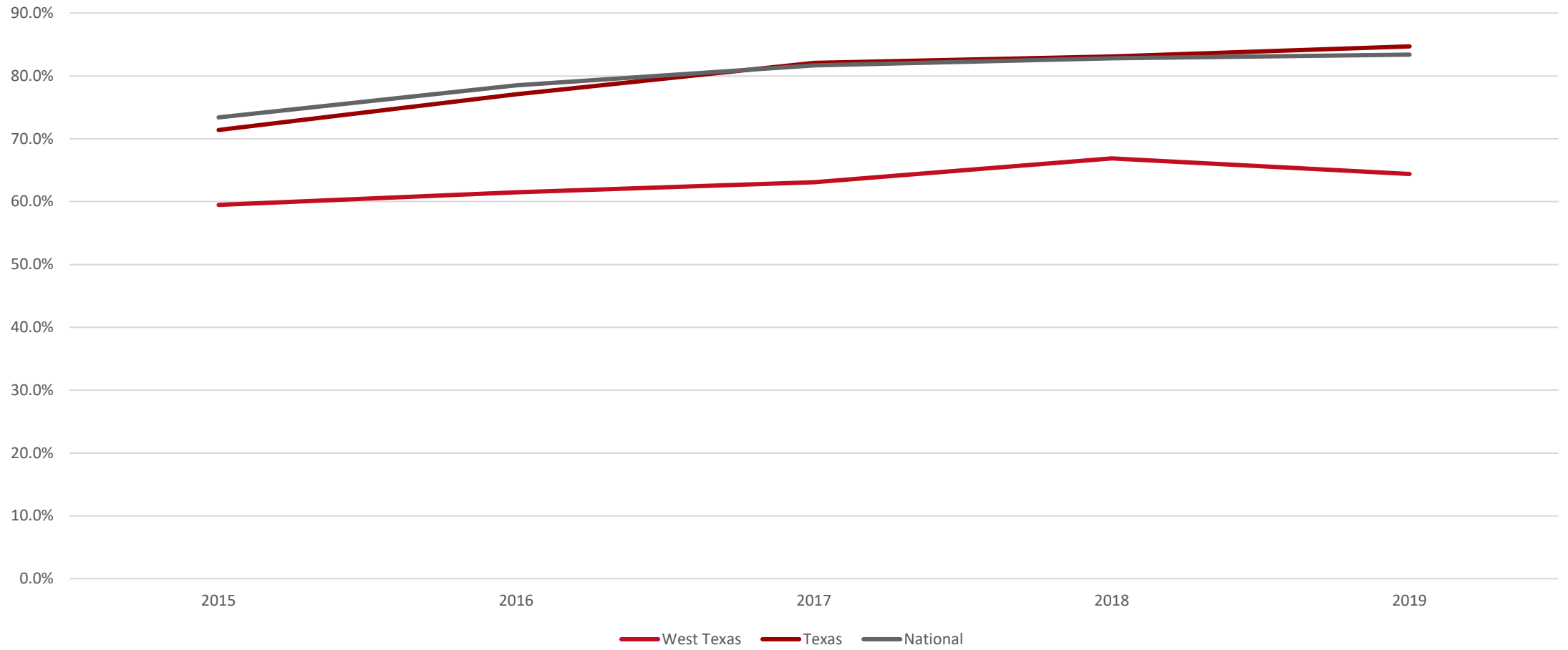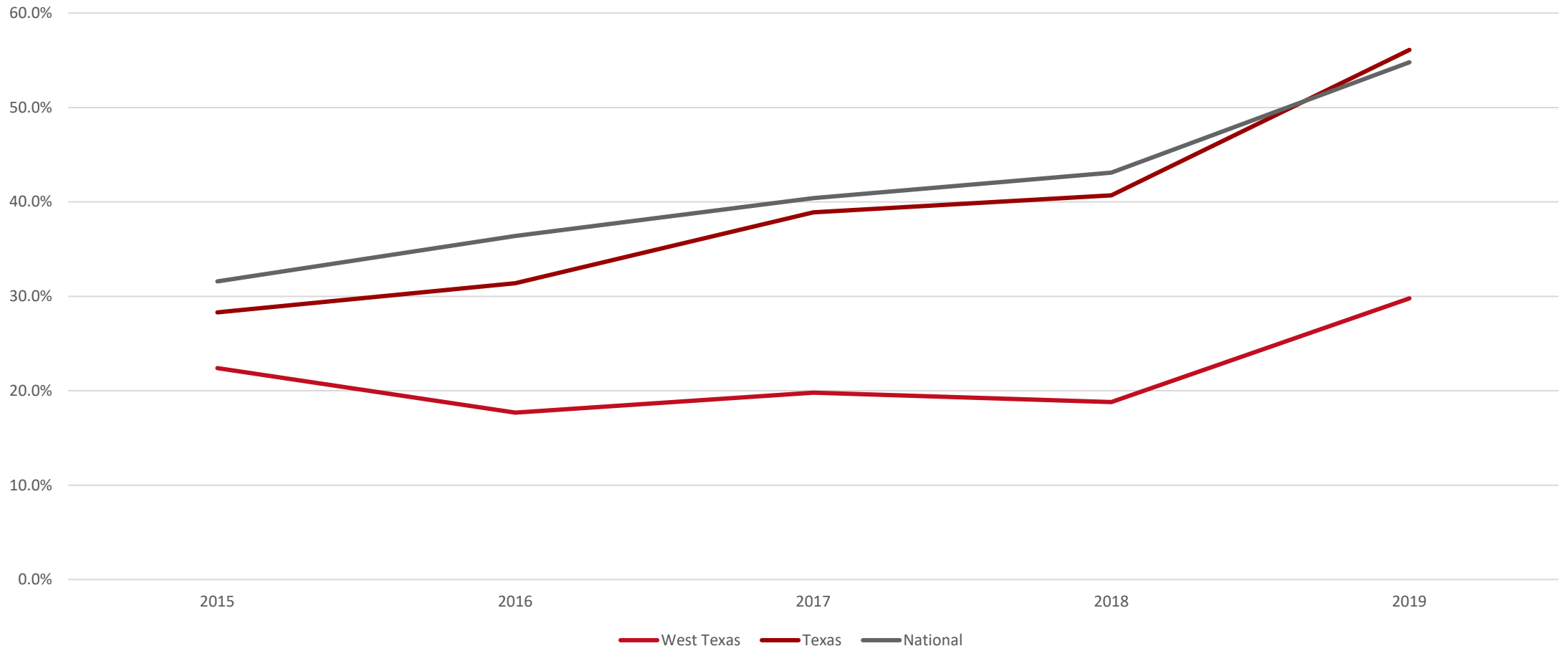
West Texas — Texas — National

16

DOOR TO ALTEPLASE 60 MIN

Legend: West Texas, Texas, National

DOOR TO ALTEPLASE – 45 MIN.

FRONTIER- RURAL – URBAN BY RAC
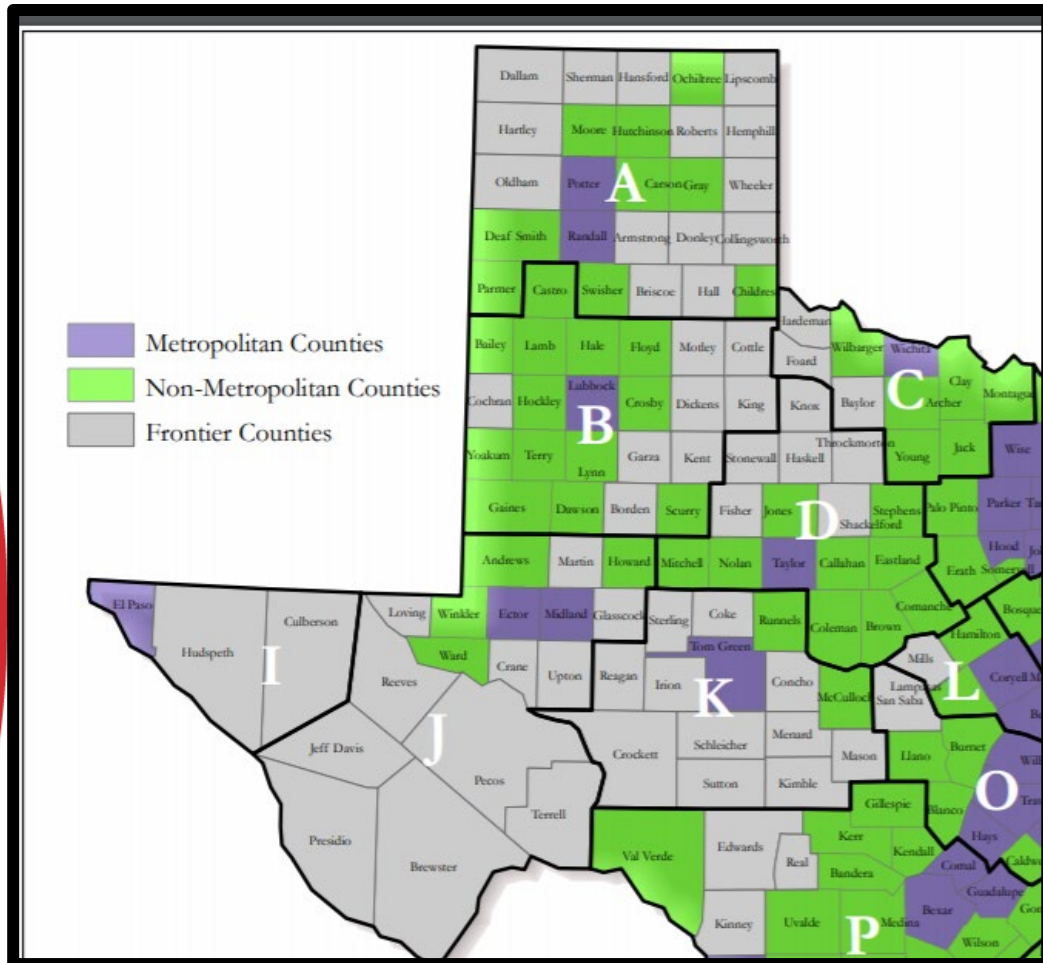
A. **Panhandle RAC** – 17 hospitals; 47 EMS services; 3 air medical; 5 fire depts

B. **BRAC** – 22 Counties; 39 EMS services; 1 PSC; Regional Stroke Plan

C. **North Texas RAC** – 10 counties; 10 hospitals; 16 EMS Providers; 1 air medical

D. **Big Country RAC** – 16 counties; 3 stroke coordinators; stroke plan

J. **Texas "J" RAC** – No stroke info

K. **Concho Valley RAC** – No website

Source: DSHS, Office of EMS/Trauma System
Map Author: Center for Health Statistics, GIS, March 2018

Note: Population Data from 2010 US Census

Metropolitan County = 50,000 + inhabitants
Non-Metropolitan County = < 50,000 inhabitants
Frontier County = 6 or fewer people per square mile ext

https://www.dshs.texas.gov/emstraumasystems/etrarac.shtm#top

QUESTIONS

American Heart Association