

# >> The Oregon Stroke Care Committee Report to the 2017 Legislature



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**Health**  
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PUBLIC HEALTH DIVISION  
Health Promotion and Chronic Disease Prevention

# Acknowledgments

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# Executive summary

The 2013 Oregon State Legislature passed Senate Bill 375 establishing the Stroke Care Committee (SCC) under the Oregon Health Authority (OHA). OHA's Public Health Division supports the activities of the SCC and reports on its progress. This is the second legislative report on the SCC's progress to improve stroke prevention, treatment and rehabilitation. This report reviews SCC activities and makes recommendations to improve stroke care in Oregon.

According to Oregon Revised Statute (ORS) 431A.530, the objectives of the SCC are to:

- *Use data to assess the prevention and treatment of stroke*
- *Identify ways to improve stroke care and*
- *Advise the OHA on how to meet objectives that improve stroke care systems.*

## Key SCC activities

**The SCC completed the following activities from 2015 through 2016:**

- Surveyed emergency medical service (EMS) providers and hospitals to better understand how stroke care is provided in Oregon.
- Selected a database and specific measures to monitor the stroke care quality provided by hospitals.
- Used data to assess specific aspects of stroke care provided by EMS providers and hospitals.
- Reviewed OHA stroke prevention efforts.

## Key findings

**Treatment of stroke in Oregon is improving.**

- From 2010 to 2015, data reported by hospitals show:
  - » The time it took patients to receive medication to dissolve blood clots decreased by nearly 30 minutes.
  - » The percent of patients that received clot-dissolving therapies increased by 40 percent.
  - » The percent of stroke patient notifications by EMS providers to hospitals prior to arrival more than doubled to nearly 65 percent.

**OHA is implementing evidence-based stroke prevention strategies with local public health departments, health payers and other partners to:**

- Reduce tobacco use
- Increase healthy eating
- Increase physical activity
- Reduce alcohol misuse
- Manage blood pressure and cholesterol.

**EMS providers need regionalized emergency stroke care systems that:**

- Help direct EMS providers where to transport stroke patients for the best care
- Are responsive and adaptive to services available in different areas of the state
- Support EMS decision-making about where to transport potential stroke patients.

**Opportunities to continue improvement for stroke care in hospitals were identified. A survey of hospitals that diagnose and treat stroke revealed:**

- *One in five* hospitals that were not comprehensive stroke centers lacked formal procedures to reroute and transfer stroke patients.
- *One in seven* did not have standard emergency room stroke care procedures.
- *One in three* did not have standard stroke care procedures for admitted patients.
- *One in four* were not part of a Telestroke network that can support stroke treatment.

**A preliminary review of stroke rehabilitation care indicated that:**

- Accessing rehabilitation care can be challenging in regions where the number of specialty care providers or skilled facilities is limited.
- This is especially true in eastern and coastal regions.

## Recommendations

The SCC recommends that OHA:

- Use adopted data measures to monitor stroke care for continuous quality improvement
- Ensure that all comprehensive and primary stroke centers in Oregon report stroke care data to OHA's selected database
- Continue evidence-based prevention efforts to reduce risk factors for stroke and other chronic conditions
- Promote the adoption of American Heart and Stroke Association guidelines for stroke treatment among all acute care hospitals in Oregon
- Promote the adoption of a statewide policy to support EMS providers' transport of stroke patients to the most appropriate care facility.

# Introduction

Stroke is the fifth leading cause of death in Oregon. In 2015, more than 1,800 Oregonians died from stroke.<sup>(1)</sup> Stroke causes long-term disability for many that survive.

In Oregon, approximately 3.2 percent (or 100,700) adults report they have had a stroke in their lifetime.<sup>(2)</sup> In 2014, nearly 8,000 people were hospitalized for stroke in Oregon,<sup>(3)</sup> with an estimated cost of \$146 million.<sup>(4)</sup>

The 2013 the Oregon Legislature passed Senate Bill 379, which established the Stroke Care Committee (SCC) under the Oregon Health Authority (OHA). The primary objectives of the SCC are to improve the quality of Oregon's stroke care. Oregon Revised Statute (ORS) 431A.530 defines the objectives as:

1. Analyze data related to the prevention and treatment of strokes
2. Identify potential interventions to improve stroke care and
3. Advise the OHA on progress toward these objectives including emergency medical services and trauma system development related to stroke care.

The SCC's purpose is to recommend to OHA how to develop and implement a plan to achieve continuous quality improvement in Oregon's stroke care. The SCC is to describe to OHA how Oregon stroke patients receive care, and how to improve the quality of care across the system of care to improve individual patient and population health outcomes.

The SCC is comprised of members who represent key roles within the system of stroke care, as defined in Oregon Revised Statute 431A.525. Current members of the SCC are listed below.

Member	Committee membership role	Member affiliation
Theodore Lowenkopf, MD (Chair)	Neurology physician specializing in stroke care	Providence Stroke Center
Elaine Skalabrin, MD	Neurology physician specializing in stroke care	PeaceHealth Sacred Heart Medical Center
Ritu Sahni, MD, MPH	Physician specializing in emergency medicine	Providence Portland Medical Center
Hormozd Bozorgchami, MD	Comprehensive stroke care hospital administrator	Oregon Health & Science University
Martin Gizzi, MD, PhD	Primary stroke center hospital administrator	Legacy Health System
Trece Gurrad, RN	Rural hospital administrator for a hospital using Telestroke	Columbia Memorial Hospital
Charity Gillette, RN	Nurse with experience treating stroke as a stroke coordinator in an emergency room	Asante Rogue Regional Medical Center
Shawn Baird, MA, EMTP	Emergency medical provider for a licensed ambulance service	Woodburn Ambulance Service
Viviane Ugalde, MD	Practitioner who specializes in rehabilitative medicine	The Center Orthopedic & Neurosurgical Care & Research
Mick Smith, BA, FF, EMTP	Advocate for stroke patients who is not a health care provider	American Heart and Stroke Association

This is the second legislative report on the progress to improve stroke care along the continuum of care – i.e., prevention, acute care and post-stroke rehabilitation.

# 2015–2016 SCC accomplishments

The OHA Public Health Division convenes and supports the activities of the SCC. The SCC accomplished the following activities in 2015 and 2016:

1. Conducted quarterly public meetings
2. Established and maintained a Data Workgroup and a Rehabilitation Workgroup to support the activities of the SCC
3. Conducted surveys of emergency medical service (EMS) providers and hospitals that provide care for acute stroke patients to better understand acute stroke care services throughout the state
4. Designated Get With the Guidelines<sup>®</sup>-Stroke (GWTG) as the database OHA will use to monitor the quality of stroke care in Oregon (per ORS 431A.530, GWTG aligns with the stroke metrics developed and approved by the American Heart and Stroke Association, the Joint Commission, and Centers for Disease Control and Prevention)
5. Established measures OHA will use to monitor the quality of stroke care provided by hospitals that report to GWTG
6. Analyzed data reported to GWTG by comprehensive and primary stroke centers and other acute care hospitals
7. Reviewed OHA stroke prevention efforts

# Findings

## Get With the Guidelines (GWTG) data

By statute, all Oregon comprehensive stroke centers (CSC) and primary stroke centers (PSC) are required to submit stroke care data to the database designated by OHA, which is GWTG. Currently 17 of the 19 CSCs and PSCs in Oregon report to GWTG. Statewide, hospitals that report to GWTG treat approximately 80 percent of strokes.

The GWTG measures that the SCC recommended OHA use to track acute stroke care include:

- Types of stroke
- Time from when patients were last known to be well to when they arrived at a hospital
- Notification of potential stroke cases by EMS to hospitals prior to patient arrival
- Time from patients' arrival at the hospital to imaging to confirm diagnosis and guide treatment
- Percent of patients with blood clots who are treated with medication or surgery
- Time it takes for patients to receive medication to dissolve blood clots following arrival at the hospital
- Percent of patients who receive all appropriate treatments and
- Percent of patients with complications after receiving blood clot dissolving medications.

**Stroke care is improving.** Most recent GWTG data from 2010 through 2015 indicate that acute stroke care is improving across these measures. Three key measures show significant improvement. The time it took patients to receive medication to dissolve blood clots decreased by nearly 30 minutes, the percentage of patients that received clot-dissolving therapies increased by 40 percent, and the percent of potential stroke patient notifications by EMS to hospitals prior to arrival more than doubled to nearly 65 percent.

## Stroke prevention

OHA's stroke prevention efforts focus on increasing healthy behaviors and providing supports for chronic conditions that increase individual risk of stroke through evidence-based policy, system and environmental strategies. These strategies target reducing tobacco use, increasing healthy eating, increasing physical activity, reducing alcohol misuse, and managing blood pressure and cholesterol.

The SCC determined that OHA is working to implement key stroke prevention strategies including:

- Increasing the price of tobacco, sugary beverages and alcohol
- Reducing youth and adult exposure to tobacco products
- Expanding tobacco-free environments
- Increasing access to comprehensive tobacco cessation services
- Increasing the adoption of healthy food and beverage standards
- Incorporating health in land use and transportation policy and initiatives
- Promoting a health system infrastructure that supports effective prevention, early detection and self-management of chronic diseases and related risk factors.

## EMS Survey

To better understand the benefits of a defined stroke triage system in Oregon, the SCC determined a need to assess acute stroke care treatment capabilities and systems. EMS providers were surveyed regarding the transfer of acute stroke patients. The survey included questions about protocols for patient assessment and transfer, communication with hospitals, and stroke care quality improvement activities.

EMS representatives of the SCC noted the following findings:

- EMS providers often face competing interests to determine where to transport a stroke patient – e.g., closest acute care facility, patient preference, federal and state regulations, and acute care facility with the most appropriate care services.
- A regionalized emergency stroke care system would greatly benefit critical care decisions noted above.
- Stroke care requires clear guidance for triage, transport and treatment to support EMS decision-making about where to transport potential stroke patients.

## Hospital Survey

As part of the need to assess acute stroke care treatment capabilities and systems to understand the benefits of a defined stroke triage system in Oregon, the SCC conducted a survey of hospitals that diagnose and treat acute stroke. The survey assessed stroke care certification status, stroke diagnostic and treatment services, and communication with EMS providers. Sixty-three hospitals received the survey and 46 responded. Survey respondents represented acute care hospitals across the state, although 90 percent of non-responding hospitals were from rural areas.

SCC Data Workgroup members noted the following findings, which indicated that stroke care is improving and identified opportunities to improve stroke care in Oregon. Of the 46 responding hospitals:

- All stocked clot-dissolving medications.
- All had acute stroke imaging capabilities to diagnose stroke and guide treatment.
- One in eight indicated they were capable of conducting surgeries to remove blood clots in the brain.
- One in five that were not comprehensive stroke centers lacked formal protocols to divert and transfer stroke patients.
- One in seven did not have standardized emergency room care orders.
- One in three did not have standardized inpatient care orders.
- One in four indicated they were not part of a Telestroke network, which can support treatment decision-making when stroke expertise is not available.
- One in three without formal stroke certification were interested in assistance obtaining certification.

## Stroke rehabilitation

Members of the SCC Rehabilitation Workgroup conducted a preliminary review of stroke rehabilitation care in Oregon. Their initial findings are that, while Oregon has many available multi-disciplinary rehabilitation services, accessing rehabilitation care can be challenging in regions where the number of specialty care providers or skilled facilities is limited. This is especially true in Oregon's eastern and coastal regions.

To improve the quality of post-acute stroke care in Oregon, the SCC determined the need to assess patient access to stroke rehabilitation resources across the state. The purpose of the survey is to gather information about the services available to patients upon discharge from the hospital, and to determine whether there are differences in availability in different areas. The survey will address patient referrals to services after hospital discharge, access to home care and rehabilitation therapists, insurance coverage and financial barriers to care. The responses will inform the SCC about the availability of essential post-acute stroke services and help determine recommendations for action.

# Stroke Care Committee recommendations to OHA

For continuous improvement in the quality of stroke care, the Stroke Care Committee (SCC) provided the following recommendations to OHA:

- Use SCC recommended GWTG data measures to monitor stroke care for continuous quality improvement, and ensure all primary stroke centers and comprehensive stroke centers in Oregon report to GWTG.
- Continue evidence-based stroke prevention interventions to reduce risk factors for stroke and other chronic conditions, as included in OHA plans and Medicaid incentive measures.
- Promote the adoption of the most current American Heart and Stroke Association guidelines for stroke treatment among all acute care hospitals in Oregon.
- Promote the adoption of a statewide EMS acute stroke triage policy to support EMS decision-making about where to transport potential stroke patients, similar to the state trauma program described in statute. The policy should allow the designated agency to establish through rule the following with recommendations made by the SCC:
  - » Guidance for triaging stroke patients
  - » Method of validation for hospitals to certify their level of stroke care and
  - » Method of hospital and EMS provider engagement related to patient care and outcomes for continuous quality improvement.

# End notes

1. Leading causes of death for males and females, Oregon residents, 2015. Oregon Vital Statistics Annual Report, 2015, Vol 2, Table 6-2. Available from: <https://public.health.oregon.gov/BirthDeathCertificates/VitalStatistics/annualreports/Volume2/Documents/2015/Table602.pdf>. Accessed Jan. 12, 2017.
2. Chronic diseases among adults, Oregon, 2015. Oregon Behavioral Risk Factor Surveillance System, 2015. Estimates are unadjusted. Available from: [https://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORAnnualBRFSS\\_diseases.pdf](https://public.health.oregon.gov/DiseasesConditions/ChronicDisease/DataReports/Documents/datatables/ORAnnualBRFSS_diseases.pdf). Accessed Jan. 12, 2017.
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4. Hospital discharge dataset, 2014, Oregon Health Authority, Health Promotion and Chronic Disease Prevention, Unpublished analysis.





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