Overlook Medical Center
ATLANTIC HEALTH SYSTEM

Pre-Hospital Telemedicine

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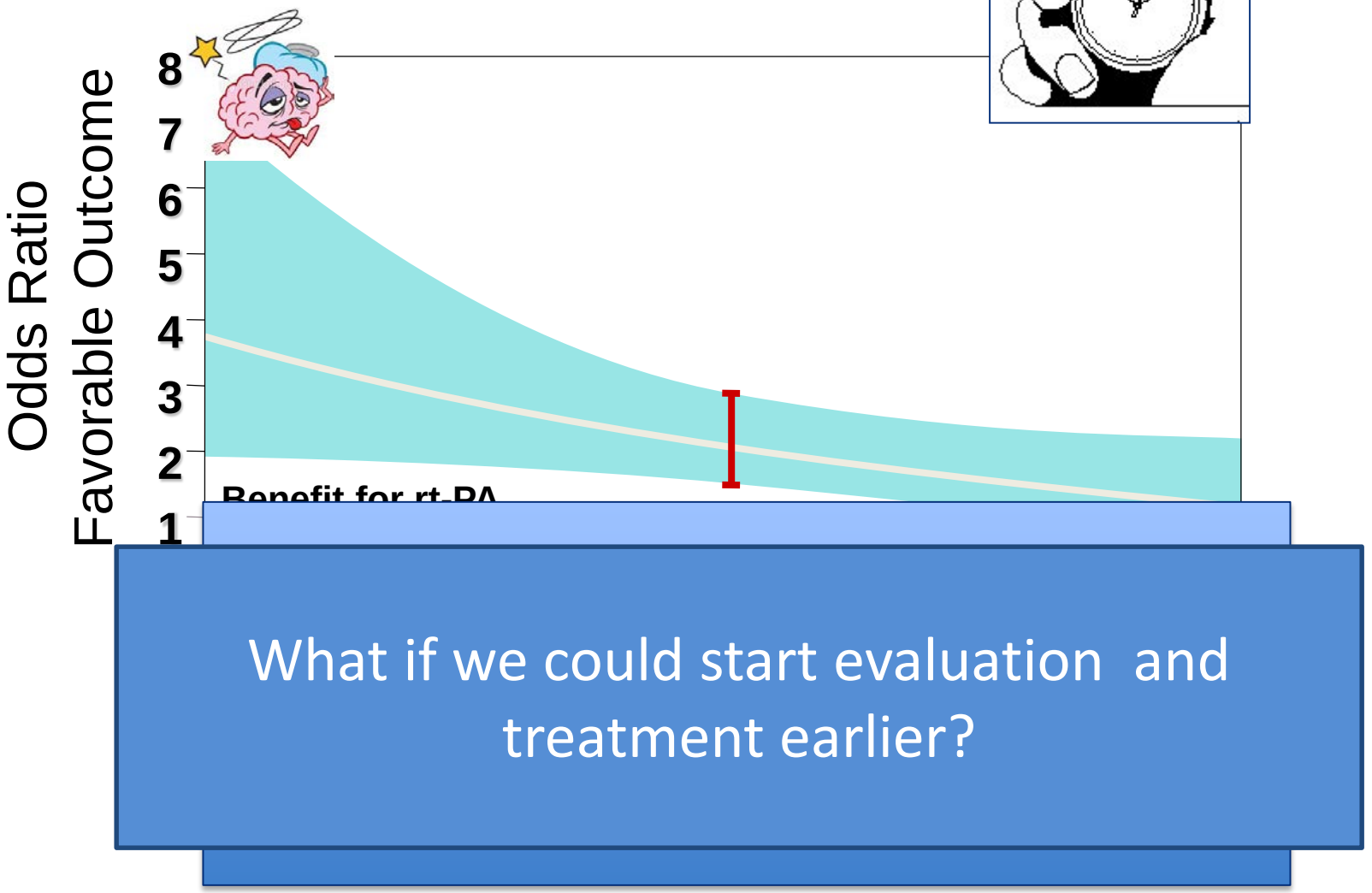
Summit NJ

Disclosures

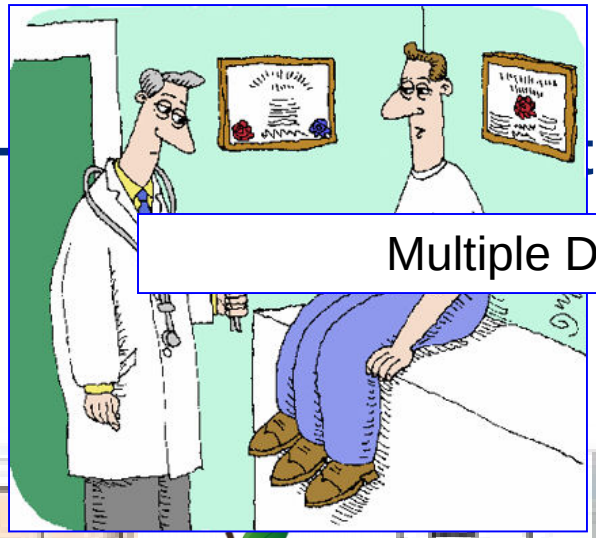
- Speaker Bureau: Teva Neuroscience

Relation of Time to Treatment
Odds Ratio of Favorable Outcome



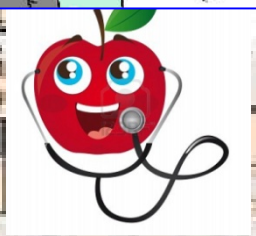
What if we could start evaluation and treatment earlier?

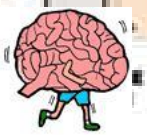
H tors



Multiple Delays Later…

Time Lost is Brain Lost





Minimizing *Muda*

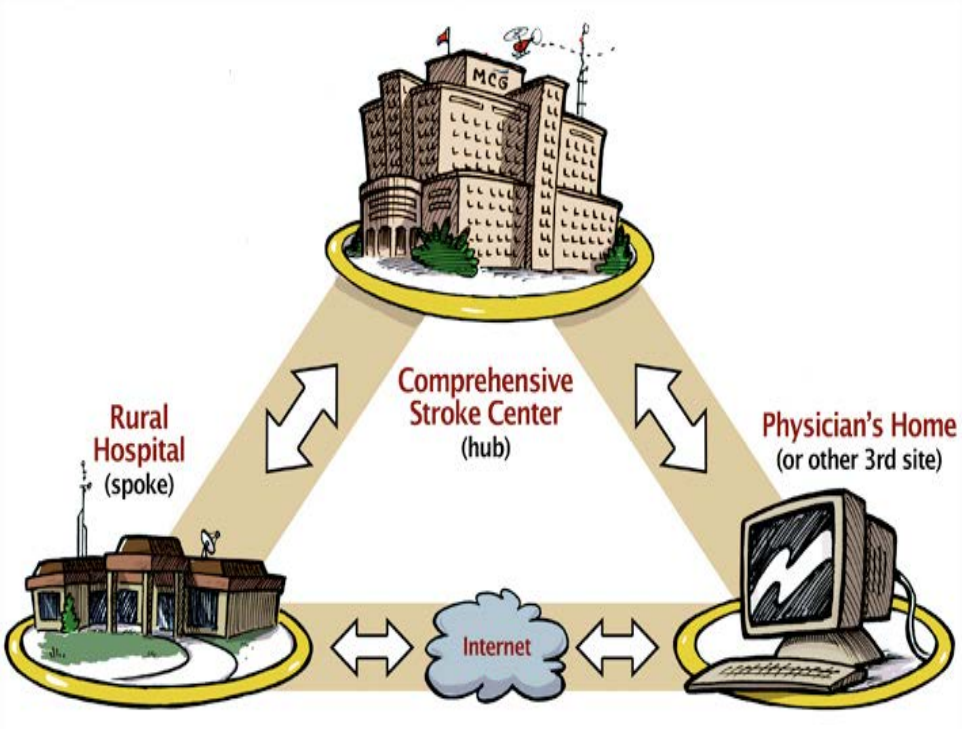
Multiple studies show that 80% of medical care process is waste

It's the last turn that tightens the bolt. The rest is movement- Dr Shingo

Our challenge is to eliminate the waste that is delaying stroke care at a heavy burden to our patients

Telestroke

- Brings Comprehensive Stroke Center Expertise to local Emergency Departments
- Cost Effective
- Well accepted by patients and local physician services
- ANI telestroke system pilot
  - Funded by a Kirby grant in 2011



Ambulance/EMS Based Telestroke: "Taking Stroke Care on the Road"

- Most stroke care plans focus on the process from ED arrival to thrombolysis
  - Termed "door-to-needle time"
  - About 30 to 40 minutes is required performing evaluation and planning
  - The ED and stroke team are aware of the patient long before they arrive thanks to the EMS squads
- What if the patient could be evaluated while en route before they even arrive in the ED?
  - Initial evaluation, treatment plan, and possibly consent would be completed before the patient arrived at the ED
  - Leading to faster door to needle times and better outcomes

RPXpress Device from inTouch

- Used in a hospital or office for specialty based consults
- FDA approved for monitoring of Acute patients
- Advances in video stream compression technology
- Medium to high quality imaging and evaluation
  - Wifi and 3G/4G cell phone data networks

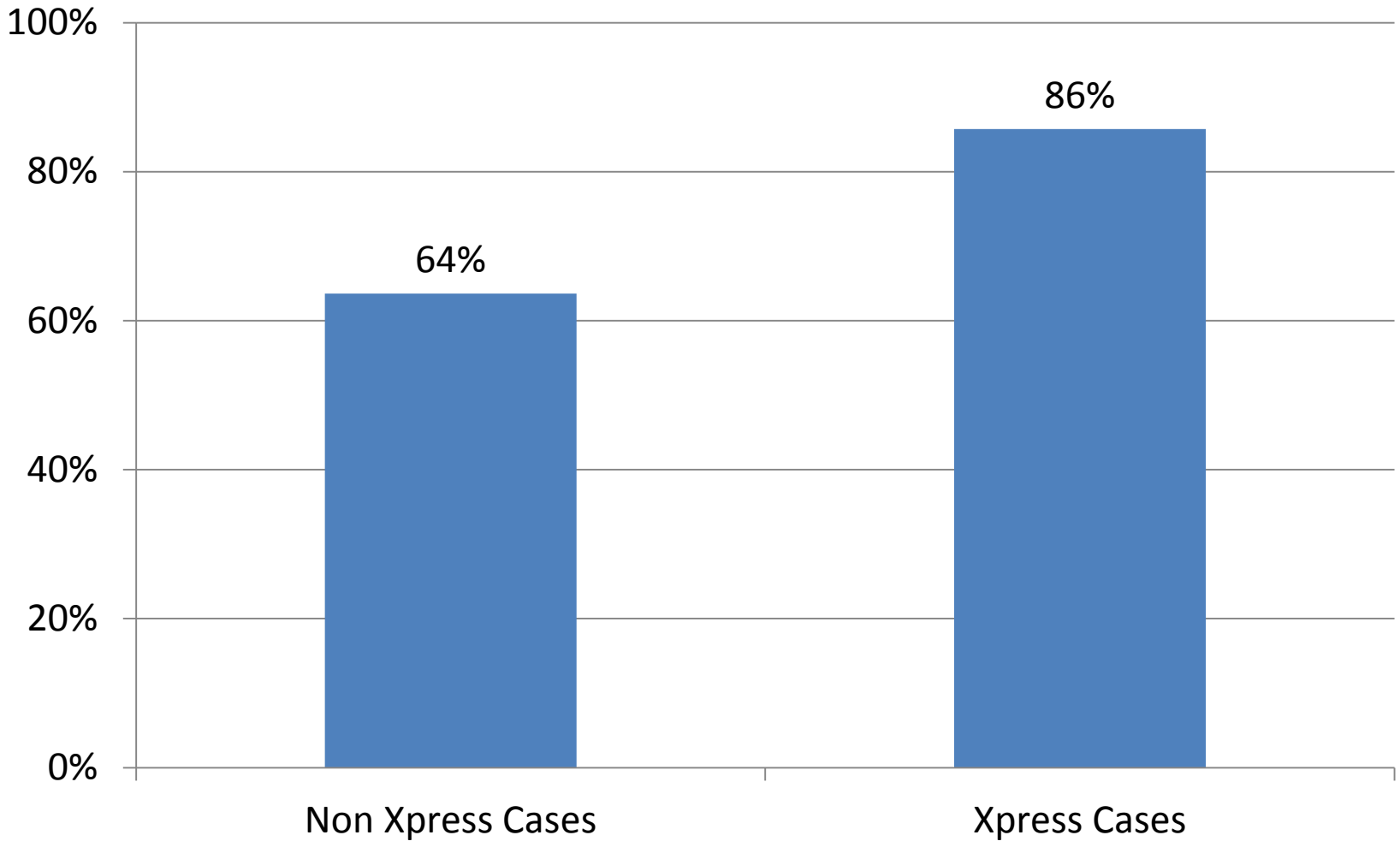
- Ambulance and EMS based Applications
- Device has been modified to be used on site and in ambulances
- Currently being developed and evaluated for trauma and mass casualty events

Project proposal

- **Hypothesis:**
  - The use of pre-hospital ambulance based telestroke devices will decrease the door-to-needle time considerably and lead to improved stroke outcomes
- **Method:**
  - Placing RPXpress devices on ambulances in coordination with training and education of EMS personnel to allow for evaluation of “code gray” stroke patients en route
- **Outcome measure:**
  - Reduction of door to needle time in those patients who are transported by RPXpress equipped ambulances

Video here

OMC & CMC % Door to Drug ≤ 45 mins



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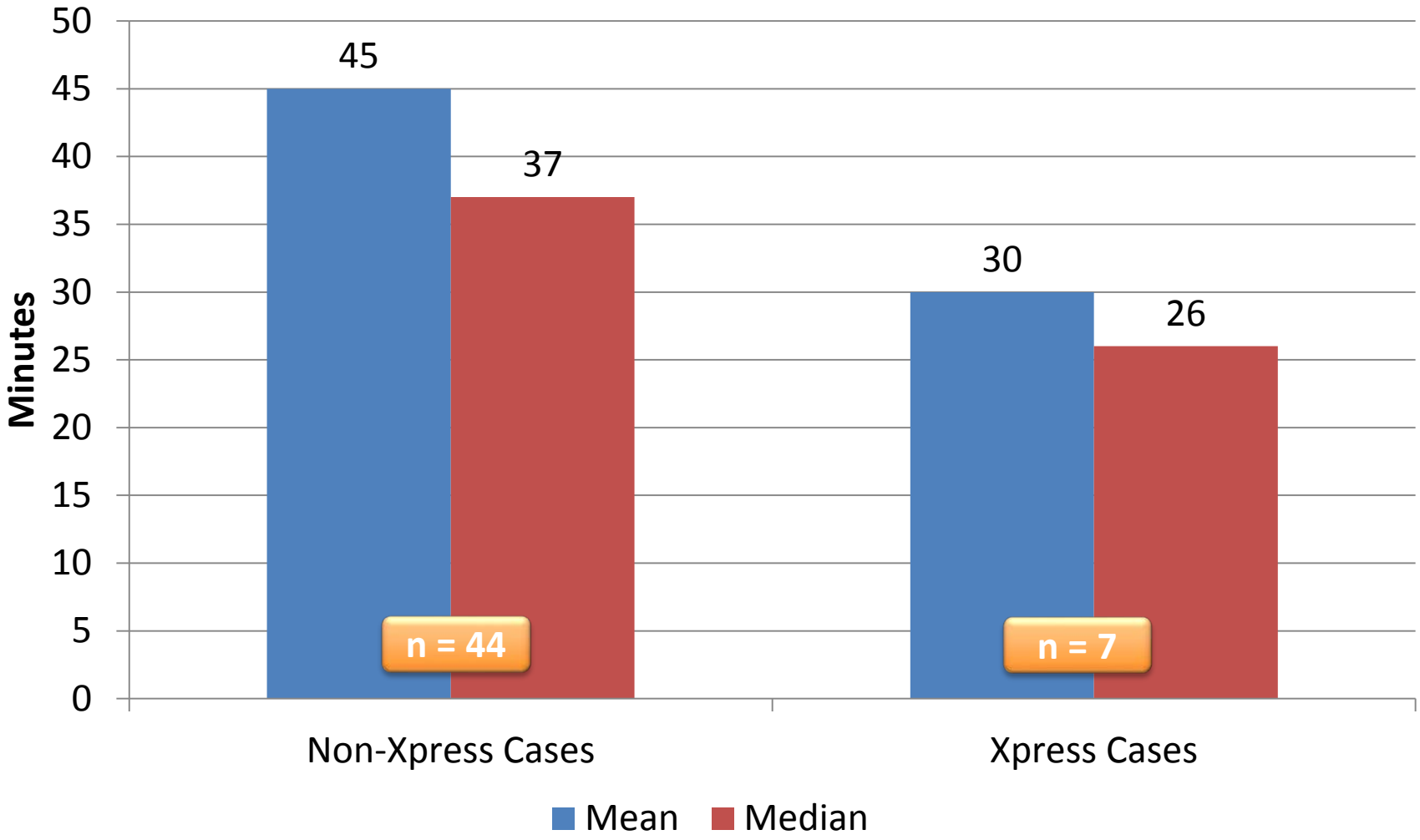
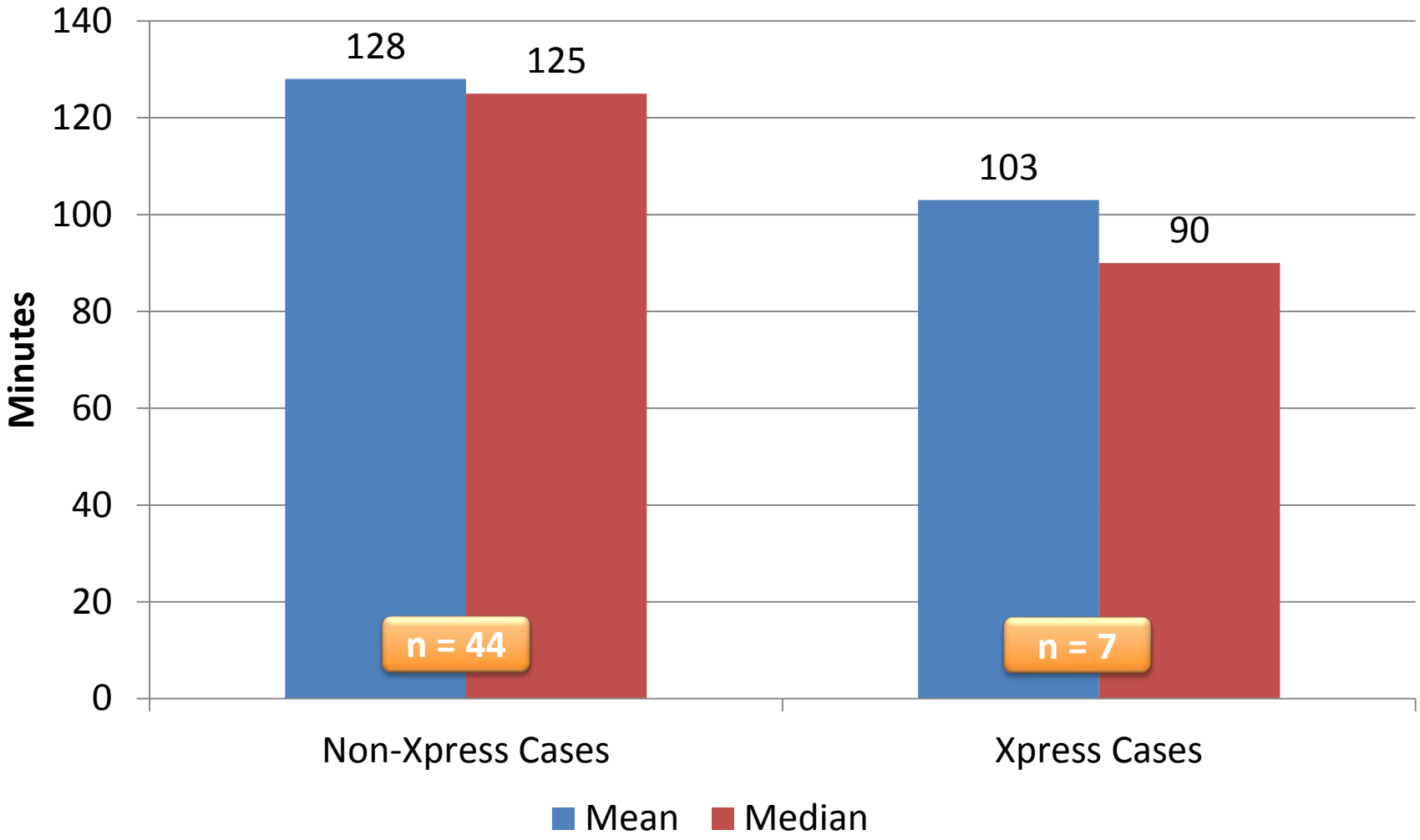
OMC & CMC Door to Drug Time



OMC & CMC Onset to Drug Time



Early Obstacles

- Inconsistent wifi/4G connection
  - Frequent stops or stuttering in transmission
  - Drop down to 3G between cell towerS
- Staff training
  - AHS/OMC has centralized medics
  - Small group to train
  - Expansion to local EMS services could be complex
- Limited Exam
  - Unable to perform complete and through exam
  - Can miss subtle changes or ambulation issues
- Family often not available
  - Incomplete or inaccurate information
  - Consent issues

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Overlook Medical Center Stroke Program – The Passion to Lead