



COLORADO

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Emergency Medical and Trauma Services Branch

2015 STEMI Task Force Final Legislative Report

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<https://www.colorado.gov/pacific/cdphe/stemi-task-force>
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2015 Final Report to the Colorado Legislature Concerning Activities of the STEMI Task Force

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Definitions and Acronyms

ACTION Registry[®]-GWTG[™]: Acute Coronary Treatment and Intervention Outcomes Network Registry, a database trademarked by the American College of Cardiology. It is designed for STEMI data and is one of multiple NCDR (National Cardiovascular Data Registry) products developed by the ACC (American College of Cardiology). For the ACTION Registry, NCDR has partnered with the American Heart Association that sponsors “Get With The Guidelines” (a performance improvement program). This registry may also be referred to as ACTION Registry-Get With The Guidelines, ACTION Registry-GWTG, NCDR ACTION Registry or ARG <http://cvquality.acc.org/NCDR-Home/Registries.aspx>.

Authorized state agency: refers to the future activities by an entity within the state government tasked by the legislature with improving STEMI systems of care. Currently, STEMI activities have been assigned to the Colorado Department of Public Health and Environment under the trauma section.

Department: refers to the Colorado Department of Public Health and Environment.

ECG or EKG: an abbreviation for electrocardiogram, a diagnostic tool that traces the electrical activity of the heart.

EMS: an abbreviation for emergency medical services.

PCI: an abbreviation for percutaneous coronary intervention- an invasive treatment to restore blood flow in an occluded blood vessel of the heart.

RETAC: an abbreviation for Regional Emergency Medical and Trauma Advisory Council. Colorado’s RETACs were established in July 2001. These advisory councils are locally determined for the purpose of planning and coordinating emergency medical and trauma services in their respective areas. Colorado is composed of 11 RETACs.

STEMI: an abbreviation for ST-elevation myocardial infarction- a severe type of heart attack.

Executive Summary

On May 24, 2013, Gov. John Hickenlooper signed Senate Bill 13-225 (see Appendix 4), now C.R.S. 25-3-115, into law. It called for the formation of the STEMI (ST-elevation myocardial infarction) Task Force to make recommendations to improve STEMI care in the state of Colorado by addressing the following four topics. The task force submitted a report of its progress in January 2014. A gap analysis for the STEMI system of care guided the task force in its final recommendations presented in this report. As the task force evolved, it acknowledged that although STEMI is the most severe type of heart attack, it represents only a portion of all heart attacks. Therefore, the STEMI Task Force determined a comprehensive STEMI system must incorporate all heart attack care, and that focus is echoed in its recommendations.

Data Registry

The task force recommends participation in a national database. Specifically, facilities that provide PCI (percutaneous coronary intervention) should participate in the ACTION Registry and share the quarterly reports with the authorized state agency. Facilities that transfer STEMI patients would be asked to provide modest data to the PCI-capable hospital for accurate and complete ACTION Registry reporting. Standardized data measures and definitions for EMS should be established through the Regional Emergency Medical and Trauma Advisory Councils to include emergency medical services in quality improvement with hospitals.

Access to Data

The task force found that data collection and analysis are important to hospitals and the department for quality improvement purposes. Details on what data elements and how they are beneficial are discussed in the data registry section.

Rural and Urban Care Coordination

The task force recommends several quality improvement initiatives including heart attack treatment plans and rural/urban partnerships to support expeditious care. The task force also recommends creating a Heart Attack Advisory Council to make statewide quality improvement recommendations that will be implemented by the department.

Designation of STEMI Facilities

The task force recommends a state-facilitated designation system to help increase access to optimal STEMI care by incorporating large and small facilities into three levels of care differentiated by acute STEMI care capabilities.

Recommendations for facilitation of the proposed heart attack system

The task force recommends that the Heart Attack Advisory Council review data submitted to the department and make recommendations for system improvement on a facility and statewide level.

The task force recommends a statewide Heart Attack Coordinator to facilitate the designation system, facilitate the Heart Attack Advisory Council's data review and provide system support to facilities. Facility support is intended to be on a continuous basis to improve care coordination and resolve gaps in the system of care as they arise.

The task force recommends an annual heart attack symposium to improve the system of care. The event would be produced by the Heart Attack Advisory Council and facilitated by the Heart Attack Coordinator.

Potential Implications for STEMI System Partners

Implications for Legislative Partners:

Data Registry:

- Legislative action would be necessary to require hospitals that perform PCI procedures to participate in STEMI data collection and submit data to a state agency.
- Legislative action would be necessary to authorize a state agency to collect and analyze the data that PCI hospitals would submit.
- Legislative action would be required for the authorized state agency to consult external subject matter experts in the review of data to make recommendations for quality improvement.

Designation:

- Legislative action would be necessary to allow authorized state agency to develop a Heart Attack Center designation program as described in the designation section.

Additional Recommendations:

- Legislative action would be necessary to allow a state agency to establish and facilitate a voluntary Heart Attack Advisory Council.
- Legislative action would be necessary to add a staff position for a Heart Attack Coordinator to a state agency for facilitating the heart attack designation and care coordination system in Colorado.

Implications for State Agency Partners:

Data Registry:

- The authorized state agency would have the responsibility to collect ACTION Registry reports from PCI hospitals if instructed to do so by state law. That agency would have to establish a system for collection, analysis and feedback to facilities. The agency assigned with these tasks would have to explore the fiscal impact of these duties.
- That state agency would have a role in standardizing the data that referring hospitals share with PCI hospitals for completion of the ACTION Registry.
- That state agency would have the responsibility to work with the Heart Attack Advisory Council to help standardize EMS and hospital data collection processes by collaborating with hospitals, EMS and Regional Emergency Medical and Trauma Advisory Councils.

Access to Aggregated STEMI Data:

- The authorized state agency responsible for collecting and reviewing data will have added responsibility for using data for the purpose of STEMI system quality improvement.

Rural and Urban Coordination of Care:

- The state agency could work with facilities and regions on a voluntary basis to establish best practices and encourage rural/urban collaboration. The agency would need additional resources to engage in this activity.
- The state agency would have a role in supporting hospitals' adoption of standardized STEMI treatment plans and/or transfer protocols as outlined in the care coordination section.
- The state agency would provide support and technical assistance to EMS, facilities and regions as these groups establish follow-up and quality improvement plans for STEMI care.
- The state currently plays a role in funding equipment for EMS agencies. There may be opportunities for state assistance to help agencies that do not have paramedics acquire 12-lead ECG units. Regions and external organizations have also helped accomplish this goal in other states.

- A state agency may provide support as regions develop standardized STEMI guidelines for EMS agencies. This support could include sharing current guidelines or protocols across regions to open communication and help maximize the use of best practices in Colorado.

Designation:

- The state agency would be required to develop and implement a Heart Attack Center designation program. The criteria are outlined in the designation section, and the cost and process of designation would be determined by the state agency in collaboration with the Heart Attack Advisory Council.

Heart Attack Advisory Council:

- The state agency would be responsible for initiating and facilitating the advisory council and implementing the council's recommendations at the facility, agency or regional level.

Heart Attack Coordinator:

- The Heart Attack Coordinator would be an additional staff member at a state agency. The state agency would be responsible for defining the job duties and funding needs for this position.

Implications for Regional Partners:

Data Registry:

- Hospital reporting of STEMI data into the ACTION Registry requires minimal EMS data elements. Regional Emergency Medical and Trauma Advisory Councils, also referred to as RETACs, would be helpful in the process of standardizing the important data elements for suspected STEMI patients and sharing those data with hospitals.
- Regions also play a crucial role in standardizing the definitions for data measures.

Rural and Urban Coordination of Care:

- Hospital treatment plans include the response to an EMS alert. RETACs will continue to have an important role in standardizing EMS treatment of potential STEMI patients and education on symptom recognition, hospital alert and patient transition processes.
- RETACs will continue to be a part of building relationships between EMS and hospitals to improve follow-up processes for the purpose of quality improvement for all providers.
- RETACs would likely be involved in communicating recommendations from an advisory council to EMS agencies for STEMI system improvement.

Designation:

- The designation process would not directly impact the RETACs. Indirect impacts would include the initial education regarding the new designation system and appropriately updating EMS processes.

Additional Recommendations:

- Regions would potentially communicate with the state agency to provide feedback on the system as well as help the advisory council develop recommendations and projects which have a regional impact.
- A Heart Attack Coordinator would act as the liaison between regions and a heart attack council to provide bidirectional communication regarding STEMI system improvement.

Implications for Hospitals and EMS (Emergency Medical Services) Partners:

Data Registry:

- Hospitals that perform PCI procedures would be required to participate in the ACTION Registry. Additionally, hospitals would be responsible for submitting a quarterly report to a state agency as expressed in the data recommendation.
- Hospitals that do not perform PCI procedures would be asked to share data elements required for the ACTION Registry with the receiving hospital. This recommendation reinforces current best practices in place at many hospitals in Colorado already.
- Hospitals will be part of the standardization of EMS data measures and definitions along with EMS agencies and the Regional Emergency Medical and Trauma Advisory Councils.

Access to Aggregated STEMI Data:

- As more hospitals participate in the ACTION Registry, they would provide the state with more robust data. These data would be used to facilitate quality improvement activities.

Rural and Urban Coordination of Care:

- Hospitals could work with EMS in improving and standardizing processes to help streamline the patient transition between EMS and hospitals. Hospitals would be developing STEMI care plans which include the participation with EMS, as outlined in the recommendation.
- Hospitals and EMS would work to improve the STEMI system of care with recommendations from the Heart Attack Advisory Council.
- EMS agencies currently purchase 12-lead ECGs or acquire these and other equipment through grants. Regional or state agency support may assist agencies in acquiring 12-lead machines with interpretation capabilities for agencies that do not have paramedics.
- EMS agencies would be encouraged to focus on improving STEMI symptom recognition and performing an ECG tracing within 10 minutes of the first medical contact.

Designation:

- Hospitals would voluntarily participate in the Heart Attack Center designation program.
- EMS would not be directly impacted by hospital designation. An indirect impact would be the need for EMS to become familiar with the Heart Attack Center system and make appropriate adjustments to processes.

Additional Recommendations:

- Hospitals would communicate with a state coordinator to implement recommendations from the Heart Attack Advisory Council. Hospitals may choose to request advice from the council or technical assistance from the coordinator on STEMI system issues.
- Hospitals and EMS agencies would communicate with the Heart Attack Coordinator to improve facility and system processes at the local and state level.
- Hospitals and EMS may request continuing education on an ongoing basis.

Background

On May 24, 2013, Gov. John Hickenlooper signed Senate Bill 13-225, now C.R.S.25-3-115 into law (Appendix 4). The bill called for the formation of the STEMI (ST-elevation myocardial infarction) Task Force to study and make recommendations for developing a statewide plan to improve the quality of care to STEMI patients in Colorado by exploring the following issues:

- State database or registry that mirrors national data
- Access to aggregated data
- Plan for rural and urban coordination of hospital services
- Determine whether STEMI designation is appropriate or needed to assure access to quality care for STEMI patients

The task force is made up of 15 Governor-appointed members and one ex-officio member from the Colorado Department of Public Health and Environment. The current members are listed in Appendix 2. Meetings are facilitated by the department.

The task force met from September 2013 to June 2015.

STEMI Task Force meeting information and materials can be found on the website: <https://www.colorado.gov/cdphe/stemi-task-force>

Introduction

Cardiovascular disease is the leading cause of death in both men and women in the United States and in Colorado according to Colorado Health Information Dataset and the American Heart Association. On average, one Coloradan dies every hour due to cardiovascular disease. (<https://www.colorado.gov/pacific/cdphe/cardiovascular-disease-data>)

Coronary artery disease is the most prevalent manifestation of atherosclerosis and is the most common cause of heart attacks and cardiac arrest. A STEMI heart attack is caused by a total occlusion of a coronary artery and is the most severe and life-threatening type of heart attack. Approximately 25-40 percent of all heart attacks are STEMI's (http://my.americanheart.org/professional/Library/2013-STEMI-Guideline-Data-driven-Recommendations_UCM_447559_Article.jsp#treatment). STEMI is time-sensitive and requires rapid reperfusion (the restoration of blood flow), to save the heart tissue from death. The most effective treatment is PCI (percutaneous coronary intervention), which is an invasive procedure performed at specialized facilities.

The STEMI Task Force set out to accomplish the objectives submitted in the January 2014 legislative report and research Colorado's strengths and weaknesses in STEMI care. The STEMI Task Force aspired to develop recommendations that would help assure the highest quality of care to STEMI patients treated in Colorado in order to afford the maximal opportunity for survival.

The following report addresses each legislative task individually with the current recommendations and implications of the recommendations, followed by the findings from the gap analysis for the 2014 objectives.

Creation of a State Database

In 2014, the STEMI Task Force researched what data are available and which data elements are essential for quality efforts. In addition, the group researched data collection models for the purpose of quality improvement to the STEMI system of care. Evidence-based practice and national standards have created process measures that are helpful in assessing crucial treatment time intervals and quality metrics. The task force examined different ways of tracking these important data points.

The ACTION Registry gained the most interest from the task force. It is designed for STEMI data and is one of multiple NCDR (National Cardiovascular Data Registry) products developed by the ACC (American College of Cardiology). For the ACTION Registry, NCDR has partnered with the American Heart Association that sponsors “Get With The Guidelines” (a performance improvement program). This registry may also be referred to as ACTION Registry-Get With The Guidelines, ACTION Registry-GWTG, NCDR ACTION Registry or ARG.

Task Force Recommendations

- 1. All facilities with PCI (percutaneous coronary intervention) capability in Colorado should participate in the ACTION Registry which results in three different quarterly reports. Facilities should submit their quarterly ACTION Mission Lifeline System Reports, generated by NCDR, to the authorized state agency.**

The quarterly ACTION Registry reports provide aggregate data. The task force felt that voluntary participation, the current standard, would provide no benefit. Data are essential to quality improvement, and facilities performing invasive procedures should report data and perform quality improvement. Therefore, mandatory participation in ACTION Registry was seen as an acceptable requirement of higher level facilities that perform PCI procedures.

Implementation of this recommendation would provide data for the purpose of statewide quality improvement on roughly 98 percent of STEMI patients in Colorado who present to a hospital. This does require mandating ACTION Registry participation of all 33 PCI-capable hospitals. Currently, eight of these hospitals are performing PCI procedures but not participating in a STEMI data registry. Participation will cost each facility \$3,400 annually, with an estimated four percent annual increase according to the NCDR website. Institutional support for data collection is an additional cost to facilities. Currently, the department has neither the authority to mandate participation nor to enforce consequences for non-compliance.

This recommendation would be best implemented by developing an ongoing Heart Attack Advisory Council to review blinded data from the ACTION Registry reports, along with emergency medical services data, and make recommendations for system changes to improve care. The ACTION Registry report does not identify each facility by name, allowing the Heart Attack Advisory Council the opportunity to review anonymous data. The Heart Attack Coordinator would receive each facility’s information and provide support to individual facilities, emergency medical services agencies and Regional Emergency Medical and Trauma Advisory Councils on heart attack system improvement. The process of offering technical assistance should be collaborative, rather than regulatory in nature.

2. Facilities that transfer patients would be asked to provide minimal data to the PCI-capable hospital for accurate and complete ACTION Registry reporting.

This recommendation is not anticipated to burden small or rural facilities that transfer STEMI patients. These data are commonly tracked and could be shared through a process agreed upon by the two facilities. Currently, there is not a sustainable model to capture the two to three percent of STEMI patients who are not treated at a PCI-capable hospital. Thus, those patients would continue to be outside the proposed dataset.

Minimum data elements for meaningful performance improvement from transferring facilities should include:

- Time of onset of symptoms
- First emergency medical services contact time
- Time of arrival at first facility
- Emergency medical services time of hospital departure for transferred patients
- Time to first ECG (electrocardiogram) (in the field or upon admission)
- Door to needle time (time interval from hospital arrival to administration of a clot-busting medication)
- Door to transfer time (time interval from hospital arrival to departure, for those patients transferred to a higher level of care for definitive treatment)

3. Standard emergency medical services data measures and definitions should be established to facilitate quality improvement and care coordination.

Standard measures could likely be defined through collaboration between a Heart Attack Advisory Council, the department, EMS agencies and the Regional Emergency Medical and Trauma Advisory Councils.

4. The task force does NOT recommend the development of a separate state database at this time.

While a state database would provide the ability to analyze data on many levels, the task force believes that the costs of developing a state database would outweigh the potential benefits. A stand-alone database would duplicate the data that facilities are currently entering into the ACTION Registry. This would be a burden to facilities. Furthermore, registry development is significantly labor and resource intensive, and without significant additional resources, the department does not have the infrastructure to collect, validate and analyze data.

Data Registry Gap Analysis:

The task force reviewed data from multiple sources, referenced in Appendix 1.

In using the Colorado Hospital Association discharge dataset, the task force was able to determine approximately how many STEMI patients arrived at hospitals in Colorado in 2012.

- 98 percent of these patients eventually received treatment at a PCI-capable hospital.
- The Colorado Hospital Association dataset does not provide treatment time interval data elements that are paramount to STEMI system quality improvement.
- 25 of 33 PCI-capable hospitals are already reporting into the ACTION Registry, which does collect data on treatment time intervals for STEMI patients.
- Two to three percent of STEMI patients did not receive treatment at a PCI-capable hospital for several possible reasons, including:
 - › Reperfusion therapy was contraindicated and thus transfer to PCI-capable hospital was not appropriate; OR
 - › The patients were not initially identified as a STEMI patient; OR
 - › The patient or family did not wish to transfer the patient to a different facility.
- The STEMI population not receiving treatment at a PCI-capable hospital is not and will not be captured in the ACTION Registry at this time.

The department does not currently collect data on individual STEMI patients. Doing so would require changes to law and regulation to allow for the collection and use of such data for quality improvement activities. The department would need authority to mandate data reporting and collection on all or specific types of patients. Such changes would require that a data repository be established at the department to house such information. Facilities would have to support the cost of establishing and maintaining a data system in addition to the infrastructure and personnel costs. The task force researched available data collection instruments and discussed each option at length:

- ACTION Registry- six page data abstraction form consisting of approximately 350 data elements.
 - › Facility cost is \$3,400 annually for the registry and includes four quarterly reports with benchmarking. Additional resources are required for data collection and reporting.
 - › Sharing reports with the state requires a signed release from each facility.
 - › The reports are shared only at the aggregate data level. The reports exclude case level information and thus cannot be combined to analyze statewide aggregate data.
 - › NCDR offers options to the state including data analysis capabilities ranging from \$1,500 up to \$150,000 annually.
- Other states have contracted with web-based databases. Colorado has contracted with web-based systems for other reporting purposes. The cost for these may be less than a stand-alone database built by the department but would be duplicative and more resource intensive than the ACTION Registry. The task force determined the costs or burden of additional data entry outweigh the benefits and thus did not further explore this option.

Issues for Future Consideration:

- Develop a statewide template with data elements that referring facilities should capture and share with the receiving facility
- Develop a statewide template with data elements and definitions for emergency medical services to capture and share with the state
- Assess the needs for data collection and adjust the reporting process as necessary. Explore the possibility of linking patient level emergency medical services and ACTION Registry data.

Access to Aggregated STEMI Data

The task force discussed the feasibility of providing access to STEMI data and the possible benefit to hospitals, emergency medical services agencies, the department and the general public.

Task Force Recommendations

1. The STEMI Task Force recommends access to STEMI data for hospitals and the department for the purpose of quality improvement and benchmarking. The task force recommends public access to data for the purpose of education and awareness if determined to be beneficial; however, the ACTION Registry reports are developed for quality improvement and not designed for public reporting purposes. Currently, the public does have information on hospital performance from websites such as:
 - Hospital Compare through Medicare (<http://www.medicare.gov/hospitalcompare/search.html>)
 - US News Health (<http://health.usnews.com/>)
 - Consumer Reports (<http://www.consumerreports.org/health/doctors-hospitals/hospital-ratings.htm>)

Access to Data Gap Analysis:

Currently neither the public nor the state has access to facility-specific data. The task force felt that aggregated data would be beneficial for the department, the Heart Attack Advisory Council and hospitals. This data would not likely benefit the general public in that it would be extremely difficult to analyze or present in a way that would be meaningful to the average consumer.

Other states have provided public access to hospital ranking and performance measures. The task force did discuss this option for STEMI care metrics but determined this to be problematic in several aspects. The most often-stated concerns were the complexity to implement a reporting system and the difficulty with defining data that could appropriately rank hospitals. Currently, there are neither standard reports nor metrics that would appropriately rank hospitals by their quality of care. Even interpretation of the most basic information such as mortality is challenging as higher-level facilities tend to have higher mortality rates partly due to their receipt of high risk patients. Thus, measures that are not adjusted to account for the difference in patient populations may not reflect a comprehensive picture of patient care. A few comparisons for public uses can be accomplished using the resources listed in the recommendation above.

Issues for Future Consideration:

- How can data be used to improve public education?

Rural and Urban Coordination of Care

The STEMI Task Force focused considerable attention on how rural and urban coordination of care could potentially improve STEMI care systemwide. Clearly, many rural facilities have relatively fewer resources compared to urban counterparts and thus could potentially benefit from enhanced relationships with larger, urban facilities. In addition, STEMI patients transferred from rural to urban settings may benefit from the early involvement of specialized clinicians at receiving facilities, paving the way for smoother transitions of care and early expert intervention.

Task Force Recommendations

1. The task force recommends facilities that receive emergency patients have the following STEMI treatment plans/resources in place:

- Emergency medical services (EMS) STEMI/cardiac alert response plans
- Transfer/referral protocols
- Facility determined one-call lists
- Reperfusion protocols
- Discharge plans that include follow-up (applies to STEMI receiving facilities only)

This recommendation is not anticipated to add significant burden to hospitals in Colorado and addresses the coordination of services across the STEMI continuum of care.

2. Each facility should be responsible for follow-up with the prior treatment team(s).

To clarify, the receiving facility is responsible for follow-up with the transferring facility and any inter-facility transfer team; meanwhile, the initial facility is responsible for follow-up with pre-hospital EMS. Follow-up processes can be determined between facilities and/or agencies and must comply with state and federal patient confidentiality laws.

This recommendation is made in response to the request from rural facilities and EMS to receive more feedback. Facilities and regions were polled regarding perceived needs and possible system improvements. Receiving facilities would carry the burden of relationship and process development, follow-up on care issues and quality improvement suggestions. Coordination is essential to ensure smooth transitions of care as well as the optimal treatment of the patient in the timeliest manner possible.

3. The task force recommends the appointment of a voluntary Heart Attack Advisory Council. This council would be facilitated by the department and would advise the department on continuing improvements to the STEMI system of care. This would also allow for the organization and maintenance of a statewide system for STEMI quality improvement. This council could review aggregated data to address localized and systemic issues. The state Heart Attack Coordinator would collaborate with facilities, agencies and/or regions to assist in the implementation of the council's recommendations.

This recommendation requires the appointment of an ongoing Heart Attack Advisory Council after the STEMI Task Force sunsets in August 2015. The state currently has a STEMI and Stroke Coordinator, one position for both advisory boards. The task force believes that additional resources will be necessary to complete the outlined tasks. The department will need to address ongoing staffing and resource requirements to develop, facilitate and complete recommendations from the proposed council.

4. The task force recommends the following improvements for EMS in Colorado:

- Encouraging all ambulances to be equipped with 12-lead units with interpretation capabilities. An ECG (electrocardiogram) is the diagnostic tool for STEMI. Most agencies with paramedics already have ECGs in their ambulances. Paramedics are able to read and interpret an ECG, thus able to identify a STEMI and call the alert which allows the hospital to prepare for that STEMI patient. ECG interpretation is outside of the scope of practice for EMS providers who are not paramedics. These EMS providers could alert the hospital from the field if the computer interpretation detects a STEMI. This streamlines STEMI patient care between hospitals and EMS providers who are not paramedics. This could greatly improve STEMI care in rural areas as many EMS providers are not paramedics and may not have access to ECG machines with interpretation capabilities.
- Working toward the first medical contact performing an ECG tracing within 10 minutes. The ECG not only diagnoses the STEMI, but also tells the provider where blood flow is impaired and how badly. Early diagnosis leads to earlier treatment and improved patient outcomes.
- Provide EMS provider training for heart attack symptomatology.
- Development of standardized transport guidelines to improve regional coordination.

While legislation states the task force is to explore rural and urban hospital coordination, it also directs the task force to explore each item without limitation. EMS is an integral factor in the STEMI system of care that directly affects the timeliness of treatment.

Coordination of Care Gap Analysis:

The STEMI Task Force sought out care coordination concerns that exist within the current system. The task force surveyed hospitals and Regional Emergency Medical and Trauma Advisory Councils in Colorado. Task force members then met with Regional Emergency Medical and Trauma Advisory Councils in a combined effort with the Stroke Advisory Board to elicit feedback. These efforts resulted in the following sentiments on potential gaps that could be addressed through educational and resource dissemination initiatives:

- Public recognition of STEMI symptoms and early activation of EMS
- EMS education to maintain competency in STEMI recognition and treatment
- EMS education appropriate for the region (web-based, physical materials, etc.)
- EMS education tailored to provider levels: Basic and Advanced Life Support
- 12-lead application and ECG (electrocardiogram) education available to all EMS agencies
- Streamlined alert and catheterization lab activation processes
- One-call numbers to STEMI receiving hospitals to streamline transfers
- Discharge process with more robust rehabilitation resources
- Improved transition to community or home-based rehabilitation

During its discussion on ECG machine and interpretation availability, the task force also explored the capabilities of transmitting ECGs to the hospital.

This has been an effort in other states and improves the transition of care while decreasing the time to appropriate treatment. While it is ideal for ambulances to have ECG transmission capabilities, several barriers exist that were determined to be outside the scope of the task force. Some of the most prominent barriers were technological, geographical and system development issues. Transmission capabilities are limited or nonexistent in Colorado's rural and frontier regions. Significant system development with processes and infrastructure would be required. Communications are continuously being improved and adjusted statewide, and transmission may be a future topic for the state.

The task force considered the potential impact of regional EMS protocols and consistent medical direction for agencies.

Currently, EMS protocols are determined by the medical director at the local level. In addition, most Regional Emergency Medical and Trauma Advisory Councils have a regional medical director who works with the agency medical director to establish standardized protocols that reflect current best practices. For regions that do not already have STEMI protocols, there is the potential to create generic STEMI guidelines for medical directors to customize to meet the needs of particular regions and agencies. A statewide protocol is not seen as appropriate because of the variability of geography, technology, expertise and other resources throughout Colorado.

The task force examined access to care and care coordination during the time period prior to transfer from rural facilities.

It does not appear that access to care is an issue in urban areas. While urban area competition drives improvements, other areas struggle to maintain expertise, resources and tools to deliver optimal care. Some rural facilities already have STEMI care plans in place; however, high staff turnover in rural areas leads to some staff unfamiliarity with resources or standard practices. Regional Emergency Medical and Trauma Advisory Councils and facilities indicated that standard STEMI care plans based on best practice models are both appropriate and necessary. These plans would assist in the rapid assessment and transfer of STEMI patients and could avoid mandating patient destinations, a model utilized in other states.

The task force worked to determine whether there were well established STEMI referral patterns and whether a more formal referral process was necessary.

Data analysis in conjunction with discussions with facilities and EMS agencies revealed that most agencies have appropriate STEMI destination plans, and patients are already transferred to a STEMI receiving hospital. Two identified gaps were regular occurrences of long door to balloon times and other instances where patients were eligible for, but did not receive, thrombolytics at the first hospital. Additional education and the above recommendations are believed to provide the means to resolve these gaps in care.

Finally, the task force discussed the need for rural and urban coordination in public education and awareness efforts. Many initiatives are already underway; however, most efforts are localized and do not reach many rural communities. Examples of current efforts include:

- Million Hearts-- <http://millionhearts.hhs.gov/>
- Mission Lifeline-- www.heart.org/HEARTORG/MissionLifeline
- Other American Heart Association initiatives--www.heart.org
- Society of Cardiovascular Angiography and Interventions--www.secondscount.org
- Cardiosmart through the American College of Cardiology--www.cardiosmart.org
- Society of Cardiovascular Patient Care--www.scpcp.org

Please also see additional discussion of these topics in the STEMI designation discussion below.

Issues for Future Consideration:

- Public education to recognize the early symptoms of a heart attack.
- Educations to improve public awareness of heart attack prevention resources.
- Public education for atypical symptoms, which can leave women undiagnosed in the acute phase of heart attack.
- Public education to encourage early activation of EMS.
- Improve community-based rehabilitation and follow-up resources.
- Continue to examine how the STEMI system of care can improve while avoiding additional burden on facilities, especially rural facilities.
- Hospitals and EMS agencies responded to surveys with needs to improve the STEMI system of care. Items that were outside of the scope of the task force and considered important for future attention include:
 - › Assess technological barriers to EMS/hospital communication
 - › Determine gaps in access to cardiology, pharmacy or other specialty services
 - › Assess recruitment and retention issues for emergency medical service providers and emergency department staff

STEMI Designation for Hospitals

The STEMI Task Force was also directed to study “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.”

Task Force Recommendations

1. The task force recommends that designation of Heart Attack Centers is appropriate and needed to ensure optimal care is provided to patients with STEMI events across Colorado. The task force recommends using the nomenclature “Heart Attack Center” as opposed to “STEMI center” for the purpose of communicating clearly with the public and providers at all levels. The process for Heart Attack Designation would be determined by the authorized state agency in conjunction with the Heart Attack Advisory Council.

Level 1 Heart Attack Center: Hospitals with resources to meet the needs of complicated STEMI patients. Hospitals must have current accreditation by a nationally recognized organization in STEMI care that meets the following criteria in order to be approved by the department.

- Around-the-clock PCI (percutaneous coronary intervention) capability
- Compliance with nationally recognized best practice guidelines
- Submit ACTION Registry quarterly reports to the department
- Data used for continuous quality improvement

The following accreditations through the Society of Cardiovascular Patient Care are considered sufficient for state designation and meet the above criteria, in addition to having multidisciplinary team collaboration:

- Mission Lifeline
- Chest Pain Center with Primary PCI
- Chest Pain Center with Primary PCI and Resuscitation

While there are other accreditations/certifications related to heart attack or heart disease, the task force did not believe those programs had sufficient criteria specific to STEMI care.

Level 2 Heart Attack Center: Hospitals with around-the-clock PCI capability and participation in the ACTION Registry. These facilities must have at least the following resources available:

- Compliance with nationally recognized best practice guidelines
- Submission of ACTION Registry quarterly reports to the department
- Data used for continuous quality improvement

Level 3 Heart Attack Center: Facilities with limited or no PCI capabilities must meet the following criteria:

- STEMI response plan compliant with national guidelines (rapid diagnosis, one-call number)
- Transfer processes compliant with national guidelines (when, where and how)
- Involvement in STEMI system improvement (requires data analysis - other than ACTION Registry)

Non-designated facilities: All licensed Colorado facilities (hospitals and Community Clinic and Emergency Centers) receiving emergency patients, must have a STEMI response plan that includes:

- Early identification of a STEMI
- A transfer protocol that includes a direct Catheterization Lab phone number of the Level I or II heart attack center(s) that will receive STEMI patients

Currently, the department does not have authority to carry out the previous recommendations or to mandate data reporting by all PCI-capable hospitals.

2. The task force recommends creating an ongoing Heart Attack Advisory Council to assist the department in:

- Evaluation of future certifications or accreditations that meet criteria for state designation
- Implementing a designation process
- Analyzing data and making recommendations to improve the STEMI system and designation process
- Analyzing the financial impact of state designation

Designation Gap Analysis:

The task force gathered information to determine what gaps exist in Colorado. Topics of interest with regard to the potential for a heart attack designation system are outlined below.

The task force solicited feedback from the emergency medical services community, regions and facilities to determine gaps or concerns with the current STEMI system that could be resolved through the standardization of practices. Identified issues included:

- STEMI terminology is many times confusing to the public.
- Different accreditations with varying criteria make it difficult to assess which facilities offer optimal STEMI care.
- Some facilities may not comply with national best practices due to resource or education gaps.
- Facilities that are not nationally accredited may lack education, expertise and/or equipment.
- The current system does not assure statewide access to care.
- Gaps exist in transitions of care and appropriate patient routing.

As directed by the legislation, the task force worked to determine whether designation would improve the delivery of quality STEMI care.

Designation is believed to correlate with improved care due, in part, to improved processes and compliance with evidence-based practice. STEMI care is dependent on timely delivery of appropriate treatment. Improving processes decreases treatment time-intervals, which improves the patient's recovery and quality of life. With this, the task force concluded that a designation system with a collaborative approach could help hospitals in Colorado work together to decrease ischemic time and improve outcomes for STEMI patients.

The task force felt that Colorado would benefit from designation that is inclusive rather than exclusive in nature because:

- Inclusion provides the opportunity to assess the broader spectrum of care.
- Analyzing more expansive data may reveal what factors influence the quality of care.
- The department could analyze data from all STEMI receiving centers and compare quality, mortality, patient volume and accreditation. Appropriate adjustments could be made to the designation system from data analysis results.
- Inclusion is important for facilities that need the most assistance with developing appropriate plans of care for potential STEMI patients and helps to ensure quality care across the state.
- Inclusive systems gain more support from facilities, communities and stakeholders.

The task force also expressed several concerns about potential implications of a state designation system:

- Facility and state costs to develop and maintain a designation system.
- State designation may be duplicative of accreditation and unnecessarily burdensome.

To further explore designation, the task force worked to identify differences in service availability and what differentiates levels of care.

- Around-the-clock PCI-capable hospitals
 - › Accreditation as a Society of Cardiovascular Patient Care: Mission Lifeline STEMI center or Chest Pain Center with PCI is roughly \$22,000 every three years, not including facility costs to support the program. Some facilities may not pursue accreditation even though they may meet the requirements because the costs are prohibitive.

- › Some facilities participate in quality improvement but may not decide to pursue accreditation due to barriers that include volume criteria.
- › Some facilities provide quality care and quality improvement but choose not to pursue accreditation. These facilities exist in rural areas as well as urban areas and are an important segment of the STEMI system. Data collection is especially important for incorporating these facilities into a quality improvement system.
- Facilities with limited or no PCI
 - › Other facilities lack resources and face barriers to adopting current best practices and quality improvement processes. These are facilities that can benefit from treatment plans that include transfer guidelines, partnerships with higher level facilities in the STEMI system and recurring education.

The task force considered additional potential criteria for designation and decided not to recommend requiring the following criteria:

- **Volume:** The national accreditation processes that are recommended as a pre-requisite for a Level I Heart Attack Center include volume criteria; therefore, the task force is not recommending additional volume criteria for designation. Data suggest that correlations exist between volumes and outcomes. However, the strength of this correlation and its applicability to modern STEMI systems is controversial and requires ongoing review.
- **On-site surgery:** National clinical practice guidelines no longer support on-site surgery requirements; therefore, the task force does not recommend this as a designation criterion.

Designation options explored in order of most to least comprehensive (the recommended model is in bold text):

- Several states have adopted a Time Sensitive Syndromes or Time Critical Diagnoses model that incorporates trauma, STEMI, stroke and other time sensitive conditions into one system. While there are benefits such as consistency in language, processes applicable across systems of care, care coordination and data capabilities, the system development is time and resource intensive. The task force does not recommend a significant change to the STEMI system of care, which is comparatively exemplary in Colorado. Smaller scale collaboration may more quickly and appropriately address the needs in Colorado.
- State designation in other states utilizes state-specific criteria that do not recognize national accreditation or certification. Each of these states has an individual process often accompanied by a state registry. It may or may not include an on-site visit. These systems meet two needs. They are intended to decrease the costs facilities pay for national accreditation while maintaining similar standards that are monitored by the state. They are also designed to allow more facilities to be incorporated into STEMI care that would otherwise not qualify for national certification or accreditation. This system was also deemed to be more extensive than is necessary for Colorado.
- **The recommended model is a state designation that also incorporates recognition of national accreditation or certification. The goal is to establish minimum standards and improve the partnerships between facilities for appropriate patient routing and better care. This model incorporates state specific criteria designed for facilities with limited resources. This limits the additional burden to facilities already providing adequate care and provides a vehicle for small facilities to participate in quality improvement and an organized system of care.**
- Another possible model was less extensive than a designation process. It would involve creating a definition for a heart attack center. All other hospitals would not be a heart

attack center. This model could require minimal criteria of all hospitals in Colorado, including a transfer plan for hospitals that are not heart attack centers. The task force determined that all facilities receiving ambulance traffic have an obligation to have a transfer plan for STEMI patients; however, this alone did not address the other gaps identified in Colorado. Establishing a more comprehensive system of care was considered to be more beneficial for Colorado.

Finally, in considering designation, the task force wanted to be very clear about how the term “facility” is defined in the recommendation since departmental regulatory authority over facilities varies depending on the type of facility. The term “facility” is used broadly and may refer to licensed and regulated facilities such as hospitals, community clinic and emergency Centers, ambulatory surgical centers or skilled nursing facilities. In common parlance, the term may also refer to urgent care or physician clinics which are not licensed or regulated. Patients having a heart attack could potentially seek care at the following types of facilities listed below.

- Emergency departments in hospitals are the most likely to receive heart attack patients. These are licensed and regulated by the department.
- Community Clinic and Emergency Centers are the next most likely to receive heart attack patients. Sometimes referred to as “stand-alone emergency departments,” these facilities operate as emergency departments in urban areas and as the sole source of primary care and emergency services in some rural areas such as Winter Park and Telluride. These are also licensed and regulated by the department.
- Individuals suffering from a heart attack may present to a clinic, doctor’s office or an urgent care center. The department does not license these types of facilities and thus has no regulatory authority over them and keeps no records on such facilities.

Due to the limitations on regulatory authority and the fact that the vast majority of patients present to regulated facilities, the task force agreed that the focus of a heart attack designation system would be on these licensed facilities and that licensure could be a prerequisite.

Regulatory authority over facilities receiving emergency patients is expressed in the trauma rules, which have been used as a model for the purposes of discussion. The rules state that licensed facilities that receive trauma patients by ambulance or other means are required to participate in the statewide emergency medical and trauma care system. <https://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=5729&fileName=6%20CCR%201015-4>

Issues for Future Consideration:

- Utilize data to make adjustments to the designation system to maximize care quality and limit the burden on facilities.
- Define the role of the state Heart Attack Coordinator in reviewing facility applications for designation and supporting facilities on a regular basis to maintain quality care.
- Analyze the financial impact of the designation process on stakeholders statewide.

Recommendations for Facilitation of the Proposed Heart Attack System

The legislation instructed the STEMI Task Force to explore the previous topics without limitation. In doing so, the task force developed several broad recommendations that are essential to enhancing the framework of a heart attack system.

- 1. The STEMI Task Force recommends the formation of a Heart Attack Advisory Council.** Establishing a system of care and committing to improving care in Colorado will require long-term dedication. This council will help ensure that heart attack care in Colorado will continuously be evaluated and improved upon. The council will serve to advise the department on all matters related to STEMI system development.

One role of the Heart Attack Advisory Council would be to review quarterly reports that facilities would submit to the department. This council would contain members with expertise to review the data and make recommendations for improving the system of care at a state level and an individual facility level. This would provide the department with the information necessary to help facilities improve care practices as well as provide feedback should facilities request assistance related to STEMI patient care.

The Heart Attack Advisory Council would also be important in helping the department review national accreditations or certifications that would be sufficient for state designation. The council may also provide feedback to the department as needed regarding designation processes and evaluating appropriate data collection and collection methods.

In addition, it would be beneficial for the Heart Attack Advisory Council to participate with the department in hosting an annual educational symposium for hospitals, focused on improving the heart attack system of care in Colorado.

This council should be facilitated and convened by the department with a make-up similar to the current task force but including more representation from emergency medical service providers, rural regions and rehabilitation specialists. The council should be a voluntary council with terms that expire at different intervals to avoid large changes to the membership at any given time.

- 2. The STEMI Task Force recommends a state Heart Attack Coordinator to help implement recommendations from the Heart Attack Advisory Council at the facility and system level and to be the departmental resource for facilities requesting assistance.**

This department staff member would process designation applications and provide assistance to facilities for quality improvement based on the reports submitted to the authorized state agency. The task force believes that it would be beneficial for the system to have this neutral resource for facility-specific efforts.

The task force advocates for a dedicated staff member to facilitate the Heart Attack Advisory Council and Heart Attack Designation system. This recommendation would have a fiscal impact, and the department would have to analyze the tasks and staffing requirements to fulfill these duties.

Catalogue of Data Sources

All-Payer Claims Database (Sponsored by the Center for Improving Value in Health Care)

As of December 2014, the APCD “includes 2010-2013 historic claims data from the 21 largest commercial payers’ individual and large-group fully-insured lines of business, plus Medicaid, representing over 2.5 million Coloradans...” (<https://www.cohealthdata.org/#/home>)

Emergency Medical Services Dataset (prehospital data)

The Data Services Section at the Colorado Department of Public Health and Environment manages and uses data to assess the emergency medical services system in Colorado. This program analyzes patient care data from ambulance trip reports submitted by Emergency Medical Services (EMS) agencies through ImageTrend or other vendors. The Colorado EMS Database is based on the National Emergency Medical Services Information System (NEMSIS) PreHospital EMS Dataset Version 2.2.1. The NEMSIS project was developed to help states collect more standardized elements and eventually submit data to a national EMS database. The state receives de-identified patient level and aggregated data.

Colorado Hospital Association Discharge Dataset

“The Colorado Hospital Association Discharge Data Program (DDP) database consists of administrative claims data derived from hospital billing information for all patients discharged from Colorado hospitals and patients who have hospital-based outpatient surgery. Beginning with 1988, the discharge data comes from all general acute care hospitals in Colorado. The 2012 database (most current full year) consists of 473,777 inpatient records and 427,025 outpatient surgery records. There are up to 32 different data elements (demographic, diagnoses and procedures, admission, length of stay and discharge status, and charges) recorded for each patient...Inpatient quality indicators at www.cohospitalquality.org are also derived from this data.” (Colorado Hospital Association)

The task force also looked at the Colorado Hospital Association emergency department data that is separate from the discharge dataset. This is data derived from emergency department billing information and ideally, represents emergency patients that are treated in the emergency department only. Patients admitted to the hospital would be represented in the discharge dataset. This data was used for general queries, but since it is a young database, the data validity has yet to be tested.

Centers for Medicare and Medicaid Services - Hospital Inpatient Quality Reporting (IQR)

“The Hospital IQR Program was developed as a result of the Medicare Prescription Drug, Improvement and Modernization Act (MMA) of 2003. The Hospital IQR Program is intended to equip consumers with quality of care information to make more informed decisions about health care options. It is also intended to encourage hospitals and clinicians to improve the quality of inpatient care provided to all patients. The hospital quality of care information gathered through the program is available to consumers on the Hospital Compare website... [Hospitals are required] to submit data for specific quality measures for health conditions common among people with Medicare.” (From <http://www.cms.gov/>) Data are collected on stroke patients with a primary discharge diagnosis of stroke and transient ischemic attack. Data submission is required for all hospitals except for critical access hospitals; 29 of 79 hospitals are critical access. Since critical access hospitals treat a small minority of the patients seen in Colorado, the majority of stroke patients should appear in this database.

Death Certificate Data

“The death certificate is a permanent legal record of the fact of death of an individual... [It] provides important information about: the decedent (such as age, sex, race, education, date of death, his or her parents, and, if married, the name of the spouse), the circumstances and cause of death, and final disposition... Statistical data from death certificates are used to identify public health problems and measure the results of programs established to alleviate these problems. These data are a necessary foundation on which to base effective public health programs. Health departments could not perform their duties without such data.” (From http://www.cdc.gov/nchs/data/misc/hb_fun.pdf). Note: death data are not linked back to other data sources such as hospital records, EMS records, etc., except during specially funded studies.

STEMI Task Force Members

Joseph Emory Barclay “Jeb” Burchenal, MD Chair
Golden
Front Range Interventional Cardiologist

Janet Stephens, BSN-Co-Chair
Fort Collins
Statewide hospital association

Julie J. Benz, RN, DNP
Parker
RN involved in cardiac care

Scott D. Campbell, Ed.D.
Colorado Springs
Cardiovascular data registry expert

Bain Joseph Farris
Denver
Urban area hospital administrator

Lee Alexander MacDonald, MD
Highlands Ranch
National assoc. working to eliminate cardiovascular disease

Frederick A. Masoudi, MD, MSPH, FACC
Denver
Cardiovascular data registry

David A. Rosenbaum, MD, FACC
Colorado Springs
Statewide association of cardiologists

Lynn Blake
Avon
STEMI survivor

Ira Mitchell Dauber, MD
Greenwood Village
Statewide association of physicians

Alexander Eugene Fraley, MD, FACC
Durango
Interventional cardiologist, western slope

Thomas Haffey, DO
Westminster
Cardiologist practicing in the state

Arthur Kanowitz, MD, FACEP
Littleton
CDPHE designee- ex officio

James L. Richardson, Paramedic
Basalt
EMS provider

Fred Anthony Severyn, MD, FACEP
Littleton
Statewide emergency physician association

Konnie Martin
Alamosa
Rural area hospital administrator

Conflict of Interest Disclosures

Julie Benz	Employed by St. Anthony Hospital as a Clinical Nurse Specialist Instructor at Regis University
Lynn Blake	Reports no conflicts of interest
Jeb Burchenal	Chairman of Mission Lifeline Affiliated with Centura Health System Affiliated with HealthOne
Scott Campbell	Employed by Centura Health System Volunteer- Mission:Lifeline
Ira Dauber	Affiliated with HealthOne
Bain Farris	St. Joseph Hospital- President and CEO
Alexander Fraley	Employed by Centura Health Physicians Group
Thomas Haffey	Ownership in Noninvasive Medical Technologies Speaker's Bureau for National Lipid Association Grant compensation for Glaxo Smith Kline Speaker's Bureau for Merck
Arthur Kanowitz	No conflict of interest reported
Lee MacDonald	Affiliated with Centura Health System Affiliated with HealthOne Member of American College of Cardiology Member of the Society for Cardiovascular Angiography and Interventions
Konnie Martin	No conflict of interest reported
Frederick Masoudi	Employed by University of Colorado in Cardiology Division Senior Medical Officer and on Board of Trustees for the National Cardiovascular Data Registry, part of the American College of Cardiology Chairman of Care and Quality Outcomes Research, American Heart Association
James Richardson	Reports no conflict of interest
David Rosenbaum	No conflict of interest reported
Fred Severyn	Reports no conflict of interest
Janet Stephens	Affiliated with the Colorado Hospital Association

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

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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;

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(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

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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

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\$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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