COLORADO
Department of Public
Health & Environment
Dedicated to protecting and improving the health and environment of the people of Colorado

Dec. 27, 2017

The Honorable Joann Ginal
Chair, House Health, Insurance, and Environment Committee
Colorado State Capitol
200 East Colfax
Denver, CO 80203

The Honorable Jim Smallwood
Chair, Senate Health and Human Services Committee
Colorado State Capitol
200 East Colfax
Denver, CO 80203

RE: Annual report concerning the Stroke Advisory Board

Dear Representative Ginal and Senator Smallwood:

Pursuant to Senate Bill 13-225 and C.R.S. § 25-3-114, enclosed is the annual report of the Stroke Advisory Board, created within the Colorado Department of Public Health and Environment, Health Facilities and Emergency Medical Services Division. This report is being provided electronically to each member of the Health, Insurance, and Environment Committee of the House of Representatives and the Health and Human Services Committee of the Senate.

If you need any additional information concerning the Stroke Advisory Board or have questions regarding this report, please contact me at 303-692-2945 or via email at randy.kuykendall@state.co.us.

Sincerely,

D. Randy Kuykendall

D. Randy Kuykendall, MLS
Director
Health Facilities and EMS Division

Enclosure

cc: House Health, Insurance and Environment Committee
Senate Health and Human Services Committee

COLORADO
Health Facilities & Emergency Medical Services Division
Department of Public Health & Environment

Emergency Medical and Trauma Services Branch

2017
Stroke Advisory Board Legislative Report

January – December 2017

Submitted to the Colorado Legislature by the

Emergency Medical and Trauma Services Branch

Health Facilities and Emergency Medical Services Division

Colorado Department of Public Health and Environment

www.coems.info

2017 Stroke Advisory Board Legislative Report

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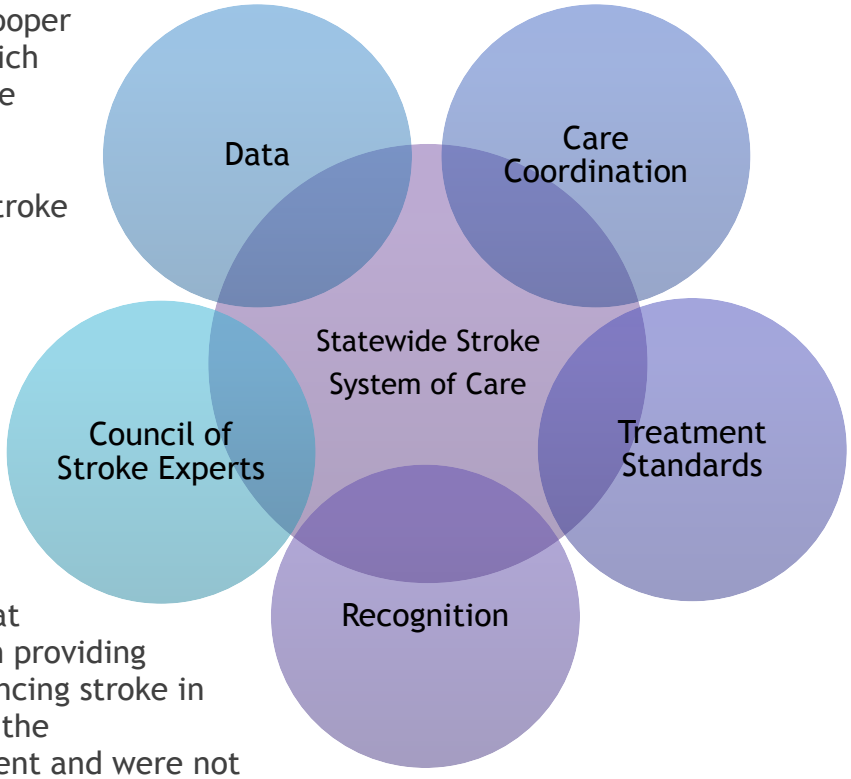
Executive Summary

On May 24, 2013, Gov. John Hickenlooper signed 25-3-115, C.R.S. into law, which called for the formation of the Stroke Advisory Board to make recommendations that address four different areas that could improve stroke care in Colorado: data registry, prevention and treatment, rural and urban coordination and state designation. The Stroke Advisory Board was instructed to produce an annual report on its progress each January until the board sunsets September 1, 2018.



In 2017, the board identified the overall goal to establish a system that supports all facilities and agencies in providing the best care for individuals experiencing stroke in Colorado. The board concluded that the recommendations were interdependent and were not appropriately represented as separate topics as in prior reports. In response, the board made a recommendation in favor of a statewide stroke system of care with each legislative topic as a component of that system. In this report, the topics will be expressed within the context of a multifaceted stroke system of care.

Recommendations: Statewide Stroke System of Care

The board recommends a statewide system of care for stroke that expands the existing state recognition of stroke centers. The board does not support state designation of stroke centers. The recommendation for a statewide system of care includes the following aspects which are expanded upon in this legislative report:

1. State recognition of stroke centers that is more inclusive than the current system
2. Data collection, analysis and feedback
3. A council of stroke experts that acts as a resource for facilities and agencies and formulates recommendations to the department on how to improve the system of care
4. Care coordination at the local and statewide level by connecting regions, facilities, other resources, the council of stroke experts and the department
5. Minimum standards that allow inclusion of facilities that are not nationally certified as a stroke center into Colorado's system of care for stroke

Definitions and Acronyms

Alteplase: A form of tissue plasminogen activator, tPA or “clot busting” drug that is an approved treatment for acute ischemic stroke.

CT: Computed tomography

EMS: Emergency Medical Services

G code: These are codes used in rehabilitation that measure a current functional status and include a functional goal. These measures are submitted to the Centers for Medicare and Medicaid Services.

HIPAA: Health Insurance Portability and Accountability Act of 1996 is federal legislation that defines requirements to safeguard medical information.

IV: intravenous

LVO: Large Vessel Occlusion is a type of ischemic stroke. The best practice is endovascular intervention to remove the obstruction and restore blood flow.

NIHSS: National Institutes of Health Stroke Scale

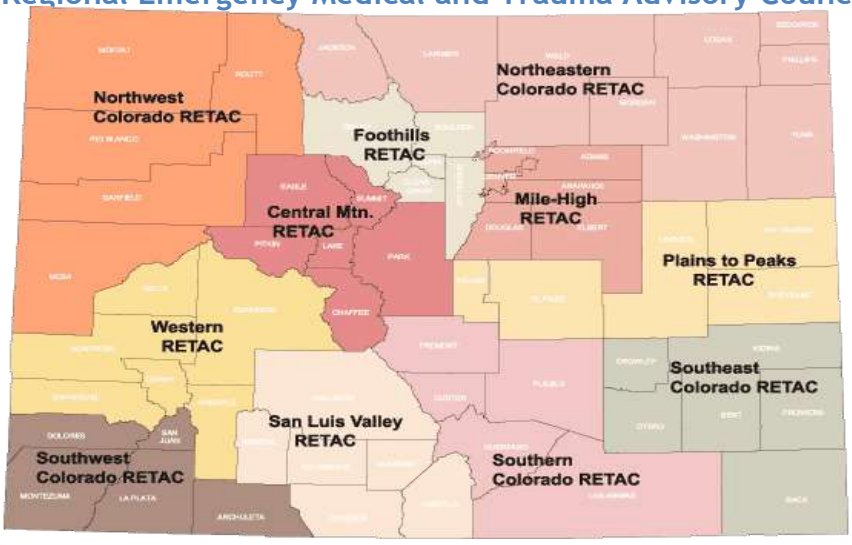
Recanalization: partial or complete re-opening of an artery

RETAC: Regional Emergency Medical and Trauma Advisory Council, also referred to as a region. Colorado has 11 different regions or RETACs, see Image 1.

The board: refers to the Colorado Stroke Advisory Board

The department: refers to the Colorado Department of Public Health and Environment

Image 1
Regional Emergency Medical and Trauma Advisory Councils



Background

On May 24, 2013, Gov. John Hickenlooper signed 25-3-115, C.R.S. into law. The bill called for the formation of the Stroke Advisory Board to make recommendations to improve stroke care in Colorado by addressing the following issues.

- State database or registry
- Public access to aggregated data
- Treatment and prevention of stroke using evidence-based practice
- Rural and urban care coordination
- Whether stroke designation is necessary to ensure quality care

The board is made up of 18 governor-appointed members and one ex-officio member from the department. A description of the board's membership is listed 25-3-115, C.R.S., located in Appendix 4. The current members are listed in Appendix 2. Meetings are facilitated by the Colorado Department of Public Health and Environment.

Stroke Advisory Board meeting information and materials can be found online at www.colorado.gov/pacific/cdphe/stroke-advisory-board.

In May 2017, the legislature adopted Senate Joint Resolution 17-027 which recognizes the need to expand access to effective stroke care through education and support for providers. Members of the Stroke Advisory Board supported the resolution and found that it aligned with the legislation that directs the work of the Stroke Advisory Board. Therefore, the board worked to make recommendations that could achieve the goals of this resolution and the legislation that guides the work of the Stroke Advisory Board.

Introduction

Treatment of acute stroke is time-sensitive requiring early intervention and effective rehabilitation to improve outcomes. In Colorado and the nation, stroke continues to be among the top five causes of death and a leading cause of disability as many stroke survivors experience lifelong impairment. In 2016, there were 1,925 deaths from cerebrovascular disease accounting for 5.1 percent of all deaths in Colorado.[1]

In 2017, the board compared stroke models of care across the United States, Canada and Europe to develop a compilation of the best aspects from each model that would meet the unique needs of Colorado. The recommendations were carefully crafted to avoid unintended consequences experienced by other states and concerns from stakeholders in Colorado. The proposed system of care is considered an exemplary model that provides sustainable quality improvement, targets support to facilities that need it the most, and empowers facilities to provide excellent care in the communities they serve without overburdening facilities or state resources. The board was especially sensitive to the potential costs to the citizens of Colorado, stroke survivors and facilities.

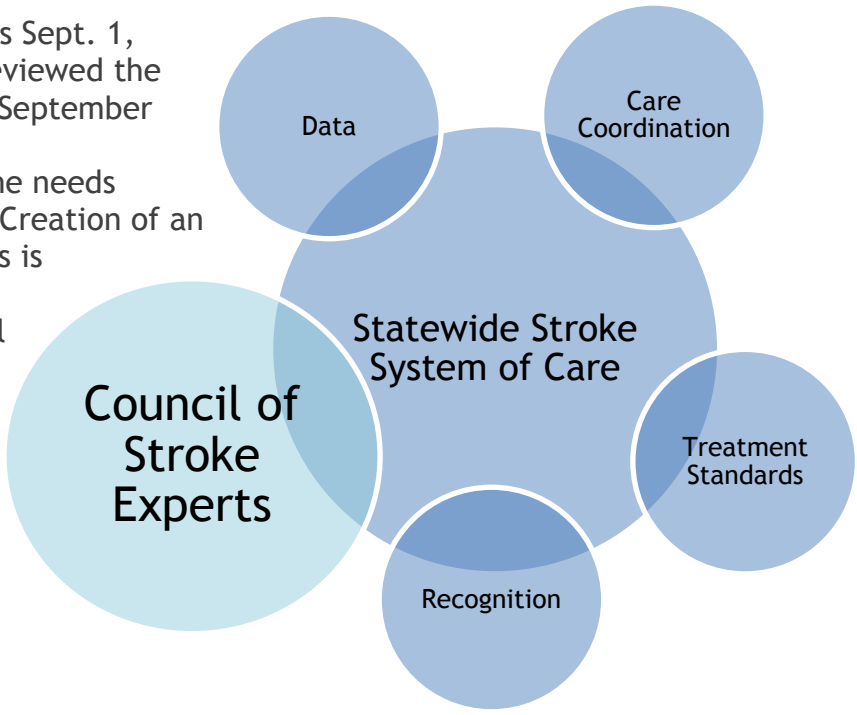
The board's commitment to Colorado's diverse partners in the stroke system of care was apparent through the public attendance that consistently matched the board's membership at meetings. Public partners were important in completing the board's work and contributed to crafting the recommendations. Strong public involvement allowed the recommendation vetting process to include voices from across Colorado.

This report will discuss how a council of stroke experts, data collection, care coordination and optimizing treatment guidelines could improve the overall system of care for stroke in Colorado.

[1] Colorado Health Information Dataset (CoHID) http://www.chd.dphe.state.co.us/cohid/

Council of Stroke Experts

The Stroke Advisory Board sunsets Sept. 1, 2018. This voluntary board has reviewed the system of care in Colorado since September of 2013 and provided annual recommendations that address the needs from Colorado's diverse regions. Creation of an on-going council of stroke experts is essential to sustain a statewide system of care. Without a council of stroke experts, Colorado would face challenges in sustaining a system of care as seen in other states. It would be in Colorado's best interest for a council of stroke experts to be appointed to continue the board's efforts with department facilitation.



Recommendations: Council of Stroke Experts

The board recommends the department convene a council of experts in stroke care to:

- Review de-identified and facility-blinded data
- Make recommendations for data measures
- Act as a resource for facilities or agencies that request assistance
- Make recommendations to the department on how to improve the stroke system of care

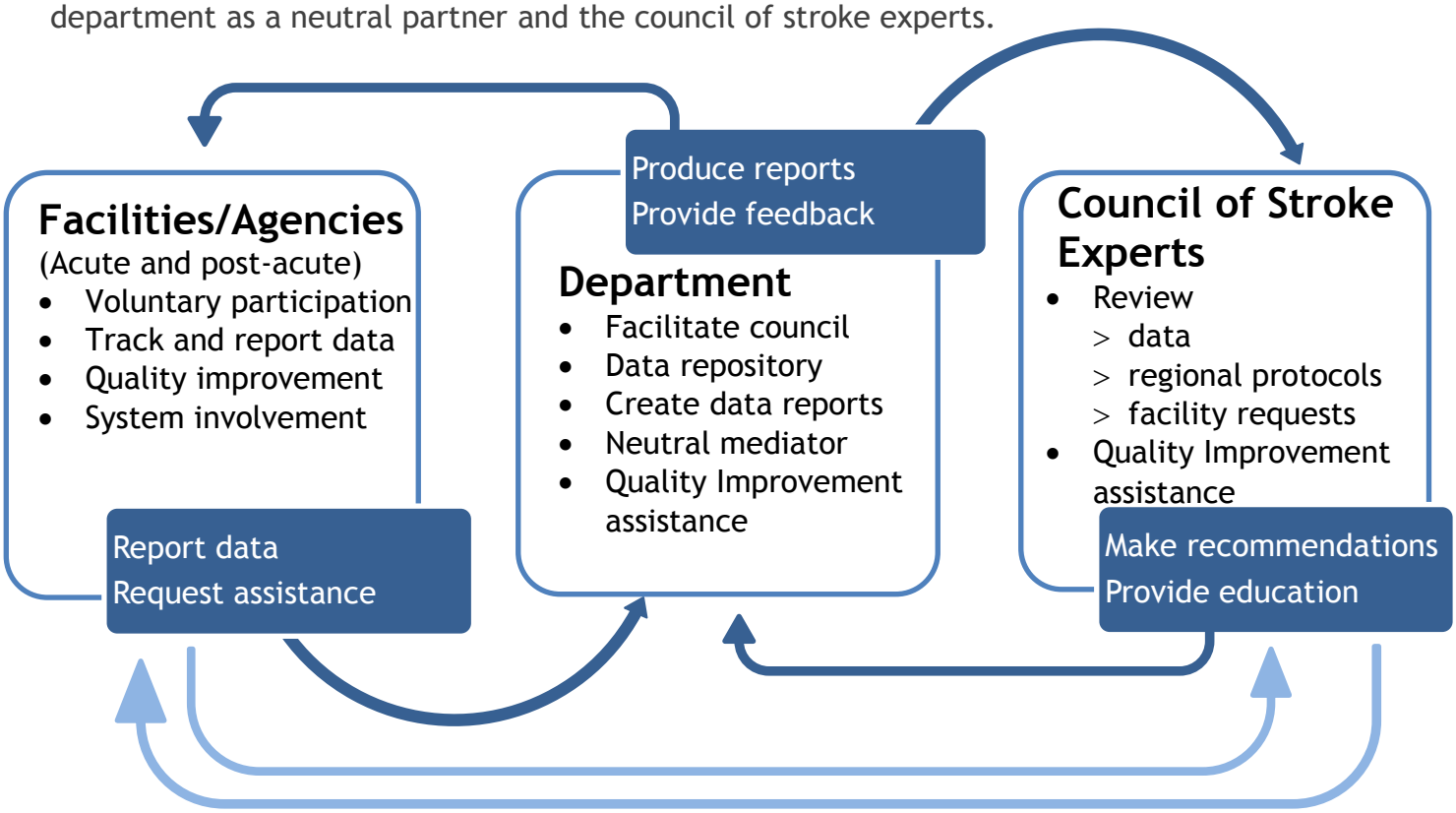
This council would be similar to the current Stroke Advisory Board in the department's facilitation, topics of discussion and the voluntary membership with expert representation from different regions in Colorado. This council would differ from the current Stroke Advisory Board in that this council would be ongoing and appointments would be made by the department's executive director. Appointment by the executive director is consistent with other advisory committees the department facilitates.

DORA performed a sunset review of the Stroke Advisory Board and recommended continuation of this board after reviewing the board's feedback that supports an on-going council of stroke experts as essential for implementing and sustaining a system of care by performing the following actions:

- Develop and maintain a statewide quality improvement process
- Improve identification and treatment of patients with Large Vessel Occlusion (LVO)
- Disseminate dynamic best-practice guidelines for stroke care
- Review and analyze data to inform quality improvement and educational efforts
- Develop guidelines for hemorrhagic stroke care
- Work to accomplish the goals established in Senate Joint Resolution 17-027

Council of Stroke Experts role in statewide quality improvement

The diagram below illustrates the collaborative interaction between facilities, agencies, the department as a neutral partner and the council of stroke experts.



Dark Blue arrows indicate normal process flow. **Light Blue** arrows indicate optional flow. Facilities report to the department but may choose to communicate directly with the council of stroke experts. The council of stroke experts would provide recommendations to the department and may communicate directly with a facility or agency at their request.

Report on 2017 Priorities

Lessons learned from other states

- A council would provide the expertise to support a stroke system of care
- A council would provide sustainability
- A council should include representatives from the full continuum of care

Clarify the roles and responsibilities of the council of stroke experts

- The intent of the council is to provide a support system and avoid punitive measures. This resource would be made up of a group of experts with representation from Colorado's different agencies and systems that are active in stroke care. This council could act as a liaison to help connect facilities and regional entities with resources for stroke-specific care as needed. Rural facilities endorsed this model as it provides a method to seek assistance without the concern of which hospital system is providing support.
- The responsibilities of the council would include:
  - Analyze de-identified and facility-blinded data to identify strengths and opportunities for improvement. The board recognizes that the department would need to be granted authority to collect and develop reports to share with the council of stroke experts. The department would be able to identify facilities and provide feedback as a neutral partner. The council would provide the department resources to support quality improvement initiatives. This has been a sustainable and successful model in other states.
  - Provide the department with recommendations to improve the stroke system of care.
  - Collaborate directly with facilities or agencies when requested. This allows the council of stroke experts to act as a resource to make recommendations, provide education and share tools to resolve specific issues.

The Department of Regulatory Affairs included the department in a sunset review of the Stroke Advisory Board. The department asked members why this board should continue. The board's responses included:

- The current board feels Senate Joint Resolution 17-027 creates more work for the board as it addresses the need to improve identification and treatment of patients suffering from stroke, especially large vessel occlusion.
- Roughly 10 percent of stroke patients with large vessel occlusion are currently treated with best practices, leaving significant room for improvement. A council of stroke experts would be able to provide education on standards to improve the best practice treatment rates across all areas of Colorado, especially in rural areas.
- An ongoing council would be essential in assisting the department with development and implementation of a statewide system of care for stroke and sustaining a quality improvement process.
- A statewide system of care would require experts to review and analyze data in order to establish statewide quality improvement initiatives.
- Stroke care guidelines are dynamic, and a council of stroke experts would be necessary to make recommendations and provide education aligned with current best practices.

- The board recognized the lack of attention to hemorrhagic stroke guidelines. A council would allow experts in the field to continue making recommendations for the needs of different types of stroke patients.

System Development Considerations

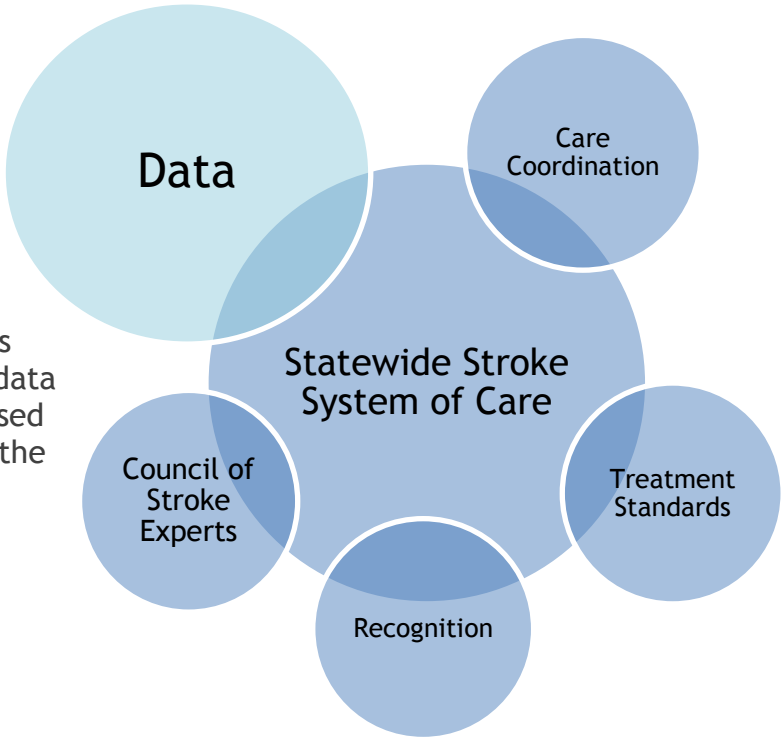
- Authorization of legislation would be necessary for:
  - The department to continue to provide personnel who facilitate a voluntary council of stroke experts
  - The department to organize resources to implement the council's recommendations

2018 Priorities

The board addressed all the priorities for 2017. Additional priorities will be considered in 2018.

Data Registry and Public Access to Data

Data collection and analysis are essential for identifying strengths and opportunities for improving any system or process. The board strongly recommends that data elements should be kept to a minimum with a focus on collection of meaningful data that is aligned with national best practice guidelines and other relevant priorities. These data will be used to measure evidence-based practices in stroke treatment across the continuum of care.



Recommendations: Data

Since successful quality improvement is driven by meaningful data, reporting would be mandatory for facilities that choose to participate in the state recognition system. Data reporting would provide facilities access to support from the council of stroke experts. Data would be de-identified at the patient and facility level, which is consistent with what is required of facilities that are nationally certified as a stroke center. Failure to report data would not lead to punitive action but would limit access to the council of stroke experts until the data could be reviewed. In order to perform quality improvement initiatives, the board recommends the department have access to the following sources of prehospital, hospital and rehabilitation stroke data.

1. Data that nationally certified stroke centers are already reporting to a national stroke database. Currently, the cost of access to that national registry is about $2000 annually for a superuser account, which grants the department access to de-identified data. See the measures of interest on page 10, Table 1.
2. A limited data repository, developed by the department, for facilities that are not certified as a stroke center. The potential exists for the department to develop and maintain a limited database, similar to the platform used by Level IV and V trauma centers. The department would need resources to create and manage a limited dataset. See the measures of interest on page 11, Table 2.
3. Rehabilitation data that could be entered into the limited data repository mentioned above by facilities that provide rehabilitation services. See the measures of interest on page 11, Table 3.
4. Prehospital data specific to stroke, which is already available to the department from most EMS agencies and will continue to become more robust with advances in the EMS dataset. See the EMS data measures of interest on page 11, Table 4.
5. System level information to which the department already has access to. See the measures of interest on page 11, Table 5.

Data Tables: Information the department does not currently have access to

Table 1- Measures that facilities are already reporting to a national stroke registry

Measure	Definition
Demographics: DOB	Patient date of birth
Demographics: Sex	Patient gender
Mode of arrival	Mode of transport to facility of record
Door to IV needle time for: • all patients treated with alteplase • patients treated with alteplase and a final diagnosis of ischemic stroke	Arrival to bolus of IV alteplase, No Drip and Ship Arrival to bolus of IV alteplase
Percent of eligible patients receiving IV alteplase	Ischemic patients that arrive in 3.5 hours and are treated in 4.5 hours from symptom onset
Percent of patients receiving IV alteplase with a final diagnosis stroke	All patients receiving IV alteplase
Door in to door out time (hospital arrival to transfer)	ED arrival to EMS departure for higher level of care
30 day readmit (all causes)	All patients discharged with a final diagnosis of ischemic stroke
Percent of patients achieving TICI 2b perfusion or better	Grade 0: No perfusion Grade 1: Antegrade reperfusion past the initial occlusion, but limited distal branch filling with little or slow distal reperfusion Grade 2a: Antegrade reperfusion of less than half of the occluded target artery previously ischemic territory (e.g., in 1 major division of the MCA and its territory) Grade 2b: Antegrade reperfusion of more than half of the previously occluded target artery ischemic territory (e.g., in 2 major divisions of the MCA and their territories) Grade 3: Complete antegrade reperfusion of the previously occluded target artery ischemic territory, with absence of visualized occlusion in all distal branches
Percent of patients with symptomatic intracranial hemorrhage	Symptomatic intracranial hemmorrhage after IV alteplase defined as hemorrhage on follow-up scan and a 4 point increase in NIH within 36 hours from treatment.
Door to groin puncture	Arrival to groin puncture (patient fully prepped, draped and ready for the intra-arterial procedure)
Door to final IA recanalization time	Arrival to greatest recanalization in the primary occluded vessel

Data Tables: Information the department does not currently have access to

Table 2-Measures for facilities that do not provide inpatient stroke services

Measure	Definition
Date	Patient arrival
Demographics: DOB	Patient date of birth
Demographics: Sex	Patient gender
Alteplase eligible	Arrive within 3.5 hours and treated in 4.5 hours of symptom onset, no comorbidities
Arrival time	Emergency Department arrival
Mode of arrival	Mode of transport to facility of record
IV alteplase given	Yes or No
Door to IV alteplase needle time	Time from Emergency Department arrival to bolus of IV alteplase, No Drip and Ship
Discharge disposition	Where did the patient go after leaving facility of record
Receiving facility code	Choose from facility ID code list
Door out time	EMS departure from facility of record
Final diagnosis	ICD-10

Table 3-Measures for facilities that provide rehabilitation services

Measure	Definition
Date	Patient arrival
Demographics: DOB	Patient date of birth
Demograpohics: sex	Patient gender
Functional measure	G-Code or other facility defined functional measure

Data Tables- Information the department already has access to

Table 4- Measures reported by EMS

Measure	Definition
Date	Date of transport
Demographics: DOB	Patient date of birth
Demographics: Sex	Patient gender
Arrival at scene	EMS arrival on scene
First medical contact	EMS arrival to patient
Last Known Well	Estimated date/time patient was last known to be in their usual state of health, reported by patient, family or bystander.
Stroke alert from field	Hospital notification of stroke from the field

Table 5- System information

Measure	Definition
Number of certified stroke centers	Nationally certified stroke centers in CO
Percentage of stroke patients treated at a certified stroke center	#patients treated at certified stroke centers Total # of stroke patients in CO

Report on 2017 Priorities

Previously, the board agreed that data is necessary for quality improvement and recommends data collection and reporting to the department for stroke-specific measures. The board felt it would be of utmost importance to make sure that any data collection would result in quality improvement initiatives for facilities and agencies.

Lessons learned from other states

- There must be resources to analyze data
- There must be expertise to interpret data
- There must be feedback to facilities and agencies reporting data

Define quality measures

- The board reviewed the recommended data measures for prehospital, hospital and rehabilitation data from 2016 with minimal edits. The board reviewed and edited the recommended data elements for endovascular services based on best practices information from the International Stroke Conference in 2017.

- The process for data reporting and feedback was developed with the following considerations. See pages 10 and 11 for the data measures of interest.
  - Limit the number of data elements to minimize the burden on facilities and agencies, maximize participation and optimize data quality.
  - Align data with information facilities already report to a national database to avoid duplicative work. The board considered data collection models from other states and decided that the most reasonable data collection method, for facilities that are already nationally certified as a stroke center, would be for the department to access a national registry through a superuser account. The annual fee for access to the national stroke registry is currently about $2000. This is a model utilized by other states because it is a more fiscally conservative option when compared to a state-developed repository, and does not add a data collection burden to those facilities already participating in a national registry.
  - Develop a dataset that rural facilities support and consider appropriate. As the board solidified a recommendation in favor of access to a national stroke registry, the board chose to align the limited set of data measures with national stroke measures. This provides common language and benchmarking capabilities for a statewide system. These data measures were vetted by administrative and physician representatives from rural facilities in Colorado.

System Development Considerations

Additional authorization would be necessary to:

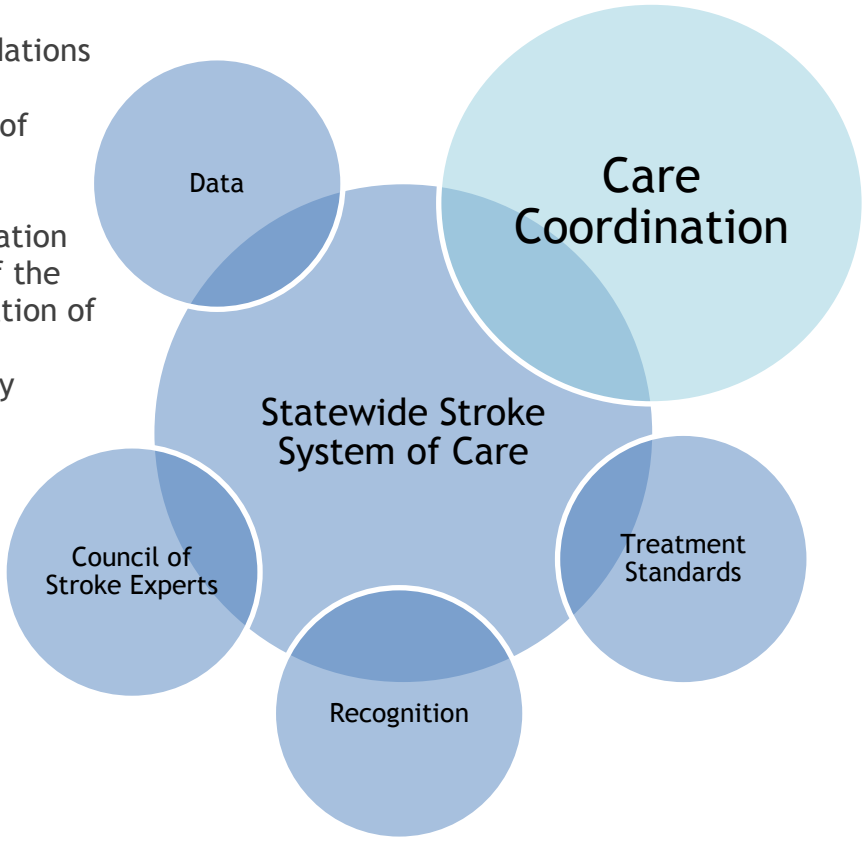
- Allow a centralized agency to collect, analyze and use data for quality improvement initiatives.
- Assign personnel to collect and analyze data.
- Assign personnel to provide assistance with quality improvement initiatives. Some of this expertise is expected to be provided through the recommended council of stroke experts. See the Council of Stroke Experts section for more details on page 5.

2018 Priorities

- The legislation instructs the board to make a recommendation on public access to data. The recommendation made in 2014 will be reviewed and edited for a final recommendation.

Rural and Urban Coordination of Care

The board developed recommendations to address the gaps identified in transitions across the continuum of care for stroke. Coordination is addressed from two different perspectives. The first is coordination between rural and urban areas of the state. The second is the coordination of transitions in care between the prehospital, hospital and recovery settings. The following recommendations were drafted to pertain to the needs of both rural and urban areas.



Recommendations: Rural and Urban Coordination of Care

To assist in the coordination of care between the prehospital and hospital settings, hospitals and emergency medical services should collaborate to:

1. Develop regional stroke protocols that include:
   - A specified stroke assessment
   - A specified stroke severity assessment
   - A regional stroke alert protocol that includes:
     > Notification from the field of a stroke alert based on prehospital provider assessment and clinical judgement.
     > Notification from the field of a stroke alert, with a last known well date and time.
     > Gathering information at the scene that will allow for further communication with a patient representative (family member or designee) through the continuum of care.
2. Develop regional transport guidelines for stroke that include:
   - Appropriate modes of transportation
   - Emergent transport criteria
   - A specific plan for routing patients with suspected large vessel occlusion to the most appropriate facility based on current best practices
3. Develop methods to collect and share data that encourage process improvement at the local level including:
   - Timely reporting of EMS stroke data to the receiving facility
   - Timely and appropriate feedback to prehospital providers for each stroke patient. An example of a feedback template is included on page 16, Table 6.

Recommendations: Coordination of Care for Recovery from Stroke

The board identified gaps in the recovery phase largely due to disparities in access to rehabilitation services and health literacy. The board makes the following two recommendations to improve the effectiveness of and access to rehabilitation services.

1. The board recommends that legislation and policy development continue to expand the accepted methods of rehabilitation, beyond traditional practice, to improve access to and compliance with rehabilitation services.
   - Hands-on therapeutic services
     Legislation has already improved these services including insurance payment for locum tenens providers and national programs that provide loan repayment for providers serving rural areas. Legislation and policy efforts could also focus on incentives for:
     > Traveling providers to serve rural areas
     > Loan repayment programs at the state level for providers serving rural areas
   - Technological options
     Legislation has already improved these services including insurance payment for telehealth services. Other legislative and policy efforts could focus on insurance payment for:
     > Therapeutic activity assignment and monitoring through smart device applications
     > Rehabilitation treatment sessions via conferencing software
2. Gaps exist during transitions in care during the recovery phase. The board recommends a discharge process that is intended to help providers better connect stroke survivors with the appropriate resources after discharge. The post-acute discharge plan should include:
   - A current functional score and a goal using a validated functional assessment
   - A care plan for current rehabilitative needs and continued reassessment
   - Patient, family and caregiver education on:
     > The stroke continuum of care, current status and the next goal
     > Rehabilitation progression expectations
     > Fall prevention
     > Prevention of secondary impairment and disability
     > Proper use of equipment that improves mobility
     > Monitoring and addressing mental and emotional health issues as they arise
     > Caregiver burden, self-care, support
     > Referrals for appropriate resources available in the stroke survivor's community

Report on 2017 Priorities

2017 was largely focused on improving recovery from stroke by addressing gaps in the transitions between the prehospital, hospital and recovery settings.

Lessons learned from other states

- Colorado is unique in that the state does not have authority over EMS agencies, prehospital protocols or transport guidelines. The state encourages regions to develop protocols that best meet that region's needs in consideration of local resources.
- There is a need to address transitions in care in the prehospital and recovery settings. The board found few sustainable models from other states to improve access to and compliance with rehabilitative service recommendations.

Priorities for the prehospital setting

- Identify strategies to improve the use of a stroke assessment, stroke severity assessment for large vessel occlusion and prehospital notification criteria that can be customized by region.
  - The board reviewed the assessments for stroke and large vessel occlusion and decided that no single assessment was appropriate for all regions. The board chose to recommend that Colorado's regions consider developing regional protocols for stroke based on current best practices and develop guidelines to achieve those best practices.
  - The board sought stakeholder input from prehospital and hospital representatives regarding the variances in stroke alert criteria among EMS agencies and between hospitals. The board worked with stakeholders across the state to develop a recommendation that supports autonomy for EMS and hospitals while decreasing ambiguity. The board developed guidelines in the form of checklists for EMS agencies to use in developing regional criteria for stroke alerts. In those guidelines, EMS providers are encouraged to call a stroke alert at the provider's discretion even when stroke assessment results do not match the provider's impression and regardless of the hospital's internal alert process. Over and under activations would then be addressed through hospital feedback with the expectation for EMS to use that feedback for process improvement.
  - The above recommendation reinforces the autonomy that regions have to develop stroke alert protocols. The board also espouses autonomy for hospitals over internal stroke alert processes and provides guidance on what plans hospitals should have in place to respond to stroke notifications from EMS.

Table 6

Hospital feedback template suggested elements
Date of incident
EMS agency
Provider identifier
Patient gender
Patient birth date
Stroke assessment tool
Stroke severity assessment tool
Prehospital notification y/n
NIH stroke score
Diagnosis and interventions
Door to needle time
Door to interventional radiology
Diagnostic images
Discharge disposition
Patient outcome
Additional comments
Discuss best practices

- Transport guidelines based on prehospital stroke assessment, customized by region. The board reviewed the Mission Lifeline Algorithm for stroke and made the following conclusions:
  - The board chose to avoid the term Comprehensive Stroke Center in any recommendation as it is a specific national certification. Instead, the board emphasized services necessary to treat patients with suspected large vessel occlusion. The board also addressed the need to educate prehospital providers on recognition of large vessel occlusion before transport guidelines become a regional priority.
  - The specificity of time intervals and destination decisions in the Mission Lifeline Stroke Algorithm was of concern. Experts debated this topic over the past years without consensus. Another concern is that the board does not want to make a recommendation that negatively affects the decision making authority that belongs to medical directors. The specificity in the Mission Lifeline Stroke algorithm does not account for unique regional considerations like topography, weather and resource availability. Those considerations guided the board's recommendation for regions to develop routing protocols that direct patients with suspected large vessel occlusion to the nearest facility with the resources necessary to provide treatment per best practice guidelines. The council of stroke experts would be a resource for regions regarding current best practices for stroke care. This was intentionally general to respect regional medical directors' and prehospital providers' ability to determine how to best care for each patient.
- Hospital communication of service availability
  - The board found value in each hospital working with EMS to determine the best method of communication. To help provide options, the board found several communication tools that are available as a phone app for hospital and prehospital professionals. Vocera and Pulsara are notification systems that are utilized by facilities in several states, including Colorado. Both are costly and thus not widely utilized. Another option is to utilize EMResource which the state has purchased and makes available to all hospitals and dispatch centers at no cost. This is a web-based system that displays service availability and emergency preparedness information on a dashboard that is displayed in every emergency department. Other states have added stroke status to the EMResource dashboard; however, Colorado's version of the dashboard does not currently have stroke status listed. The board will continue to explore this option in 2018.

Priorities for stroke rehabilitation

- Catalog how other states have improved rehabilitation service availability
  - Several states introduced legislation that allows telehealth services for rehabilitation to be covered by insurance. These policy changes could potentially increase access to services across the state, especially in rural areas and for those insured by Medicare and Medicaid. The board found that while many states recognize the need for improvements in the recovery phase, only a few models exist that are showing success. The board used evidence-based practices from Europe, Canada and other states to develop the recommended discharge plan. This is a set of guidelines that providers can utilize to better connect stroke survivors with the appropriate resources.

  - The Stroke Recovery Navigation Program through National Stroke Association appears to be quite successful but members did not support making this a minimum standard for hospitals for several reasons. Many aspects of navigation are already addressed in the rehabilitation recommendations for hospital discharge. Members also felt that hospitals are not the appropriate source for patient care navigation services after hospital discharge. The board did feel that navigation is an essential and continuous process through recovery. Beyond hospital discharge, the current medical provider overseeing care in conjunction with rehabilitation professionals are best equipped to manage care coordination and connect each stroke survivor with the appropriate resources. The board added a recommendation for a discharge plan at each transition through the rehabilitation process. This plan gives the provider overseeing care the tools to improve care coordination for stroke survivors in the community setting. This was endorsed by all members and various stakeholder groups.
- Catalog options to advance technology capabilities for rehabilitation
  - Free smart-device applications provide a way for therapists to assign tasks and monitor progress. This provides the potential for providers to remain connected with patients outside of therapy sessions, increase the frequency of therapeutic activity and provide more feedback to improve the rehabilitation process.
  - Free conferencing software allows for virtual treatment sessions. This is beneficial for patients that are located in remote areas or experience other transportation difficulties. Providers must be careful to use software that is HIPAA compliant.

System Development Considerations

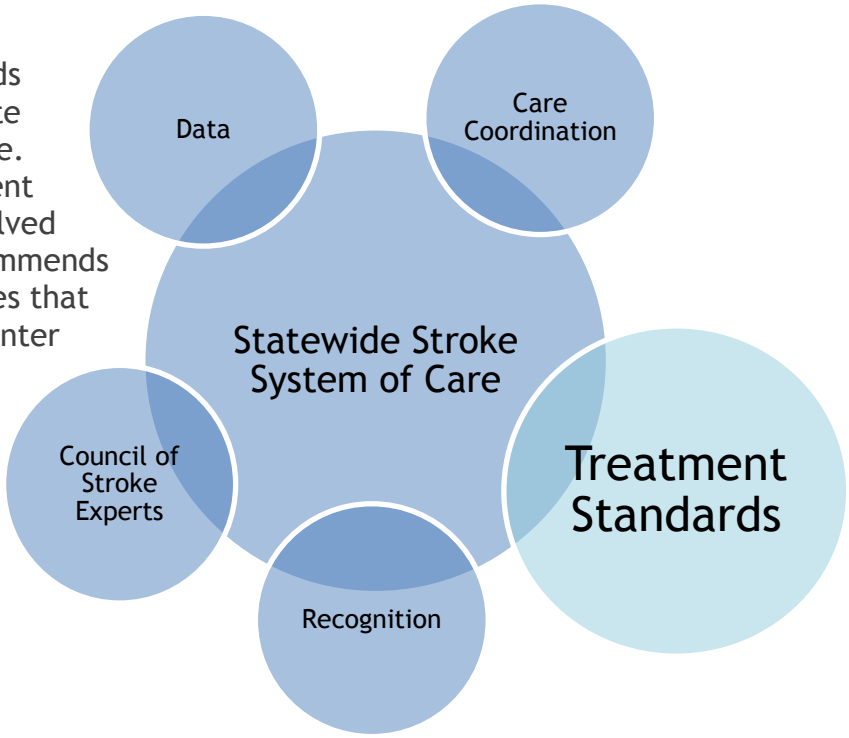
- Authorization of a council of stroke experts would be necessary to continue developing recommendations to:
  - Improve rural and urban coordination of care for stroke
  - Improve hospital and regional guidelines for stroke care
- Additional authorization would be necessary to promote recommendations for:
  - Stroke-specific quality improvement processes for regions, facilities and EMS agencies
  - Feedback to EMS for stroke patients as a part of facility standards
  - A discharge plan for facilities providing rehabilitation services
  - Solutions that expand access to rehabilitative care

2018 Priorities

- Identify options to help rehabilitation services match the stroke survivor's needs
- Identify a process to improve hospital communication of service availability to EMS
- Investigate opportunities to increase access to expert consultation

Prevention and Treatment of Stroke

The board recommends that the department define minimum standards for facilities that choose to participate in the statewide stroke system of care. The board recommends the department recognize four types of facilities involved in Colorado's stroke system and recommends minimum standards for each. Facilities that are nationally certified as a stroke center meet or exceed the standards proposed below and already qualify for recognition as a stroke center in Colorado. This recommendation would create standards to allow additional facilities to be eligible for state recognition as a stroke center.



Recommendations: Treatment Standards

1. For facilities that do not have CT and/or IV thrombolytic therapy capabilities:
   - Educate staff and community to recognize stroke symptoms and call 911
   - Promote the use of a standardized stroke assessment tool, such as the NIHSS
   - Have an emergency transfer plan that includes destination options and contact information
   - Have a plan for quality monitoring and improvement
   - When rehabilitation services or equipment per best practice guidelines are not available, have a plan to connect stroke survivors with the appropriate services or equipment.
2. For facilities that can treat acute ischemic stroke with IV thrombolytic therapy but do not provide inpatient care for stroke patients, all previous criteria apply and:
   - Have brain imaging and IV thrombolytic therapy readily available
   - Have a goal for door to IV thrombolytic therapy time consistent with national best practices
   - Have a plan for access to expert consultation (i.e., in person, by phone, by telestroke, etc.)
   - Create a facility-defined response plan to prehospital notification of stroke, developed in conjunction with emergency medical services, to expedite care from facility arrival to brain imaging, interpretation and treatment in the most efficient manner for:
     > Stroke alerts within the facility-defined IV thrombolytic therapy treatment window
     > Stroke alerts outside of the facility-defined IV thrombolytic therapy treatment window

Recommendations: Treatment Standards continued

3. For facilities that treat and may admit or transfer ischemic stroke patients, all previous criteria apply and:
   - Develop a formal policy/protocol for feedback to EMS on stroke patient outcomes, agreed upon by the hospital, EMS and RETAC.
   - Provide inpatient rehabilitation services:
     > Perform physical, occupational and speech therapy evaluations to determine impairments and rehabilitative needs for all stroke survivors
     > Develop a multidisciplinary care plan to address current impairments and outline the expected progression through the rehabilitation continuum of care
     > Incorporate the stroke survivor, family and caregiver(s) into the care team as early as possible
     > Arrange for access to equipment that improves mobility and protects the patient from further impairment (including, but not limited to: wheelchairs, splints, orthotics)
     > Perform or schedule a needs assessment of the home before discharge to determine the stroke survivor's rehabilitation needs and make a recommendation for treatment after discharge
     > Define a discharge plan for stroke survivors that includes:
       - A current functional score and a goal using a hospital-defined validated functional assessment tool
       - A multidisciplinary care plan for current and future rehabilitative needs
       - Patient, family and caregiver education on:
         ✓ The stroke continuum of care, current status and the next goal
         ✓ Rehabilitation progression expectations
         ✓ Fall prevention
         ✓ Prevention of secondary impairment and disability
         ✓ Proper use of equipment that improves mobility
         ✓ Monitoring and addressing mental and emotional health issues as they arise
         ✓ Caregiver burden, self-care, support
         ✓ Referrals for appropriate resources available in the stroke survivor's community
4. For facilities that provide endovascular services, all previous criteria apply and:
   - Adopt a time for door-to-recanalization that is consistent with national best practices
   - Develop a scope of care explaining the clinical platform for endovascular services including staffing, equipment and education
   - Ensure 24/7/365 capability or a plan to communicate the following with EMS and partner hospital(s):
     > Schedule of endovascular services availability
     > Changes in the schedule for endovascular services availability
   - Provide education for the following:
     > Stroke recognition and treatment for the community and EMS providers
     > NIH stroke scale certification for hospital professionals
     > Stroke assessment and stroke severity assessment for prehospital providers

Report on 2017 Priorities

Lessons learned from other states

- A system of care should focus on supporting the facilities with the fewest resources.
- National certification is expensive, which limits the number of facilities that participate and often includes those facilities with the most resources.
- Designation is expensive and does not guarantee a collaborative and supportive system for facilities, especially for those with few resources.

Priorities for minimum standards for acute stroke treatment

- In 2016, the board identified minimum standards for acute stroke services. In 2017, the board identified four main types of facilities that exist in Colorado. With stakeholder input, the board categorized facilities based on resource availability to treat the acute stroke patient.
- That categorization process provided the basis for introducing a statewide support system that incorporates facilities that are not nationally certified as a stroke center but are able to treat acute stroke. Facilities able to meet the minimum state standards could be eligible for state recognition as a stroke center and gain access to support from the department and the council of stroke experts.
- The board intentionally focused on specific services that are necessary to treat stroke and not on certifications to avoid being exclusive in nature. This approach allows for the expansion of endovascular services beyond the facilities traditionally certified as Comprehensive Stroke Centers. Other facilities with these capabilities are encouraged to serve the community and participate in quality improvement initiatives.
- Likewise, this allows facilities that would never seek certification by a national accrediting body to be recognized for their efforts to prepare for treating the acute stroke patient. Those efforts include developing access to technical assistance and resources that meet local needs, which may come through the larger system of care for stroke.

Priorities for rehabilitation standards

- The reorganization of these standards was not originally a priority for 2017. However, the board added definitions for the types of facilities that treat stroke, necessitating a reorganization of the previous recommendations which focused on services provided, regardless of the facility or location. The rehabilitation subgroup was tasked with appropriately placing rehabilitation services into the defined facility types.
  - Inpatient rehabilitation services would apply to facilities that provide inpatient treatment for the acute or post-acute phase of stroke.
  - Facilities that do not provide inpatient stroke treatment should have a plan to refer stroke survivors for appropriate rehabilitation services. This addresses patients who may be repatriated from a stroke facility for recovery in the community setting.

System Development Considerations

- Reauthorization of departmental authority and personnel would be necessary to:
  - Share best practice guidelines with facilities
  - Provide assistance to facilities and regions with quality improvement initiatives for stroke
- Additional authorization, direction and resources would be necessary to:
  - Define stroke facilities in Colorado beyond those that are nationally certified
  - Provide support to help facilities meet stroke standards. See the Recognition recommendation for further clarification on this topic.

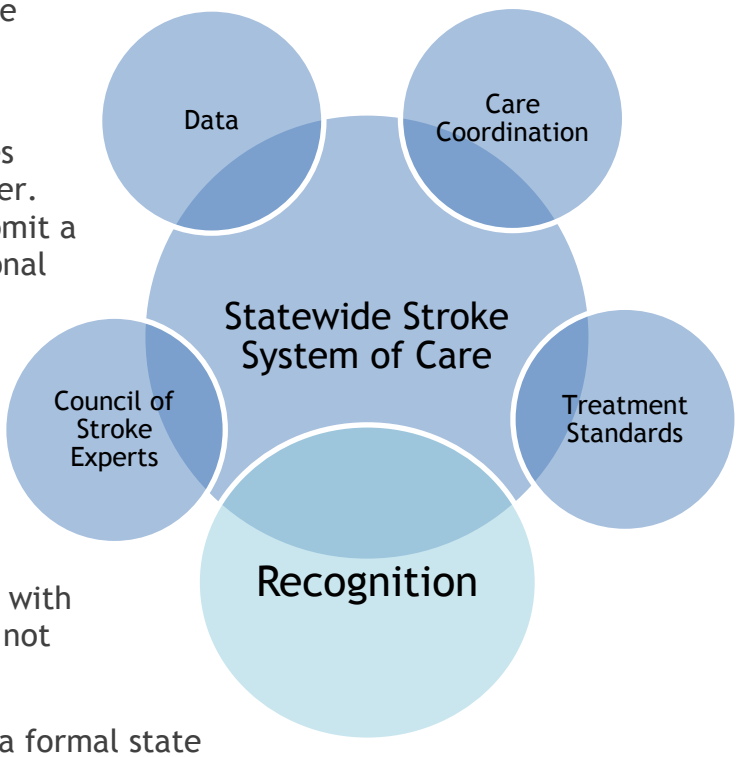
2018 Priorities

- Identify strategies to help facilities meet minimum standards (tool kits)
- Explore thrombolytic therapy treatment education appropriate for rural facilities that treat ischemic stroke

Recognition of Stroke Facilities

Stroke certification is awarded by nationally-recognized organizations and requires facilities to undertake onsite reviews, collect and analyze data and meet criteria that match current evidence-based practices. Examples of certifications include Comprehensive Stroke Center, Primary Stroke Center and Acute Stroke Ready.

The authorizing legislation, see Appendix 4, directs the department to recognize facilities that are nationally certified as a stroke center. The current process requires facilities to submit a one-page application and a copy of the national certificate. Upon receipt, the department places the facility on the Recognition of Stroke Centers map.



The legislation also directed the Stroke Advisory Board to determine whether a designation system would be beneficial to Colorado. Designation generally refers to a state oversight process to assure compliance with standards set by the state. Such a process is not authorized under current legislation.

The board does not support development of a formal state designation system; however, the board does recommend a less formal system of support that expands the existing state recognition program for stroke centers. The board recommends the following additions to the recognition program as defined in 25-3-115, C.R.S. Such additions would require the department be granted authority to expand the state recognition process.

Recommendations: Recognition

State recognition could be expanded to incorporate facilities that are not certified as a stroke center but can attest to acute stroke treatment capabilities, as defined by the department with recommendations from a council of stroke experts. There are no anticipated fees to participate in the proposed voluntary state recognition of stroke facilities.

Implementation of an expanded state recognition program would likely involve the department, upon the recommendation of the council of stroke experts, developing rules to:

- Mandate data reporting for those facilities that choose to participate in the recognition program. That would require a process for data collection, analysis and reporting. Failure to report data would limit access to support from the council of stroke experts and recognition by the department. The board recommends that the rules do not have punitive action for facilities that do not participate. This is further explained in the Data section, see page 9.
- Define the function, responsibilities and membership of the council of stroke experts as discussed in the Council section, see page 5. Rules should assure that facility and patient information are not identifiable in the data reports reviewed by the council of stroke experts.

Recommendations: Recognition continued

- Define the responsibilities of facilities, agencies, the council of stroke experts and the department in the coordination of stroke care at the local, regional and statewide level as discussed in the Care Coordination section, see page 14. These rules would not impact the current authority that regions, EMS or facilities have over the services that are provided.
- Define minimum standards that would make a facility eligible for stroke recognition as discussed in the Treatment Standards section. The intention would be to include, support and improve stroke care in small and rural facilities. This would not replace the recognition already available to nationally accredited facilities.

Report on 2017 Priorities

Lessons learned from other states

- A successful system must have data, access to stroke experts, active quality improvement efforts and a sustainable infrastructure to facilitate a statewide system of support
- A successful system must be developed with sustainability in mind

Determine whether designation is appropriate for Colorado

- The board does not support designation due to the extensive and expensive nature of this model. A system of support could be established which avoids the burden associated with designation.
- As the board considered options to facilitate a system of support, the board chose to pursue expanding the existing recognition of stroke facilities. That proposal includes the previously mentioned minimum standards that would make a facility eligible for recognition. In order to accomplish this effort, the board discussed who should be responsible for the implementation of these recommendations and how such implementation could be carried out.
- The board recommends that the department be granted the authority to oversee the implementation of a voluntary stroke recognition system upon the advice of the council of stroke experts. The board recognizes that such authority would require that the department have the authority to develop rules, again in coordination with the council of stroke experts, regarding this system. This new recommendation came with careful consideration of potential unintended consequences that may be associated with rule-making. This is the only recommendation that was not unanimously endorsed by the board. One member opposed the recommendation due to concerns with potential unintended consequences.

Discussions on rulemaking authority

- The board supports rule-making with the understanding that rule-making would:
  - > Provide a framework for a system of support for facilities treating stroke and avoid the burden of designation.
  - > Allow voluntary participation in the stroke system of care without punitive action for facilities that choose not to participate.

- Provide a state-specific definition of stroke facilities to incorporate those facilities that are not nationally certified as a stroke center. Inclusion of more facilities provides for a more robust statewide system of support.
- Allow the department to establish minimum standards that are aligned with best practices. The proposed standards were vetted and considered reasonable by urban and rural facility representatives.
- Allow collection and analysis of data that is aligned with national measures. The data recommendation avoids duplicative reporting for facilities already reporting stroke data and creates a method for rural facilities to participate. The board unanimously supported mandatory data reporting to receive assistance from the council of stroke experts.
- Allow for a system of support that is targeted to those facilities that are not nationally certified.

System Development Considerations

- Additional direction, authority and resources would be necessary to:
  - Expand the recognition of stroke facilities beyond those that are nationally certified
  - Develop a statewide system of care that provides support to facilities that are not nationally certified as a stroke center

2018 Priorities

The board addressed all priorities for 2017. The board will develop additional priorities for 2018.

Appendix 1

Catalogue of Data Sources Utilized in 2017

Colorado Hospital Association Discharge Datasets (inpatient data)

This database gives a general idea of what stroke care looks like in Colorado. This dataset includes almost all hospitals in Colorado except several rural hospitals that see low patient volumes and very few stroke patients. This is an informative database but is of limited use for quality improvement, as it is an administrative database. It does not show all patient procedures, treatments or other relevant clinical information. Additionally, this data will consistently be many months in arrears.

Emergency Medical Services Dataset (EMS data)

This data set contains prehospital care trip reports for most patients transported by EMS agencies in Colorado. A system upgrade is anticipated in January 2018 and should provide more meaningful stroke data. Currently, there are 67 required data elements whereas the new dataset will contain over 250 data elements. Agencies are increasingly reporting those additional data elements.

Quintiles Stroke Registry

This database contains most of the proposed data elements. Comprehensive and primary stroke centers participate in this database. The department does not have direct access to these data and small facilities do not have the resources to participate.

Appendix 2

Stroke Advisory Board Members

Robyn Moore
Evergreen
Term expires 08-01-20
Representative of a national stroke association

Jessica Ann Hannah, MD
Bayfield
Term expires 08-01-20
Board-certified neurologist serving rural patients

Ginny Hallagin
Burlington
Term expires 08-01-19
Rural Hospital Administrator

Joseph Foecking, PT, Chair
Colorado Springs
Term expires 08-01-20
Stroke rehabilitation facility

Donald Frei Jr., MD
Denver
Term expires 08-01-20
Interventional neuroradiologist

Elizabeth Adle, BSN
Westminster
Rep. statewide hospital association
Term expires 08-01-20

John Chang, MD
Denver
Term expires 08-01-18
Board-certified neurosurgeon

David Scott Miner, MD
Denver
Term expires 08-01-19
Statewide chapter of emergency physicians

William Joseph Jones, MD
Denver
Term expires 08-01-19
Board-certified vascular neurologist

Rick Morris O.D., F.C.O.V.D.
Golden
Term expires 08-01-20
Member of the public who has suffered a stroke

Jeanne-Marie Bakehouse
Franktown
Term expires 08-01-19
CDPHE designee - ex officio

Judd Jensen, MD
Denver
Term expires 08-01-20
Statewide association of physicians

Karin Schumacher, PT
Denver
Term expired 08-01-17
Physical therapist involved in stroke care

Kathryn Henneman, OTR/L
Loveland
Term expires 08-01-20
Occupational therapist involved in stroke care

Richard Smith, MD
Denver
Term expires 08-01-20
Resident and member of a stroke association

Michelle Whaley, RN
Castle Rock
Term expires 08-01-19
RN involved in stroke care

Cindy Giullian
Denver
Term expires 08-01-19
Urban area hospital administrator

Christy Casper, AG-ACNP, Co-chair
Centennial
Term expires 08-01-19
Expert in stroke database management

Jason Schallenberger, Paramedic
Colorado Springs
Term expires 08-01-19
Emergency medical service provider

Katarzyna Mastalerz, Hospitalist
Denver
Term Expires 08-01-19
Primary care physician involved in stroke care

Appendix 3

Senate Joint Resolution 17-027

2017

SENATE JOINT RESOLUTION 17-027

BY SENATOR(S) Guzman and Tate, Aguilar, Baumgardner, Cooke, Coram, Court, Crowder, Donovan, Fenberg, Fields, Garcia, Gardner, Hill, Holbert, Jahn, Jones, Kagan, Kefalas, Kerr, Lambert, Lundberg, Marble, Martinez Humenik, Merrifield, Moreno, Neville T., Priola, Scott, Smallwood, Sonnenberg, Todd, Zenzinger, Grantham;
also REPRESENTATIVE(S) Duran and Beckman, Arndt, Becker J., Becker K., Benavidez, Bridges, Buck, Buckner, Carver, Catlin, Coleman, Covarrubias, Danielson, Esgar, Everett, Exum, Foote, Garnett, Ginal, Gray, Hamner, Hansen, Herod, Hooton, Humphrey, Jackson, Kennedy, Kraft-Tharp, Landgraf, Lawrence, Lebsock, Lee, Leonard, Lewis, Liston, Lontine, Lundeen, McKean, McLachlan, Melton, Michaelson Jenet, Mitsch Bush, Navarro, Neville P., Nordberg, Pabon, Pettersen, Rankin, Ransom, Rosenthal, Saine, Salazar, Sias, Singer, Thurlow, Valdez, Van Winkle, Weissman, Willett, Williams D., Wilson, Winter, Wist, Young.

CONCERNING RECOGNITION OF THE NEED TO EXPAND ACCESS TO EFFECTIVE TREATMENT FOR STROKE PATIENTS.

WHEREAS, Strokes are a leading cause of death and long-term disability in the United States, costing more than 130,000 lives annually, including an average of 1,600 victims in Colorado alone; and

WHEREAS, A stroke can affect anyone at any age and at any time and can have devastating long-term effects if the victim is not treated immediately; and

WHEREAS, A stroke occurs when blood flow to an area of the brain is blocked by a clot or aneurysm, but certain specialized care has been proven to give stroke patients an excellent chance of survival and even full recovery; and

WHEREAS, Advancements in medical innovation have produced revolutionary treatments such as the tissue plasminogen activator and

neuroendovascular surgery in which highly trained stroke surgeons, in conjunction with neurologists, treat patients suffering from a severe form of ischemic stroke by removing or dissolving the blood clot and ensuring the patients' survival while greatly reducing long-term disabilities; and

WHEREAS, When emergency medical technicians (EMTs) and other first responders are properly trained to assess stroke severity and then transport stroke patients to neuroendovascular-ready stroke centers capable of performing a mechanical thrombectomy twenty-four hours per day, seven days per week, 365 days per year (24/7/365), stroke patients who undergo neuroendovascular surgery can live up to five years longer than patients who do not receive this specialized treatment, while also saving up to up to $23,000 over their lifetime from shorter hospital stays and fewer required therapies; and

WHEREAS, Only an estimated 10% of those stroke victims who would benefit from this specialized care are currently being properly assessed, triaged, and transported to these specialized 24/7/365 neuroendovascular-ready stroke centers to receive this lifesaving treatment; now, therefore,

Be It Resolved by the Senate of the Seventy-first General Assembly of the State of Colorado, the House of Representatives concurring herein:

That we, the Colorado General Assembly:

(1) Hereby recognize and applaud the significant progress being made by Colorado's medical community, including physicians, nurses, EMTs, and hospitals, to embrace new, effective treatments for stroke victims, including specialized care that involves the performance of neuroendovascular surgery;

(2) Continue our support of improvements for the emergency medical response time and transport of stroke victims for appropriate medical care because we believe this type of care is an urgent priority and recognize that further efforts are needed to improve these services;

(3) Strongly encourage the Department of Public Health and Environment to provide EMTs and first responders with the tools needed

for the proper pre-hospital assessment and triage of stroke patients, which may include education about identifying stroke patients who may have an emergent large vessel occlusion that would necessitate transport to 24/7/365 neuroendovascular-ready stroke centers and for which geographic considerations can be designated by regional emergency medical services entities; and

(4) Encourage EMTs and other first responders to receive the proper education and training for the assessment and triage of stroke patients, along with being familiarized with 24/7/365 neuroendovascular-ready stroke centers and the Colorado Community College System to incorporate such education and training curricula into its existing program for the education and training of EMTs and other first responders so that this needed education and training is readily available.

Be It Further Resolved, That copies of this Joint Resolution be sent to Dr. Larry Wolk, Executive Director and Chief Medical Officer of the Colorado Department of Public Health and Environment; the nine members of the Colorado Community College System's State Board for

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Community Colleges and Occupational Education; Governor John Hickenlooper; and Colorado's Congressional delegation.

Kevin J. Grantham
PRESIDENT OF
THE SENATE

Crisanta Duran
SPEAKER OF THE HOUSE
OF REPRESENTATIVES

Effie Ameen
SECRETARY OF
THE SENATE

Marilyn Eddins
CHIEF CLERK OF THE HOUSE
OF REPRESENTATIVES

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Appendix 4

Senate Bill 13-225

NOTE: The governor signed this measure on 5/24/2013.

SENATE BILL 13-225

BY SENATOR(S) Giron, Guzman, Aguilar, Newell, Nicholson, Carroll, Heath, Kefalas, Todd, Morse;
also REPRESENTATIVE(S) Ginal and Primavera, Schafer, Fields, Garcia, Hamner, Hullinghorst, Kraft-Tharp, Labuda, Rosenthal, Ryden, Vigil, Young.

CONCERNING THE DEVELOPMENT OF A SYSTEM TO IMPROVE QUALITY OF CARE TO PATIENTS SUFFERING SPECIFIED ACUTE INCIDENTS, AND, IN CONNECTION THEREWITH, MAKING AN APPROPRIATION.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. In Colorado Revised Statutes, **add** 25-3-114, 25-3-115, and 25-3-116 as follows:

25-3-114. STEMI task force - creation - membership - duties - report - repeal. (1) (a) THERE IS HEREBY CREATED IN THE DEPARTMENT THE STEMI TASK FORCE. NO LATER THAN AUGUST 1, 2013, THE GOVERNOR SHALL APPOINT FIFTEEN MEMBERS TO THE TASK FORCE AS FOLLOWS:

(I) ONE MEMBER WHO IS A COLORADO RESIDENT REPRESENTING A NATIONAL ASSOCIATION WHOSE GOAL IS TO ELIMINATE CARDIOVASCULAR DISEASE AND STROKE;

Capital letters indicate new material added to existing statutes; dashes through words indicate deletions from existing statutes and such material not part of act.

(II) ONE MEMBER WHO IS A CARDIOLOGIST PRACTICING IN THIS STATE;

(III) ONE MEMBER WHO IS AN INTERVENTIONAL CARDIOLOGIST PRACTICING IN THE WESTERN SLOPE AREA OF THE STATE;

(IV) ONE MEMBER WHO IS AN INTERVENTIONAL CARDIOLOGIST PRACTICING IN THE FRONT RANGE AREA OF THE STATE;

(V) ONE MEMBER REPRESENTING A STATEWIDE ASSOCIATION OF CARDIOLOGISTS;

(VI) ONE MEMBER REPRESENTING A STATEWIDE ASSOCIATION OF PHYSICIANS;

(VII) ONE MEMBER REPRESENTING A STATEWIDE HOSPITAL ASSOCIATION;

(VIII) ONE MEMBER REPRESENTING AN EMERGENCY PHYSICIANS ASSOCIATION;

(IX) ONE MEMBER WHO IS AN EMERGENCY MEDICAL SERVICE PROVIDER, AS DEFINED IN SECTION 25-3.5-103 (8);

(X) ONE MEMBER WHO IS A REGISTERED NURSE INVOLVED IN CARDIAC CARE;

(XI) ONE HOSPITAL ADMINISTRATOR FROM A HOSPITAL LOCATED IN A RURAL AREA OF THE STATE;

(XII) ONE HOSPITAL ADMINISTRATOR FROM A HOSPITAL LOCATED IN AN URBAN AREA OF THE STATE;

(XIII) ONE MEMBER OF THE PUBLIC WHO HAS SUFFERED A STEMI HEART ATTACK; AND

(XIV) TWO MEMBERS WITH EXPERTISE IN CARDIOVASCULAR DATA REGISTRIES, ONE OF WHOM IS A CARDIOLOGIST.

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(b) THE EXECUTIVE DIRECTOR OF THE DEPARTMENT OR THE EXECUTIVE DIRECTOR'S DESIGNEE SHALL SERVE AS AN EX OFFICIO MEMBER OF THE TASK FORCE.

(c) MEMBERS OF THE TASK FORCE SERVE WITHOUT COMPENSATION AND ARE NOT ENTITLED TO REIMBURSEMENT OF EXPENSES INCURRED IN SERVING ON OR PERFORMING DUTIES OF THE TASK FORCE.

(2) (a) THE TASK FORCE SHALL STUDY AND MAKE RECOMMENDATIONS FOR DEVELOPING A STATEWIDE PLAN TO IMPROVE QUALITY OF CARE TO STEMI PATIENTS. IN CONDUCTING THE STUDY, THE TASK FORCE SHALL EXPLORE THE FOLLOWING ISSUES, WITHOUT LIMITATION:

(I) CREATION OF A STATE DATABASE OR REGISTRY CONSISTING OF DATA ON STEMI CARE THAT MIRRORS THE DATA HOSPITALS SUBMIT TO NATIONALLY RECOGNIZED ORGANIZATIONS;

(II) ACCESS TO AGGREGATED STEMI DATA, WHICH MUST EXCLUDE ANY IDENTIFYING OR CONFIDENTIAL INFORMATION ABOUT THE REPORTING HOSPITAL OR PATIENTS TREATED BY THE HOSPITAL, FROM A STATE DATABASE THAT MAY BE DEVELOPED OR FROM A NATIONALLY RECOGNIZED ORGANIZATION;

(III) A PLAN THAT WOULD ENCOURAGE RURAL AND URBAN HOSPITALS TO COORDINATE SERVICES FOR THE NECESSARY REFERRAL OR RECEIPT OF PATIENTS REQUIRING STEMI CARE IN THE STATE; AND

(IV) THE CRITERIA USED BY NATIONALLY RECOGNIZED BODIES FOR DESIGNATING A HOSPITAL IN STEMI CARE AND WHETHER A DESIGNATION IS APPROPRIATE OR NEEDED TO ASSURE ACCESS TO THE BEST QUALITY CARE FOR COLORADO RESIDENTS WITH STEMI EVENTS.

(b) BY JANUARY 31, 2014, THE TASK FORCE SHALL SUBMIT AN INITIAL REPORT, AND BY JULY 31, 2015, THE TASK FORCE SHALL SUBMIT ITS FINAL REPORT, SPECIFYING ITS FINDINGS AND RECOMMENDATIONS TO THE HEALTH AND HUMAN SERVICES COMMITTEE OF THE SENATE, THE HEALTH, INSURANCE, AND ENVIRONMENT COMMITTEE OF THE HOUSE OF REPRESENTATIVES, OR THEIR SUCCESSOR COMMITTEES, AND THE DEPARTMENT. THE TASK FORCE SHALL INCLUDE IN ITS REPORTS A RECOMMENDATION ON WHETHER A DESIGNATION OF A HOSPITAL IN STEMI

PAGE 3-SENATE BILL 13-225

CARE IS APPROPRIATE OR NEEDED TO ASSURE ACCESS TO THE BEST QUALITY CARE FOR COLORADO RESIDENTS WITH STEMI EVENTS.

(3) THE DEPARTMENT MAY ACCEPT AND EXPEND, SUBJECT TO APPROPRIATION BY THE GENERAL ASSEMBLY, GIFTS, GRANTS, AND DONATIONS TO PAY THE DIRECT EXPENSES OF THE DEPARTMENT IN ASSISTING AND STAFFING THE TASK FORCE. THE DEPARTMENT SHALL TRANSMIT ANY MONETARY GIFTS, GRANTS, OR DONATIONS IT RECEIVES TO THE STATE TREASURER FOR DEPOSIT IN THE HEALTH FACILITIES GENERAL LICENSURE CASH FUND, AND THOSE MONEYS MAY BE USED ONLY TO PAY THE DIRECT EXPENSES OF THE DEPARTMENT.

(4) AS USED IN THIS SECTION, UNLESS THE CONTEXT OTHERWISE REQUIRES:

(a) "DEPARTMENT" MEANS THE DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT.

(b) "STEMI" MEANS ST-ELEVATION MYOCARDIAL INFARCTION.

(5) THIS SECTION IS REPEALED, EFFECTIVE AUGUST 1, 2015.

25-3-115. Stroke advisory board - creation - membership - duties - report - repeal. (1) (a) THERE IS HEREBY CREATED IN THE DEPARTMENT THE STROKE ADVISORY BOARD, THE PURPOSE OF WHICH IS TO EVALUATE POTENTIAL STRATEGIES FOR STROKE PREVENTION AND TREATMENT AND DEVELOP A STATEWIDE NEEDS ASSESSMENT IDENTIFYING RELEVANT RESOURCES. NO LATER THAN AUGUST 1, 2013, THE GOVERNOR SHALL APPOINT EIGHTEEN MEMBERS TO THE STROKE ADVISORY BOARD AS FOLLOWS:

(I) SIX PHYSICIANS WHO ARE ACTIVELY INVOLVED IN STROKE CARE AND WHO SATISFY THE FOLLOWING CRITERIA: ONE PHYSICIAN WHO IS BOARD-CERTIFIED IN PRIMARY CARE; ONE PHYSICIAN WHO IS BOARD-CERTIFIED IN VASCULAR NEUROLOGY; ONE PHYSICIAN WHO IS PRIVILEGED AND ACTIVELY PRACTICING INTERVENTIONAL NEURORADIOLOGY; ONE PHYSICIAN WHO IS BOARD-CERTIFIED IN NEUROSURGERY; ONE PHYSICIAN REPRESENTING A STATEWIDE CHAPTER OF EMERGENCY PHYSICIANS; AND ONE PHYSICIAN WHO IS A BOARD-CERTIFIED NEUROLOGIST SERVING PATIENTS IN A RURAL AREA OF THE STATE;

(II) ONE MEMBER REPRESENTING A STATEWIDE ASSOCIATION OF PHYSICIANS;

(III) ONE MEMBER REPRESENTING A STATEWIDE HOSPITAL ASSOCIATION;

(IV) ONE MEMBER WHO IS AN EMERGENCY MEDICAL SERVICE PROVIDER, AS DEFINED IN SECTION 25-3.5-103 (8);

(V) ONE MEMBER WHO IS A REGISTERED NURSE INVOLVED IN STROKE CARE;

(VI) ONE HOSPITAL ADMINISTRATOR FROM A HOSPITAL LOCATED IN A RURAL AREA OF THE STATE;

(VII) ONE HOSPITAL ADMINISTRATOR FROM A HOSPITAL LOCATED IN AN URBAN AREA OF THE STATE;

(VIII) ONE REPRESENTATIVE FROM A STROKE REHABILITATION FACILITY;

(IX) ONE MEMBER WHO IS A COLORADO RESIDENT REPRESENTING A NATIONAL ASSOCIATION WHOSE GOAL IS TO ELIMINATE CARDIOVASCULAR DISEASE AND STROKE;

(X) ONE MEMBER WHO IS A COLORADO RESIDENT REPRESENTING A NATIONAL STROKE ASSOCIATION;

(XI) ONE MEMBER WHO IS A PHYSICAL OR OCCUPATIONAL THERAPIST ACTIVELY INVOLVED IN STROKE CARE;

(XII) ONE MEMBER OF THE PUBLIC WHO HAS SUFFERED A STROKE OR IS THE CAREGIVER OF A PERSON WHO HAS SUFFERED A STROKE; AND

(XIII) ONE MEMBER WHO IS AN EXPERT IN STROKE DATABASE MANAGEMENT.

(b) THE EXECUTIVE DIRECTOR OF THE DEPARTMENT OR THE EXECUTIVE DIRECTOR'S DESIGNEE SHALL SERVE AS AN EX OFFICIO MEMBER OF THE STROKE ADVISORY BOARD.

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(c) MEMBERS OF THE STROKE ADVISORY BOARD SERVE WITHOUT COMPENSATION AND ARE NOT ENTITLED TO REIMBURSEMENT OF EXPENSES INCURRED IN SERVING ON OR PERFORMING DUTIES OF THE ADVISORY BOARD.

(2) (a) THE STROKE ADVISORY BOARD SHALL STUDY AND MAKE RECOMMENDATIONS FOR DEVELOPING A STATEWIDE PLAN TO IMPROVE QUALITY OF CARE FOR STROKE PATIENTS. IN CONDUCTING THE STUDY, THE STROKE ADVISORY BOARD SHALL EXPLORE THE FOLLOWING ISSUES, WITHOUT LIMITATION:

(I) CREATION OF A STATE DATABASE OR REGISTRY CONSISTING OF DATA ON STROKE CARE THAT MIRRORS THE DATA HOSPITALS SUBMIT TO NATIONALLY RECOGNIZED ORGANIZATIONS;

(II) ACCESS TO AGGREGATED STROKE DATA, WHICH MUST EXCLUDE ANY IDENTIFYING OR CONFIDENTIAL INFORMATION ABOUT THE REPORTING HOSPITAL OR PATIENTS TREATED BY THE HOSPITAL, FROM A STATE DATABASE THAT MAY BE DEVELOPED OR FROM A NATIONALLY RECOGNIZED ORGANIZATION BY THE ADVISORY BOARD, BY ANY PERSON WHO SUBMITS A WRITTEN REQUEST FOR THE DATA;

(III) EVALUATION OF CURRENTLY AVAILABLE STROKE TREATMENTS AND THE DEVELOPMENT OF RECOMMENDATIONS, BASED ON MEDICAL EVIDENCE, FOR WAYS TO IMPROVE STROKE PREVENTION AND TREATMENT;

(IV) A PLAN THAT WOULD ENCOURAGE RURAL AND URBAN HOSPITALS TO COORDINATE SERVICES FOR THE NECESSARY REFERRAL OR RECEIPT OF PATIENTS REQUIRING STROKE CARE IN THE STATE; AND

(V) THE CRITERIA USED BY NATIONALLY RECOGNIZED BODIES FOR DESIGNATING A HOSPITAL IN STROKE CARE AND WHETHER A DESIGNATION IS APPROPRIATE OR NEEDED TO ASSURE ACCESS TO THE BEST QUALITY CARE FOR COLORADO RESIDENTS WITH STROKE EVENTS.

(b) BY JANUARY 31, 2014, AND BY EACH JANUARY 1 THEREAFTER, THE STROKE ADVISORY BOARD SHALL SUBMIT A REPORT SPECIFYING ITS FINDINGS AND RECOMMENDATIONS TO THE HEALTH AND HUMAN SERVICES COMMITTEE OF THE SENATE, THE HEALTH, INSURANCE, AND ENVIRONMENT COMMITTEE OF THE HOUSE OF REPRESENTATIVES, OR THEIR SUCCESSOR COMMITTEES, AND THE DEPARTMENT. THE STROKE ADVISORY BOARD SHALL

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INCLUDE IN ITS REPORT A RECOMMENDATION ON WHETHER A DESIGNATION OF A HOSPITAL IN STROKE CARE IS APPROPRIATE OR NEEDED TO ASSURE ACCESS TO THE BEST QUALITY CARE FOR COLORADO RESIDENTS WITH STROKE EVENTS.

(3) THE DEPARTMENT MAY ACCEPT AND EXPEND, SUBJECT TO APPROPRIATION BY THE GENERAL ASSEMBLY, GIFTS, GRANTS, AND DONATIONS TO PAY THE DIRECT EXPENSES OF THE DEPARTMENT IN ASSISTING AND STAFFING THE STROKE ADVISORY BOARD. THE DEPARTMENT SHALL TRANSMIT ANY MONETARY GIFTS, GRANTS, OR DONATIONS IT RECEIVES TO THE STATE TREASURER FOR DEPOSIT IN THE HEALTH FACILITIES GENERAL LICENSURE CASH FUND, AND THOSE MONEYS MAY BE USED ONLY TO PAY THE DIRECT EXPENSES OF THE DEPARTMENT.

(4) AS USED IN THIS SECTION, UNLESS THE CONTEXT OTHERWISE REQUIRES, "DEPARTMENT" MEANS THE DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT.

(5) THIS SECTION IS REPEALED, EFFECTIVE SEPTEMBER 1, 2018. PRIOR TO THE REPEAL, THE DEPARTMENT OF REGULATORY AGENCIES SHALL REVIEW THE FUNCTIONS OF THE STROKE ADVISORY BOARD IN ACCORDANCE WITH SECTION 2-3-1203, C.R.S.

25-3-116. Department recognition of national certification - suspension or revocation of recognition - definitions. (1) A HOSPITAL THAT HAS AN ACCREDITATION, CERTIFICATION, OR DESIGNATION IN STROKE OR STEMI CARE FROM A NATIONALLY RECOGNIZED ACCREDITING BODY, INCLUDING BUT NOT LIMITED TO A CERTIFICATION AS A COMPREHENSIVE STROKE CENTER OR PRIMARY STROKE CENTER BY THE JOINT COMMISSION ON ACCREDITATION OF HEALTH CARE ORGANIZATIONS AND PROGRAMS OR ITS SUCCESSOR ORGANIZATION OR AN ACCREDITATION AS A STEMI RECEIVING CENTER OR STEMI REFERRAL CENTER BY THE SOCIETY FOR CARDIOVASCULAR PATIENT CARE OR ITS SUCCESSOR ORGANIZATION, MAY SEND INFORMATION AND SUPPORTING DOCUMENTATION TO THE DEPARTMENT. THE DEPARTMENT SHALL MAKE A HOSPITAL'S NATIONAL ACCREDITATION, CERTIFICATION, OR DESIGNATION AVAILABLE TO THE PUBLIC IN A MANNER DETERMINED BY THE DEPARTMENT.

(2) THE DEPARTMENT SHALL DEEM A HOSPITAL THAT IS CURRENTLY ACCREDITED, CERTIFIED, OR DESIGNATED BY A NATIONALLY RECOGNIZED

ACCREDITING BODY AS SATISFYING THE REQUIREMENTS FOR RECOGNITION AND PUBLICATION BY THE DEPARTMENT. THE DEPARTMENT MAY SUSPEND OR REVOKE A RECOGNITION AND PUBLICATION OF A HOSPITAL'S ACCREDITATION, CERTIFICATION, OR DESIGNATION IF THE DEPARTMENT DETERMINES, AFTER NOTICE AND HEARING IN ACCORDANCE WITH THE "STATE ADMINISTRATIVE PROCEDURE ACT", ARTICLE 4 OF TITLE 24, C.R.S., THAT THE HOSPITAL NO LONGER HOLDS AN ACTIVE ACCREDITATION, CERTIFICATION, OR DESIGNATION FROM A NATIONALLY RECOGNIZED CERTIFYING BODY.

(3) WHETHER A HOSPITAL ATTAINS A NATIONAL ACCREDITATION, CERTIFICATION, OR DESIGNATION IN STROKE OR STEMI CARE HAS NO BEARING ON, OR CONNECTION WITH, THE LICENSING OR CERTIFICATION OF THE HOSPITAL BY THE DEPARTMENT PURSUANT TO SECTION 25-1.5-103 (1) (a).

(4) AS USED IN THIS SECTION, UNLESS THE CONTEXT OTHERWISE REQUIRES:

(a) "DEPARTMENT" MEANS THE DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT.

(b) "STEMI" MEANS ST-ELEVATION MYOCARDIAL INFARCTION.

SECTION 2. In Colorado Revised Statutes, 2-3-1203, **add** (3) (ee.5) as follows:

2-3-1203. Sunset review of advisory committees. (3) The following dates are the dates for which the statutory authorization for the designated advisory committees is scheduled for repeal:

(ee.5) SEPTEMBER 1, 2018:

(II) THE STROKE ADVISORY BOARD CREATED IN SECTION 25-3-115, C.R.S.;

SECTION 3. Appropriation. In addition to any other appropriation, there is hereby appropriated, out of any moneys in the general fund not otherwise appropriated, to the department of public health and environment, for the fiscal year beginning July 1, 2013, the sum of

$41,402 and 0.6 FTE, or so much thereof as may be necessary, for allocation to the emergency preparedness and response division for the stroke and STEMI heart attack designation line item related to the implementation of this act.

SECTION 4. Safety clause. The general assembly hereby finds, determines, and declares that this act is necessary for the immediate preservation of the public peace, health, and safety.

John P. Morse
PRESIDENT OF
THE SENATE

Mark Ferrandino
SPEAKER OF THE HOUSE
OF REPRESENTATIVES

Cindi L. Markwell
SECRETARY OF
THE SENATE

Marilyn Eddins
CHIEF CLERK OF THE HOUSE
OF REPRESENTATIVES

APPROVED_____

John W. Hickenlooper
GOVERNOR OF THE STATE OF COLORADO

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