Acute Stroke:

Recent Case Studies from the Westlock Healthcare Centre

Presented by:

Kara Rimmer, RN, BScN, Stroke Services Coordinator

June 7, 2016

Overview

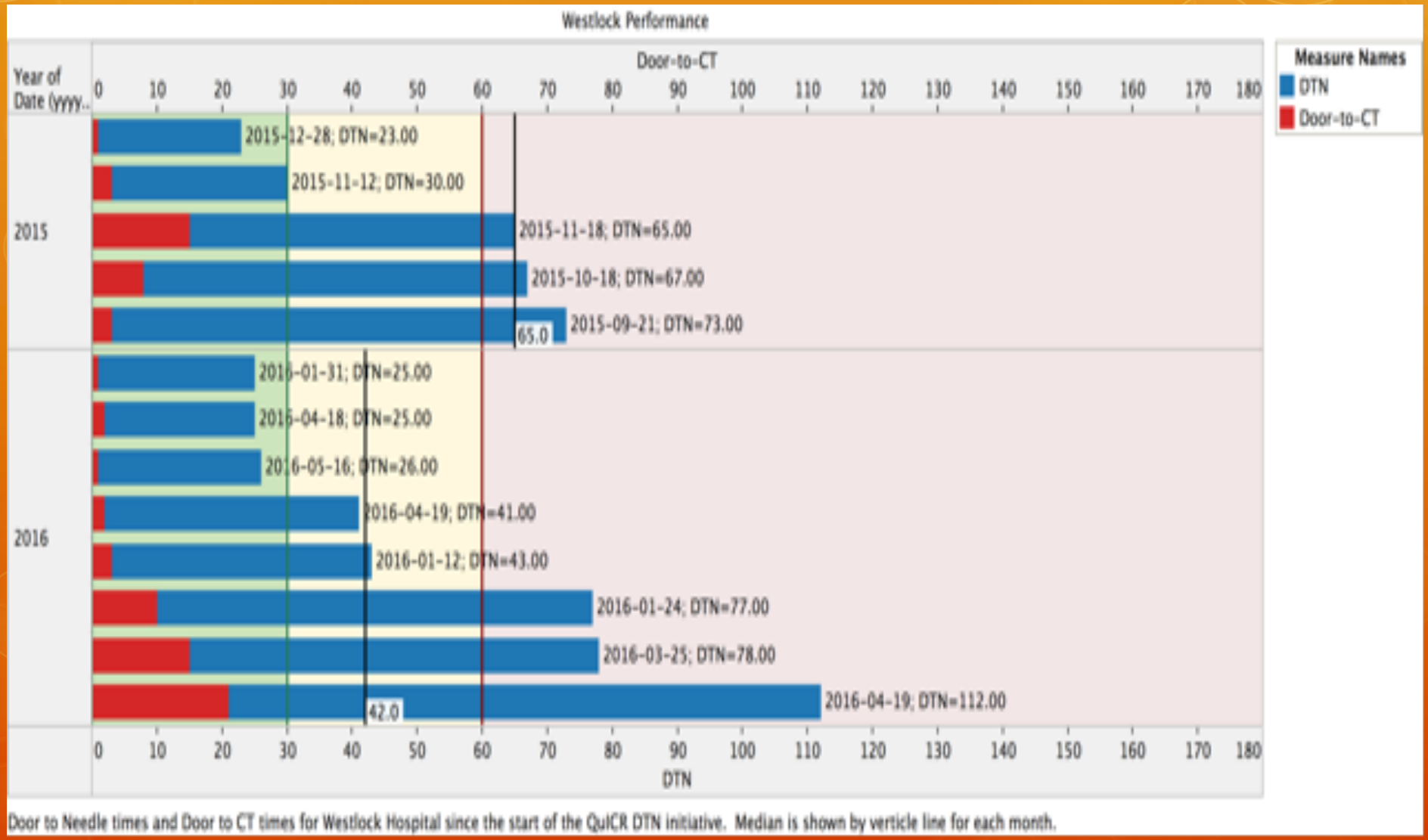
- Background
- 2 Case Studies
- - What went well
- - What needs improvement
- - Discussion/sharing
- Tips, Tools & Tidbits

WHCC
Stroke Services
Coverage

Background

- 46 bed rural hospital
- 1.5 hour drive to the nearest CSC in Edmonton
- 1330 ER visits/month
- 3.5 patients per week assessed on average (2016) under STAT STROKE! protocol
- Median DTN time prior to QuICR (2011-) was 63 to 94 minutes (n= 5-6/year)
- Post QuICR we have administered tPA **13 times** with a median of 41 minutes
- Treatment times have ranged from 23-112 minutes.

Post QuICR DTN Data



Door to Needle times and Door to CT times for Westlock Hospital since the start of the QuICR DTN initiative. Median is shown by verticle line for each month.

Staffing

- ER Physician x 1 24/7
- ER, days and evenings:
  - RNs x 2
  - unit clerk x 1
- ER, nights:
  RN x 1
- DI x 1 on call after 1700 & on weekends
- Combined lab/xray tech x1 on nights

- Acute, days & evenings:
  - RNs x 4
  - LPNs x 5
  – HCA x 1
- Acute, nights:
  - RNs x 4
  - LPN x 3
- EMS:
  - 2 ALS crews 24/7 (which also provide backup to surrounding communities)

Challenges:

- Staffing
- 3 of 4 DI staff on call live 25 minutes away
- Data collection & data tracking
- Intermittent issues with stroke neuro accessing images in a timely manor

To Our Benefit:

- CT scanner in close proximity to ER
- Engaged team
- Physician “buy in”
- Early success created momentum

Changes Since QuICR:

- Demographics nearly 100% of the time
- Physicians researching patient history and med list & completing as much of the tPA inclusion/exclusion criteria as possible pre arrival
- "Code Stroke" RN assigned
- Swarm prior to CT
- Increased awareness of WHY faster DTNs are so important
- Improved communication from sending facilities re: patient/event history and ETA
- Bulletin Boards and pins to celebrate fast treatment times

We Celebrate Together…

March 2016

WHCC Stroke Services

Reporting Card

STROKE ADMISSION STATS		STROKE w/o tPA x 1 STROKE w/ tPA x 1 ? STROKE x 2 TIA x 1
DTN TIMES	88 minutes	Our delay was largely d/t technical difficulties – the stroke neurologist on call was having difficult accessing the images. Follow up is in place to hopefully prevent this from happening again. As a "back up plan" we are to leave the PACS screen in Trauma 3 turned on 24/7 so they can view the images using Telehealth equipment/PACS.
USE OF ORDER SETS	60% (3/5)	Yikes! When stroke/TIA admission binders are not used patients miss important things which affect their care – timely testing/interventions, NIHSS scores to monitor changes, swallow screens, rehab referrals, etc. Letters are now being written to admitting physicians when order sets are not used. . As nurses PLEASE add a stroke admission package on arrival to the unit and bring order sets to the physicians to sign as required by Canadian Best Practice Guidelines.
SWALLOW SCREENING	75% (3/4)	With order sets not used there was a ?stroke patient who was not kept NPO pending swallow screening, putting him much greater risk for aspiration pneumonia. Two other patients were kept unnecessarily NPO because the RBWH was not done on admission or at any time over the weekend. On any given shift there should be SOMEONE who is trained to do this screening. If there is not, you can always call me to come in!
DI NOTES	7 PATIENTS SCANNED	Though we were busier in terms of admissions, our callbacks were ½ of what they were last month!
ER NOTES		A "Stroke Neurologist Consultation Form" has been added to the suspected stroke packages to improve communication (printed on purple paper). All physicians are aware and seem to be supportive of this tool. It will be kept in the "consults" section of the chart. Please see attachment.
STROKE EVALUATION FORMS		There were concerns raised about one of our ER patients NOT receiving tPA. Follow up has been initiated, however the stroke neurologist who made the decision is away until May. I will share feedback with the ER staff who were involved when it becomes available.

Compiled by Kara Rimmer, RN, Stroke Services Coordinator

“Better has no limit…”

~ Old Yiddish Proverb

Case Study #1
55 year old female

Signs and Symptoms

- Acute onset left sided weakness
- Left sided facial droop
- Slurred speech
- Lethargic
- Dizzy
- NIHSS: "24"

VS (post CT)

36-70-23 164/90 SpO_2 99%

Event History

- LSN 0720
- Presented by EMS from home at 0924

Previous Medical History

- TKR in March 2016, diarrhea x 2-3 weeks, hypothyroidism

Current Medications

- Flagyl, HCTZ, Diclofenac, & Synthroid

0924

- Patient arrival - direct to CT w/o swarm

0931

- RAAPID paged

XXXX

- Return from CT
- "Swarm" in Trauma Room followed by full exam, 2nd IV, labs, ECG

0938

- Stroke Neuro call back

XXXX

- Telehealth connection made & patient assessed by stroke neurologist

0947

- Decision to give tPA

0950

- tPA bolus initiated
- Red Referral initiated

1020

- Patient transferred to UofA for endovascular intervention

DTN 26 minutes!

What Went Well

- Notification & patient demographics pre arrival
- Code Stroke activated
- RAAPID activated while in CT
- Quick neuro callback
- Early telehealth connection

Becoming Better

- Revision of EMS stroke screen
- Introduction of LAMS score to further improve DIDO times
- Offer "NIHSS in a Nutshell" lunch and learns as a refresher to staff and physicians
- Improved ER documentation

Case Study #2
82 year old female

Signs and Symptoms

- Aphasia
- Right sided weakness
- Right sided facial droop
- NIHSS 4

VS

36.4–65-20 257/112
SpO_2 98% 2L via NP

C/S 7.8

GCS 12

Event History

- LSN 1000
- Brought in by EMS from home. Arrived @ 1120h

Previous Medical History

- HTN, dyslipidemia, OA, lumbar stenosis

Medications

- Atorvastatin, Nabumetone, Sertraline, Coversyl, Vit. D, Calcium & Multivitamin

1120

- Patient arrival by EMS w. one IV in situ
- Swarm completed
- Direct to CT

1132

- RAAPID paged

1135

- Return from CT.

XXXX

- Stroke neuro callback

XXXX

- Decision to give tPA

1143

- Labetalol 10 mg IV

1155

- Hydralazine 10mg IV

1201

- tPA bolus initiated

DTN 41 minutes!

What Went Well

- Process flow followed to a "T" by EMS and ER staff on arrival: prenotification w/ ETA and demographics; swarm; direct to CT; tPA inclusion/exclusion pre filled as much as possible.

Becoming Better

- Only 1 IV by EMS
- CHARTING CHARTING CHARTING
- Consider role assignment to make sure that things do not get missed
- ?Early BP management
- Improved coverage at triage with "code stroke"
- Improved communication

Tips, Tools and Tidbits

- Make sure someone is posted at triage when code stroke is activated
- With so much focus on ischemic stroke – ask: Do we know what to do with **hemorrhagic** strokes? Do we know what reversal agents are available and where they are located? Are nurses comfortable in the administration of these medications?
- Stroke Neurologist Consultation Form an effective tool for recording conversation between ER docs and stroke neurologists so the attending docs are kept in the loop.

Alberta Health Services

Affix Patient Label

Stroke Neurologist Consultation Report

Patient's Name _____

Attending Physician _____

Consulting Stroke Neurologist _____

Date of Request _____ Time of Request _____ Time of Callback _____

STROKE NEUROLOGIST'S COMMENTS: _____

_____

_____

_____

_____

STROKE NEUROLOGIST'S RECOMMENDATIONS:

	Yes	No	Notes
CT			
CTA			
Telestroke Connection			
tPA			
Antiplatelet Agent			
VTE prophylaxis			
Echocardiogram			
Holter Monitor			
Carotid Dopplers			
Follow up CT			
Follow up Neuro Consult			
Other:			

Signature of Attending Physician _____

Note: For the purpose of communication with admitting physician. This is NOT an order sheet.
Please use admission order sets located in Stroke/TIA admission binders in accordance with Stroke Best Practice Guidelines.


More Tips, Tools & Tidbits?...
Any Questions?...Comments?