



KANSAS INITIATIVE FOR
STROKE SURVIVAL
A PROJECT BY AND FOR KANSANS

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Telestroke: Use and Benefit in Acute Stroke Treatment

“First Tuesdays” Lecture Series

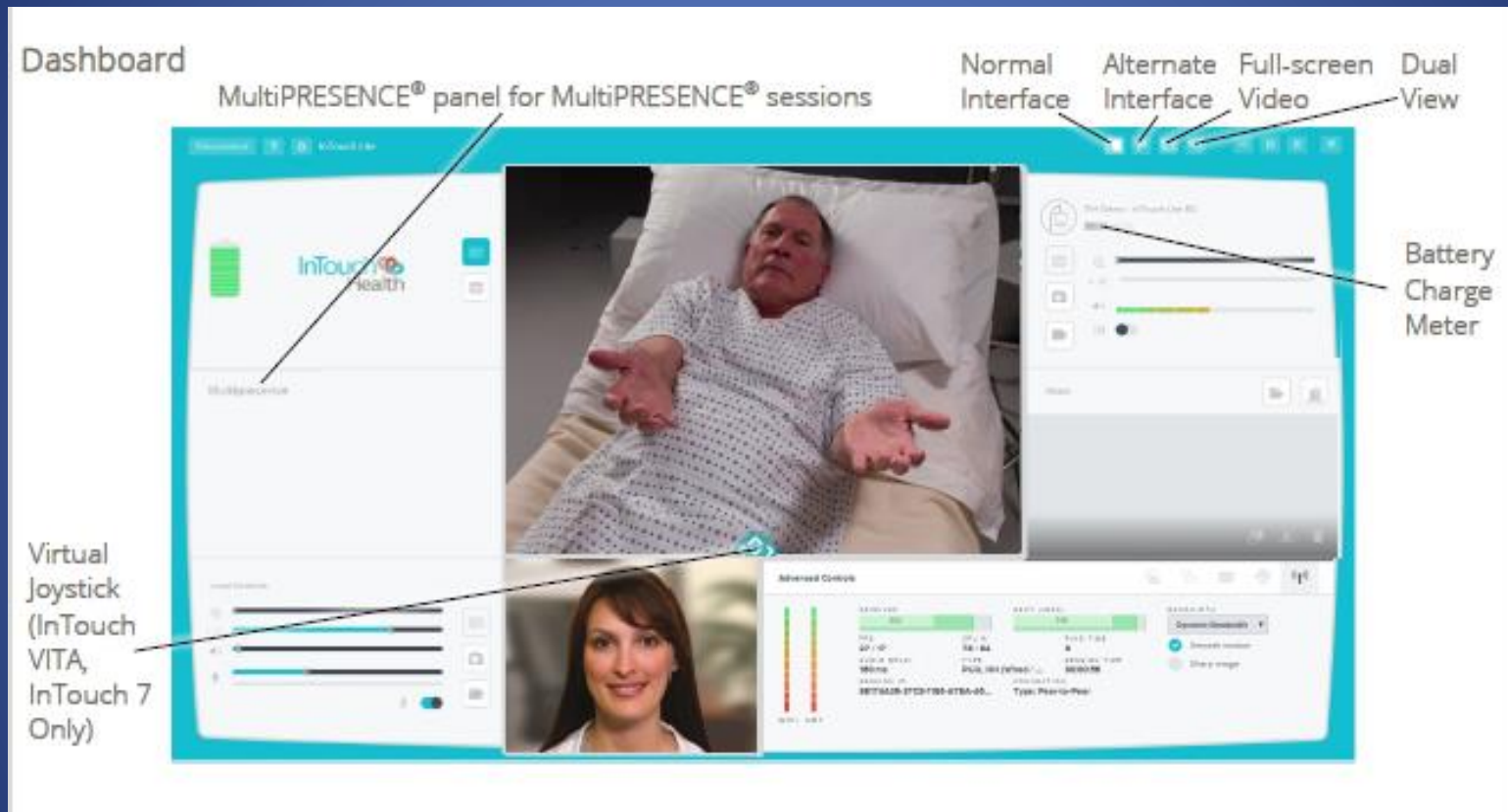
Introduction and Goal of “First Tuesdays”

- Sabreena Slavin MD – Vascular Neurologist and Neurohospitalist at KU School of Medicine
- Didactic lecture series as part of the Kansas Initiative for Stroke Survival
- Updates in Practice and FAQ’s on Acute Stroke Care
- 20 minute didactic, 10 minutes for questions/discussion

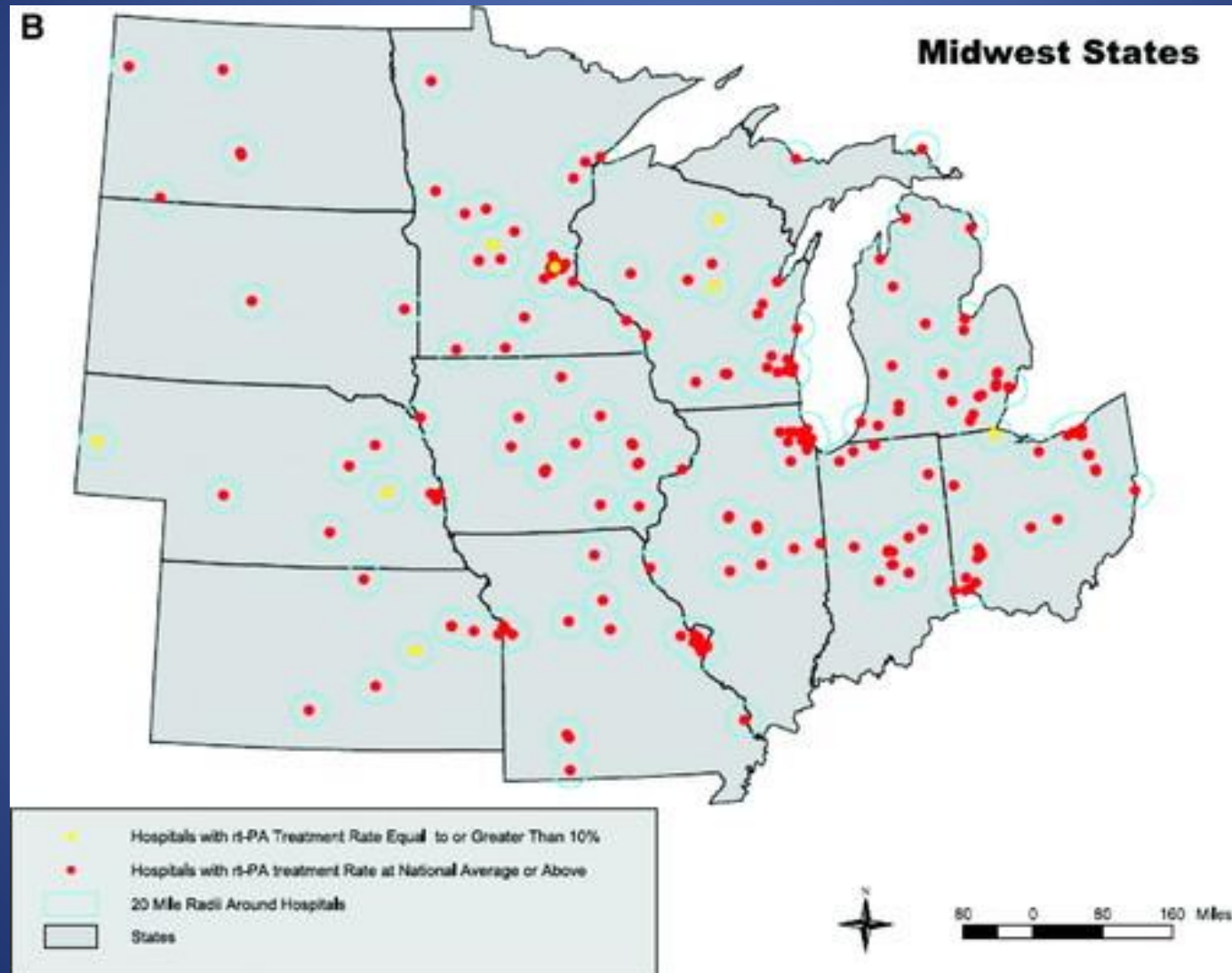
What Is Telestroke?



InTouch Telehealth Software



Why Telestroke?



Why are rates so low?

- Longer times to arrive at ED
- Community education in identifying stroke
- **Lack of experience with tPA**
- **Lack of stat radiology support**
- **Lack of stat neurology support**

Does it Work?

- Studies have shown that there is no difference between tPA treatment guided via telestroke vs tPA given at stroke centers:
 - Similar rates of complications including sICH
 - No differences in mortality or functional independence at 3 months
- One study utilizing telestroke vs in-person assessment by same team of neurologists also showed no difference in complications and mortality.

Anecdotal experience

- Telectroke over telephone has been valuable in these cases:
 - Brainstem/posterior circulation symptoms:
 - For milder acute vestibular syndrome and severe cases with bilateral symptoms/obtundation
 - Functional/suspected psychogenic symptoms
 - Other stroke mimics
 - Determining disability vs nondisability

Study on telestroke vs telephone:

- There was improved decision making for IV tPA in all patients for telestroke over telephone.
- More tPA use with telemedicine (29% vs 24%), but did not reach significance.
- Telestroke took 8 minutes longer on average than telephone.
- No statistical difference in complications or function at 3 months – study was underpowered to detect functional differences.

Acute Stroke Guidelines 2018

| | | |
|--|-------------------|--------------------|
| <p>3. Because of the limited distribution and availability of neurological, neurosurgical, and radiological expertise, the use of telemedicine/ telestroke resources and systems can be beneficial and should be supported by healthcare institutions, governments, payers, and vendors as one method to ensure adequate 24/7 coverage and care of acute stroke patients in a variety of settings.</p> | <p>IIa</p> | <p>C-EO</p> |
| <p>4. Telestroke/teleradiology evaluations of AIS patients can be effective for correct IV alteplase eligibility decision making.</p> | <p>IIa</p> | <p>B-R</p> |
| <p>The STRokEDOC (Stroke Team Remote Evaluation Using a Digital Observation Camera) pooled analysis supported the hypothesis that telemedicine consultations, which included teleradiology, compared with telephone-only resulted in statistically significantly more accurate IV alteplase eligibility decision making for patients exhibiting symptoms and signs of an acute stroke syndrome in EDs.⁴⁶</p> | | |
| <p>5. Administration of IV alteplase guided by telestroke consultation for patients with AIS may be as safe and as beneficial as that of stroke centers.</p> | <p>IIb</p> | <p>B-NR</p> |
| <p>A systematic review and meta-analysis was performed to evaluate the safety and efficacy of IV alteplase delivered through telestroke networks in patients with AIS. Symptomatic intracerebral hemorrhage (sICH) rates were similar between patients subjected to telemedicine-guided IV alteplase and those receiving IV alteplase at stroke centers. There was no difference in mortality or in functional independence at 3 months between telestroke-guided and stroke center–managed patients. The findings indicate that IV alteplase delivery through telestroke networks is safe and effective in the 3-hour time window.⁴⁷</p> | | |

If Telestroke Not Available: Use Telephone

6. Providing alteplase decision-making support via telephone consultation to community physicians is feasible and safe and may be considered when a hospital has access to neither an in-person stroke team nor a telestroke system.

IIb

C-LD

The advantages of telephone consultations for patients with acute stroke syndromes are feasibility, history of use, simplicity, availability, portability, short consultation time, and facile implementation.⁴⁸

Use Teleradiology

| 1.6. Telemedicine | COR | LOE |
|--|-----|-----|
| 1. For sites without in-house imaging interpretation expertise, teleradiology systems approved by the US Food and Drug Administration are recommended for timely review of brain imaging in patients with suspected acute stroke. | I | A |
| 2. When implemented within a telestroke network, teleradiology systems approved by the US Food and Drug Administration are useful in supporting rapid imaging interpretation in time for IV alteplase administration decision making. | I | A |

Studies of teleradiology to read brain imaging in acute stroke have successfully assessed feasibility; agreement between telestroke neurologists, radiologists, and neuroradiologists over the presence or absence of radiological contraindications to IV alteplase; and reliability of telestroke radiological evaluations.⁴⁰⁻⁴⁵

Questions?

- Call for help anytime!
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