September 2014

The Journey to Comprehensive Stroke Center Certification

OHSU Stroke Program Coordinator: Karen Ellmers, RN, MS, CCNS
PBSI Regional Stroke Program Director: Vinnie Watkins RN, MSNEd

Objectives

- Purpose & background
- Services and advance requirements
  - major elements of the Comprehensive Stroke Center Certification
  - specific ways a program can meet these elements
- Benefit to the stroke patient, the hospital & community

Purpose / Background

Patient Benefit

- Improve quality of care
- Includes patient-focused outcomes
- Deliver the full spectrum of care to seriously ill patients with stroke and cerebrovascular disease

Purpose / Background

Hospital Benefit

- Creates a loyal, cohesive clinical team
- A culture of excellence
- Provides services beyond the scope of other hospitals
- Recognizes achievement
- Supports significant differences in resources, infrastructure, staff and training required to provide state-of-the art care to treat the most complex stroke cases

Purpose / Background

Community Benefit

- Independent assessment of program and services
- Recognized by select insurers and other third parties
- Opportunity to partner with hospitals statewide for advanced care

Purpose / Background

Stroke Certifications

- State stroke designation
- National stroke certification
- Over 1146 PSCs
- Over 91 CSCs

Evidence-Based Practice

Stroke

American Heart Association | American Stroke Association

Recommendations for Comprehensive Stroke Centers: A Consensus Statement From the Brain Attack Coalition

Mark J. Alberts, Richard E. Latchaw, Warren R. Selman, Timothy Shephard, Mark N. Hadley, Lawrence M. Brass, Walter Koroshetz, John R. Marler, John Booss, Richard D. Zorowitz, Janet B. Croft, Ellen Magnis, Diane Mulligan, Andrew Jagoda, Robert O'Connor, C. Michael Cawley, J.J. Connors, Jean A. Rose-DeRenzy, Marian Emr, Margo Warren and Michael D. Walker

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National Programs

Det Norske Veritas (DNV)

- Based in Cincinnati Ohio
- Main locations in Norway and Germany
- incorporate elements from
  - NIAHO®
  - BAC
  - AHA/ASA

Healthcare Facilities Accreditation Program

- Deeming authority from CMS.
- BAC guidelines
- 3-year certification period with a mid-cycle review at eighteen months

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National Programs

Joint Commission

- First stroke disease specific certification 2002
- Available only to Joint Commission-accredited acute care hospitals
- 2 year certification
- Based on national guidelines from BAC
- AHA/ASA endorsed

Pacific Northwest

- How many certified centers in the NW?
- Oregon
  - 14 certified PSC
  - 2 certified CSC (OHSU in March 2013 & Providence St. Vincent in June 2014)
  - the rest are acute stroke ready, or approaching that
- Washington
  - Tiered state system that is self designated
  - 20 certified PSC
  - 1 certified CSC (Harborview in June 2013)
- Idaho
  - 4 certified PSC
  - 0 certified CSC

Comprehensive Stroke Center Certification

Services Provided

Advanced Requirements

Acute Stroke Ready

- Typically small facilities serving small cities or rural populations.
- Stroke patient population volume low.
- Limited staffing & bed availability.

Acute Stroke Ready

- Receives patient from EMS or other mode:
  - Initial triage and diagnosis
  - Establish telemedicine link
  - Acute stabilization
  - Acute treatment
  - Transfer as needed based on level of care needed

Acute Stroke Ready

Schwamm, LH (2009). Stroke 40(7):2635-2660

- Recommended elements:
  - At least 2 staff members able to be at patient bedside within 15 minutes, 24/7
  - Able to do rapid brain imaging within 45 minutes
  - IV thrombolytic protocol with goal of door to needle within 60 minutes
  - Written transfer protocols
  - Telemedicine link within 20 minutes

Special Report

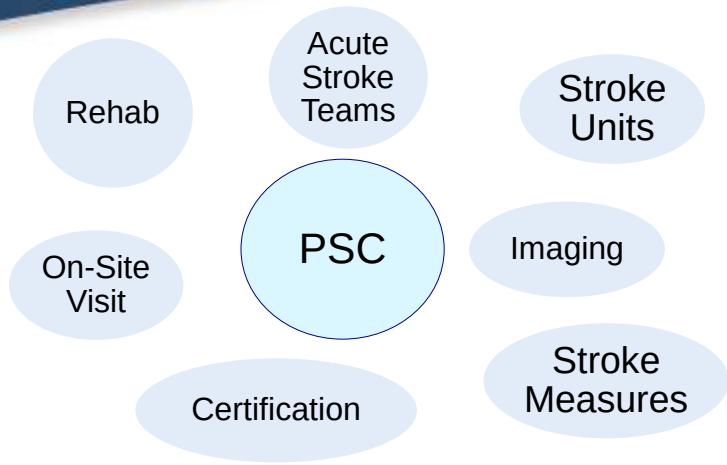
Revised and Updated Recommendations for the Establishment of Primary Stroke Centers

A Summary Statement From the Brain Attack Coalition

Mark J. Alberts, MD; Richard E. Latchaw, MD; Andy Jagoda, MD; Lawrence R. Wechsler, MD; Todd Craven, MD; Mary G. George, MD; E.S. Connolly, MD; Barbara Mancini, RN; Stephen Pradhomme, MSc; Daryl Gross, MD; Mary E. Jensen, MD; Robert Ruas, MD; Robert Ruff, MD; Kathy Foell, MS; Rocco A. Armonda, MD; Marian Eme, BS; Margo Warren, BA; Jim Baranski, BS; Michael D. Walker, MD; for the Brain Attack Coalition

Stroke, 2011; 42:2651-2665

Primary Stroke Centers (Stroke, 2000)



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Primary Stroke Center

- Mostly urban and suburban
- Typically 300+ stroke patient admissions per year
- Same level of care 24/7/365
- All attributes of acute stroke ready, plus….

Primary Stroke Center

- Patients admitted to units with interdisciplinary personnel with demonstrated competency in care of the stroke patient population, including early initiation of rehabilitation plan of care.
- Written care protocols, including links to pre-hospital care.
- Advanced imaging.
- Neurosurgeon available within 2 hours of need being identified (on site or via transfer plan).
- Outcome and quality improvement activities.
- Coordination of transitions of care within hospital and post discharge.
- Community educational programs.

Primary Stroke Quality Measures

STK-1 Venous Thromboembolism Prophylaxis

STK-2 Discharged on Antithrombotic Therapy

STK-3 Anticoagulation Therapy for Atrial Fib/Flutter

STK-4 Thrombolytic Therapy

STK-5 Antithrombotic Therapy By End of Hospital Day 2

STK-6 Discharged on Statin Medication

STK-8 Stroke Education

STK-10 Assessed for Rehabilitation

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Special Report

Recommendations for Comprehensive Stroke Centers

A Consensus Statement From the Brain Attack Coalition

Must show that you deliver care based on these published guidelines.

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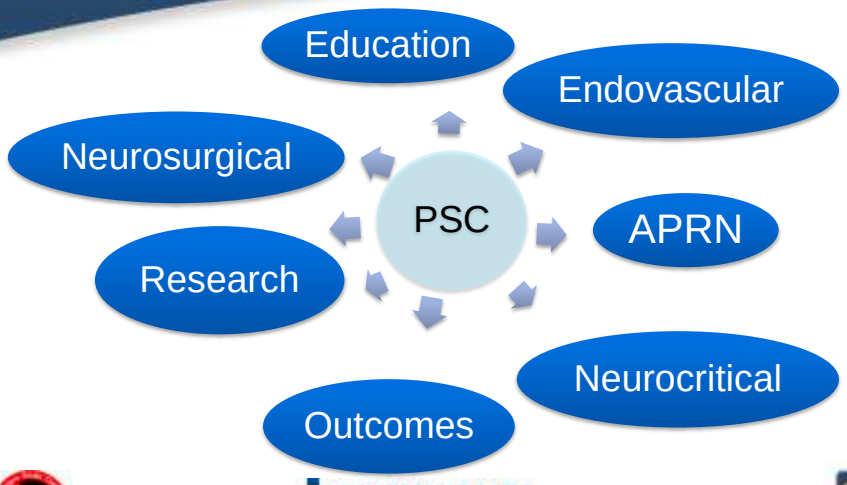
Comprehensive Stroke Center (Stroke, 2005)



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Comprehensive Stroke Center

- Everything we've discussed so far, plus…..
- Health care personnel with specific expertise in a number of disciplines, including neurosurgery and vascular neurology.
- Advanced neuroimaging capabilities, such as MRI and various types of cerebral angiography, 24/7/365, most within 30 minutes of clinical need.
- Surgical and endovascular techniques, including clipping and coiling of intracranial aneurysm, carotid endarterectomy and stenting, and intra-arterial thrombolytic therapy.
- Infrastructure and programmatic elements such as a dedicated neuro intensive care unit staffed with neurointensivists.
- Post hospital care coordination.
- Extensive data collection and peer review process.
- Participation in stroke research.

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Comprehensive Stroke Measures

CSTK-01: NIHSS Score Performed for Ischemic Stroke Patients

CSTK-02: mRS at 90 Days

CSTK-03: Severity Measurement Performed for SAH and ICH Patients

CSTK-04: Procoagulant Reversal Agent Initiation for (ICH)

CSTK-05: Hemorrhagic Transformation Overall Rate

CSTK-06: Nimodipine Treatment Administered

CSTK-07: Median Time to Revascularization

CSTK-08: Thrombolysis in Cerebral Infarction (TICI) Post-Treatment Reperfusion Grade

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Certification Process

- Significant preparation and resources
- 2-day, 2-person review
- Department and provider engagement
- Physician advanced care focus

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Comprehensive Stroke Center

- Enhances the ability to analyze and optimize how patients move through the system (EMS on through back into community).
  - It allows for more team thinking of how we all work together to provide an efficient & optimal patient experience, rather than just thinking in silos about what occurs in and would work best for my own department.
- Regular communication among stakeholders through an organized committee/advisory group structure helps to reinforce the team concept, helps to identify common goals, sets clear priorities, and builds positive working relationships.

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Stroke Systems of Care

Higashida, R., et al. (2013). Stroke 44

- Does it make a difference?
  - Compared to general hospitals, Primary Stroke Centers have:
    - Higher tPA treatment rates
    - Lower death rates
    - Improved outcomes
  - Being certified by an independent licensing body increases effectiveness of overall stroke care.
  - The focus is on the entire continuum.

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OHSU Experience

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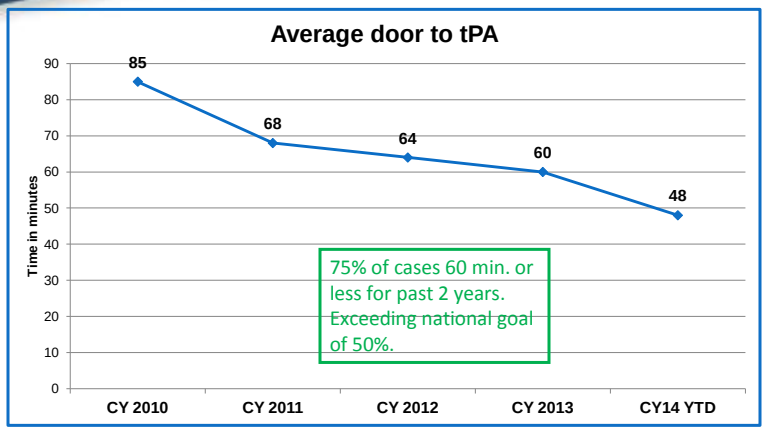
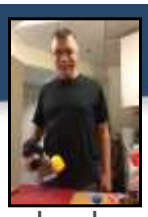
OHSU's experience



OHSU experience



- Rehabilitation professionals are regularly involved with the stroke patient population during their hospital stay, but also to ensure people stay on the post discharge rehabilitation continuum with the help of a Rehabilitation Navigator.
- All patients are screened for depression, respite planning needs, and caregiver support, as needed by the social worker.

Depression screening hospital day 2 or before discharge:

- ✓ All stroke patients will have an order placed for depression screening on admission:

- ✓ If the social worker is not already following your patient related to depression issues, complete the depression screen found in the Adult Assessment under the Coping section:

- ✓ Remember, recording action taken in the doc flowsheet itself does not initiate a referral to social work. Refer to the information above on how to place a referral to social work.
- ✓ If unable to assess, the nurse attempts to complete the screen the following shift.
- ✓ If it is anticipated that the patient will remain UTA due to ongoing aphasia and/or cognitive impairment, page or enter RN referral for social worker consult in Epic so they can provide depression-related education to the family.
- ✓ Be flexible, the point is to screen them at some time prior to discharge and pass on any identified

OHSU experience

- We initiated our telestroke program in 2010.
- We have 10 partner sites and completed over 200 telestroke consults in 2013.
- 40% of the consults now remain in their home community and the rest transfer for acute stroke treatment and/or higher level of care.
- Thrombolytic treatments rates at the partner sites has increased with reduced complication rates.

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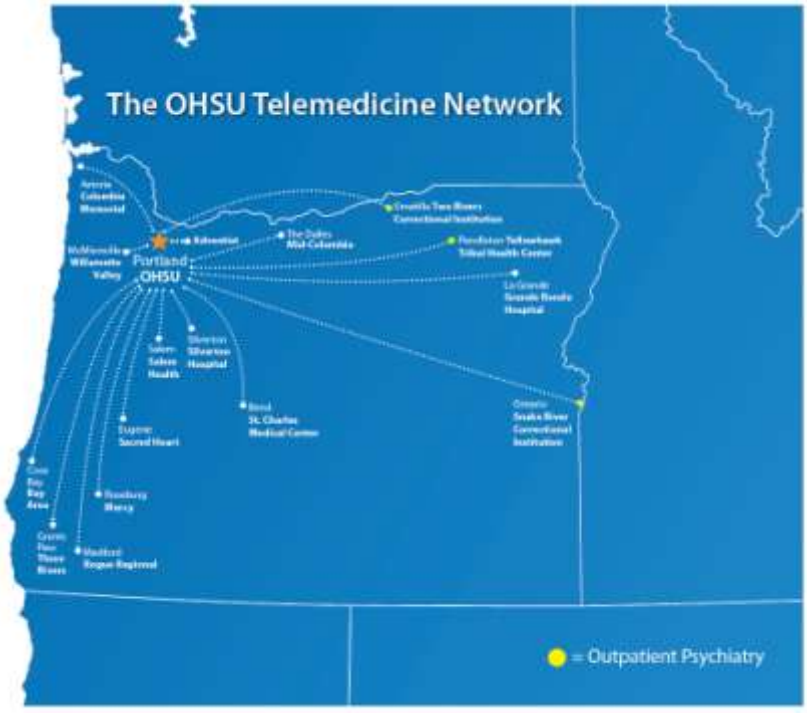

OHSU experience

- Creating and maintaining a CSC requires a coordinated interdisciplinary effort.
- A CSC enhances the ability to analyze and optimize how patients move through the system and back into their home community.
- Regular communication among stakeholders through an organized committee/advisory group structure helps to reinforce the team concept, helps to identify common goals, sets clear priorities, and builds positive working relationships.
- Being certified by an independent licensing body increases effectiveness of overall stroke care through increased treatment rates and improved outcomes.

Truly an interdisciplinary effort!

- EMS
- Emergency Department
- Neurology
- Neurosurgery
- Interventional Neuroradiology
- Anesthesiology
- Intensivists
- Telemedicine
- Nursing
  - Managers
  - Educators
  - Staff nurses
- Radiology
- Laboratory Services
- Nutrition Services
- Rehabilitation Services
- Pharmacy Services
- Care Management
- Social Work
- Quality Improvement
- Stroke Program Coordinator
- Administration

Stroke Systems of Care

- The real goal is to try to prevent stroke and to return as many people as possible to their highest functional status.

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Around the clock, around the region, our stroke specialists are with you when every minute counts.

The Journey to Comprehensive Stroke Center Certification

Providence St Vincent Experience

American Heart Association
American Stroke Association
CERTIFICATION
Meets standards for
Comprehensive Stroke Center

Providence St. Vincent Comprehensive Stroke Center

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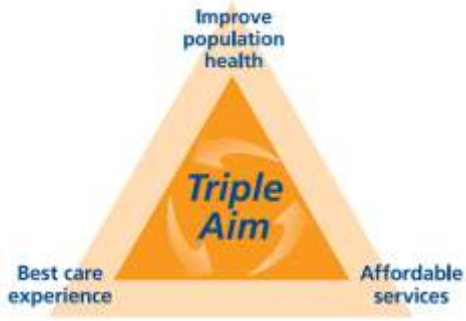
Shared Benefits

- Patient
- Hospital
- Community



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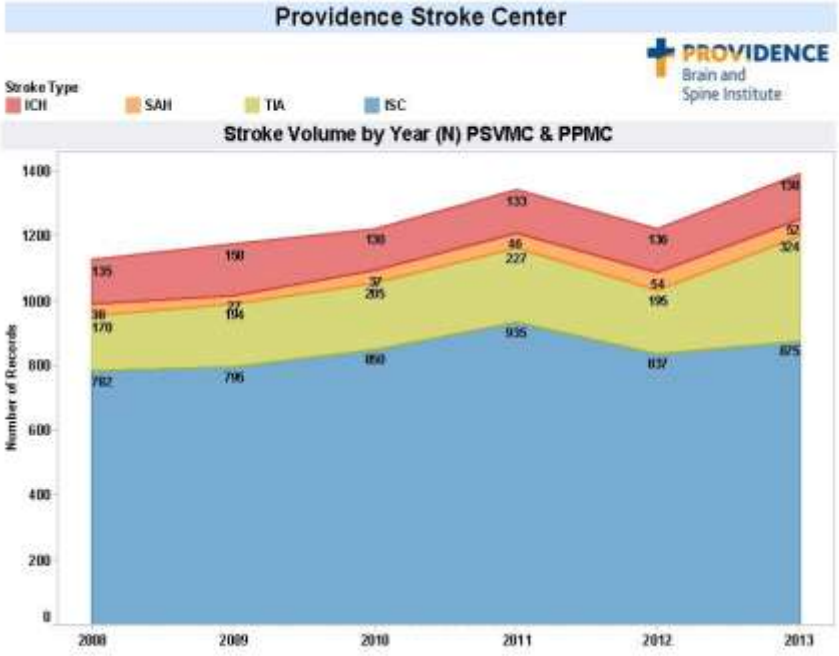

Providence St. Vincent Comprehensive Stroke Center

Around the clock, around the region, our stroke specialists are with you when every minute counts.

Benefit to Hospital & Community

Tick-tick-tick ……Time is brain

- FAST face to face access to stroke neurologists within minutes.
- FAST Assistance with t-PA and other treatment decisions

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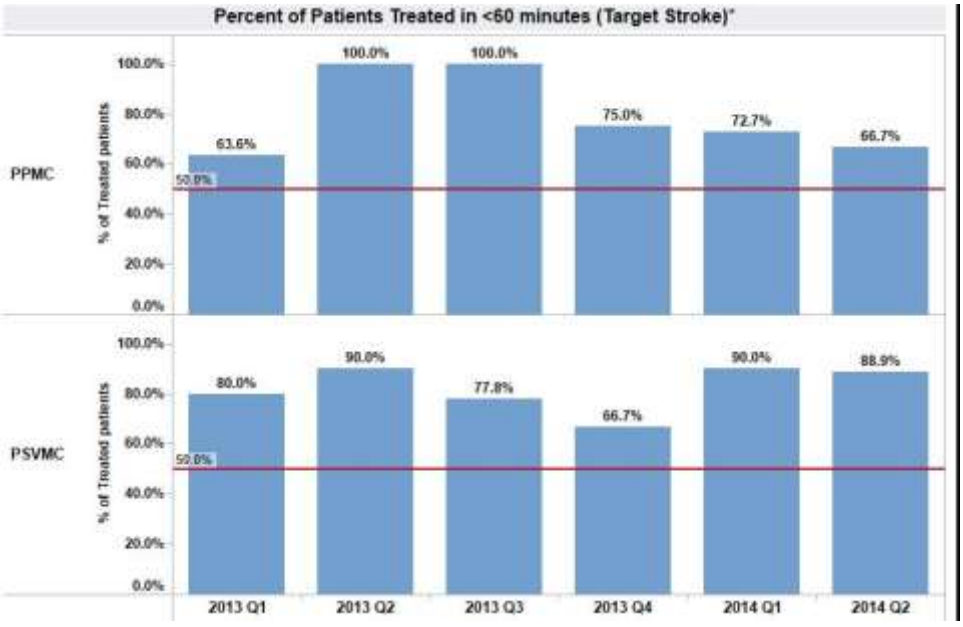

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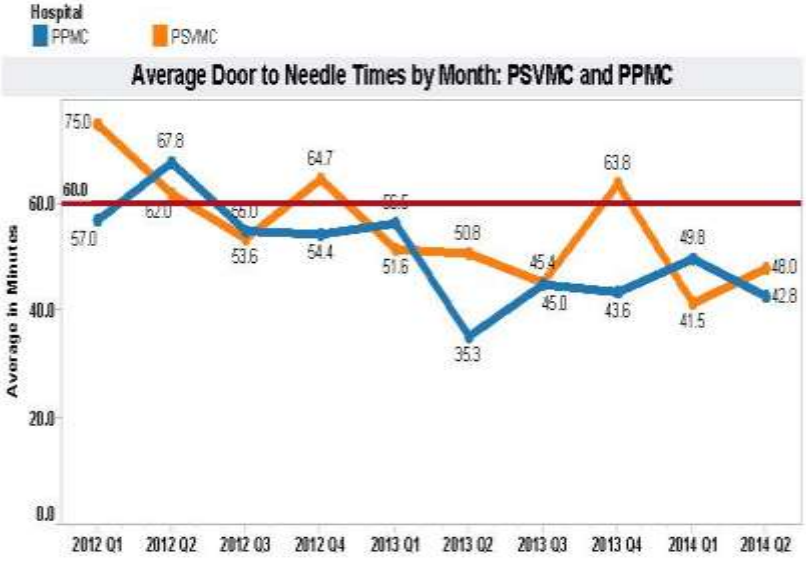

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Providence
Telestroke Network

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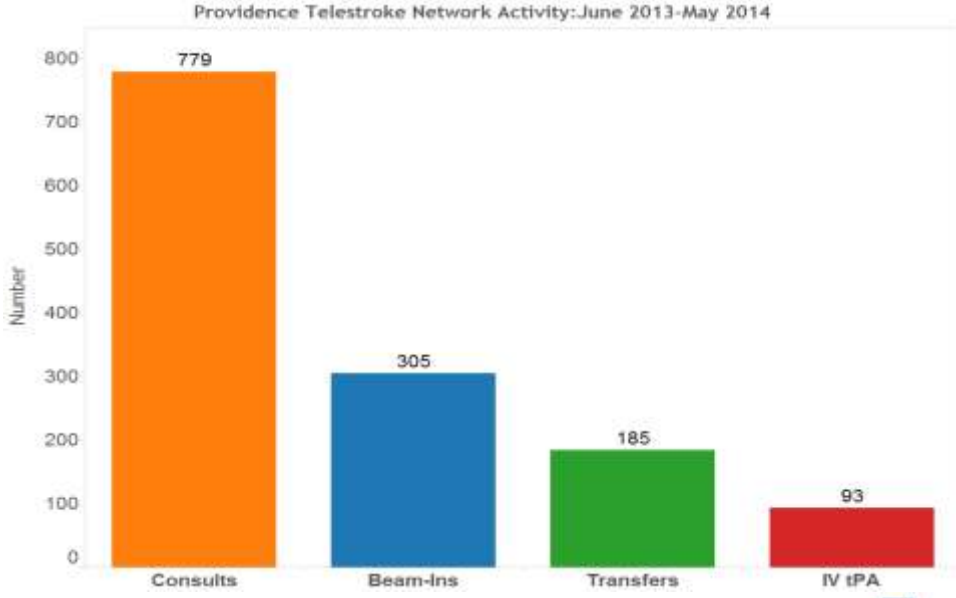
PTSN

- **17 Partners**
  - **2 PSCs**
  - **7 CAH**
  - **2 Frontier**
- **2 Hubs**
  - **1 PSC**
  - **1 CSC**



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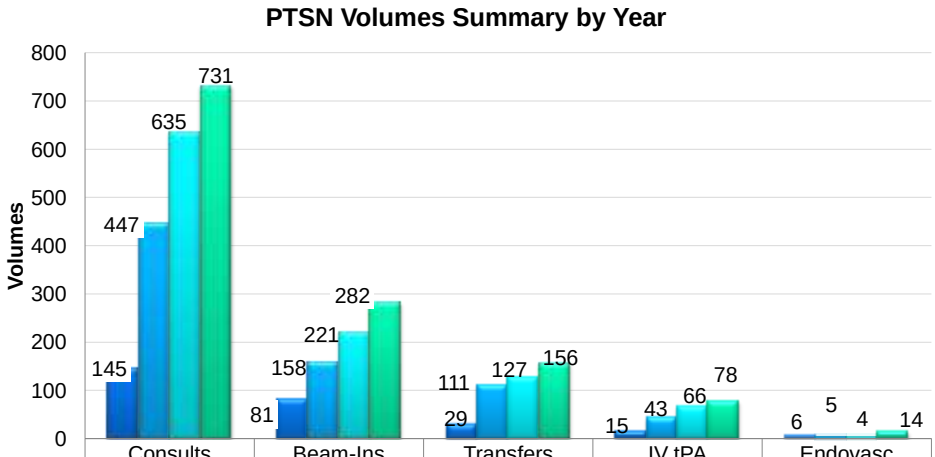

	Consults	Beam-Ins	Transfers	IV tPA	Endovasc
2010	145	81	29	15	6
2011	447	158	111	43	5
2012	635	221	127	66	4
2013	731	282	156	78	14

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Physician Response Times

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Telestroke Consult Response Time				
Total	Average (minutes)	Minimum (minutes)	Maximum (minutes)	St. Deviation (minutes)
686	1.98	0.00	15.00	2.67

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Around the clock, around the region, our stroke specialists are with you when every minute counts.

- Education training and support for providers
- Keep patients in their community
- Streamlined transport for complex stroke when needed

	2010 (n=145)	2011 (n=447)	2012 (n=635)	2013 (n=731)
% Phone	44.1%	64.7%	65.2%	61.4%
% Beam-In	55.9%	35.3%	37.8%	38.5%
% Transfer	20.0%	24.8%	20.0%	21.3%
% IV tPA	10.3%	9.6%	10.4%	10.7%
% Endovasc	4.1%	1.1%	0.6%	1.9%

Summary

Comprehensive Stroke Center Certification:

- Designed to improve patient care and outcomes
- Independent recognition for quality standards of care
- Expanded advance care services and intensive resources
- Specialized healthcare providers
- Neurocritical care management
- Care management from pre-hospital to post-discharge
- Increased awareness and education for healthcare providers, patient and community
- Reduce death and disability and improve quality of life for stroke patients and their loved ones

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Conclusion

By working together as a professional healthcare network for stroke care, we can

- *Establish an informed community through public and professional education*
- *Increase stroke awareness and options for care*
- *Improve primary and secondary prevention*
- *Provide accessible, appropriate acute care management for all stroke patients in Oregon*

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Conclusion

If we work together, we will reduce death and disability and improve outcomes and quality of life for stroke patients and their caregivers.

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Questions?

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Q&A

- What are three recommended attributes of an acute stroke ready hospital?
  a. Urban, large hospital, telemedicine network.
  b. Inpatient rehabilitation unit, tPA ready, MRI capability.
  c. Provides initial triage & acute stabilization, tPA ready, written transfer plans.

Q&A

- What are three recommended attributes of a Primary Stroke Center?

a. Hemorrhagic stroke capable, Neuro ICU, written transfer plans.

b. Advanced neuro imaging, neurosurgeon available within 2 hours, full array of Rehabilitation Services.

c. Endovascular capability, inpatient rehabilitation unit, tPA ready.

Q&A

- What are three requirements for a JC certified CSC?

a. **Surgical & endovascular capabilities, dedicated Neurosciences ICU, post hospital care coordination.**

b. Written transfer plans, tPA ready, CT capability.

c. Initial triage & acute stabilization, ischemic strokes only, Rehabilitation Services.