CHAPTER 1 - THE TRAUMA REGISTRY

Colorado has a comprehensive law defining and establishing a statewide trauma registry: Colorado Revised Statutes Title 25, Article 3.5, Sections 703(8), 703(9), and 704(f). These regulations are intended to provide detail and clarification regarding the operation of the statewide trauma registry.

Reporting Trauma Data

1. Each licensed facility (including specialty facilities), clinic, or pre-hospital provider that provides service or care to persons with trauma injury in this state shall submit to the department the following information for deaths, transfers, or inpatient discharges for a particular month within 60 days of the end of that month:

   a. admission information on persons with trauma injury, as defined in C.R.S. 25-3-703(9), who are admitted to a hospital as an inpatient; such information shall include the patient's name, date of birth, sex, and address; and the patient's injury type, diagnostic codes, severity, and cause;

   b. readmission information on persons readmitted to a facility as a hospital inpatient for care of the trauma injury; such information shall include the patient's name, date of birth, sex, and address; and the original date of admission for the injury;

   c. trauma death information on persons who die from trauma injury while in the hospital (including specialty facilities), emergency department, or clinic; such information shall include the patient's name, date of birth, sex, and address; and the patient's injury type, diagnostic codes, severity, and cause;

   d. transfer information on persons with trauma injury, including the patient's name, date of birth, sex, and address; the patient's diagnoses; and the name of the facilities and providers involved in the transfer. Reporting of such information is required from both the transferring and receiving faculty or provider. The transferring facility or provider shall be required to report such information on persons who are transferred to an out-of-state facility or provider.

2. Facilities designated as Level I, II, and III may fulfill the reporting requirement by submitting to the department or its agent an electronic data file of all of the discharges for a particular month within 60 days of the end of that month. The electronic data file must contain a record for each: (a) trauma inpatient (b) trauma patient who was transferred from the facility to another facility (whether in-state or out-of-state); and (c) trauma patient who died from trauma injury while in the facility regardless of whether the person was admitted.

The following information is required to be included in each patient record:

   i. Patient information: name; date of birth; medical record number; sex; race; ethnicity; patient address and locating information; pre-existing medical diagnoses.

   ii. Injury information: date, time, and location of injury; trauma diagnoses; injury severity; injury cause; whether or not protective devices were used by the patient; evidence of alcohol or other intoxication.

   iii. Inter-facility transfer information: transfer mode from the referring facility; name of referring facility, arrival and discharge times from the referring facility; source of treatment in the referring facility (ED, in-patient, etc.);
iv. Pre-hospital information: transport mode from the injury scene; name of transport agency(ies); triage risk assessment, including physiologic and anatomic conditions and injury circumstances; times of notification, arrival at scene, departure from scene, and arrival at destination; clinical data upon arrival at ED; disposition from ED;

v. In-patient care information: name and address of facility; identification for the data collector; admission time and date; admission service; surgical procedures performed; time and date of all surgical procedures; comorbid factors; total days in the ICU; payor source; discharge disposition; date and time of discharge; discharge diagnoses, including ICD codes, AIS scores, body region, diagnosis description, and ISS score; functional ability at discharge; and for deaths, autopsy status if performed (i.e. complete, pending, not done). “In-patient care information” shall include persons with trauma injury who are under observation in the facility or who are transferred from the emergency department to another hospital unit in the same facility even if that unit or bed is not classified by the facility as an “inpatient bed”. The information required under paragraphs I through iv of this rule must be provided in a format specified by the Department.

3. Facilities designated as Level I, II, and III shall submit to the trauma registry such additional information regarding the care, medical evaluation, and clinical course of specified, individual patients with trauma injury as is requested by the Department for the purpose of evaluating the quality of trauma management and care.

4. Clinics or facilities which are designated as Level IV or are undesignated may fulfill the reporting requirement by submission of data through a central computerized data system operated by or for the department. The department must receive the data for a particular month within 60 days of the end of that month. The data file submitted by facilities to the central computerized data system must contain the information required in Rule 1.

Confidentiality

1. Any data maintained in the trauma registry that identifies patients or physicians; or is part of patient’s medical record shall be strictly confidential pursuant to C.R.S. 25-3.5-704(f)(III), whether such data is recorded on paper or stored electronically. The data shall not be admissible in any civil or criminal proceeding.

2. The data in the trauma registry may not be released in any form to any agency, institution, or individual if the data identifies patients or physicians.

3. The department may provide access to aggregate information in the registry by outside agencies, institutions, or individuals. Such information may include aggregate information for a facility but shall not include data that identifies patients or physicians.

Provision of technical assistance and training

1. The Department may contract with any public or private entity to perform its duties concerning the statewide trauma registry, including but not limited to duties of providing technical assistance and training to facilities within the state or otherwise facilitating reporting to the registry.
In order to ensure effective system development, all regions must comply with the following minimum standards.

Minimum Standards for Regional Emergency Medical and Trauma Care Resources

A. Communication

The region must provide communication and dispatch systems that insure coordinated coverage, specifically:

1. Utilization of the universal 9-1-1 or a local equivalent that is well publicized and accessible for citizens and visitors to the region.

2. Adequate dispatch services.

3. Paging and alerting system for notification of emergency medical/trauma personnel who routinely respond to emergency medical/trauma incidents.

4. Two-way communications between and among ambulances.

5. Two-way communications between ambulances and non-designated facilities and designated trauma facilities.

6. Two-way communications between ambulances and trauma facilities outside the RETAC area.

7. A plan for utilization of an alternative communications system to serve as a back-up to the primary system.

8. A disaster communications plan

9. A system for notification and alerting trauma teams, fixed and rotary wing emergency services, and trauma centers.

10. A system that is compatible with systems in adjacent regions

B. Prehospital

First response units and ambulance services must meet the following criteria:

1. Minimum acceptable level of service:
   a. Basic life support (BLS) service - Must have at least 1 person who is at first responder or higher level of training
   b. Advanced life support (ALS) service - Must have at least 1 person who is at EMT-I or EMT-P level of training

2. Emergency response times for ground transport agencies:
   Time Limit
   a. High density areas (metropolitan)
      (1) Provider service area encompasses 11 minutes,
100,000 people or more  
90% of the time

b.  
Mid-density areas (urban or mixed)
(1) Provider service area encompasses
12,000 to 100,000 people  
90% of the time

90% of the time

b.  
Mid-density areas (urban or mixed)
(1) Provider service area encompasses
12,000 to 100,000 people  
90% of the time

c.  
Low density areas (rural, frontier)
(1) Provider service area encompasses
< 12,000 people  
90% of the time

3.  
Optimal scene time limits  
15 minutes  
90% of the time

Scene time = time of arrival of transport agency at the scene to departure of the scene

4. Agencies shall QA all response and scene times that exceed these parameters and make plan of correction where necessary

5. Triage and transport of trauma patients must be in accordance with the prehospital transport destination algorithm (exhibit A to these regulations)

C. Interfacility Transfer and Consultation

1. Levels II and III trauma centers caring for the critically injured adult trauma patients listed below must comply with the actions required:

   a. Bilateral pulmonary contusions requiring nontraditional ventilation

   b. Patient with multi-system trauma with pre-existing coagulopathy (hemophilia)

   c. Pelvic fractures with unrelenting hemorrhage

   d. Aortic tears

   e. Liver injuries requiring emergency surgery and requirement for liver packing or vena cava injury

Actions Required:

   (1) Mandatory, timely (but within 6 hours after recognition of condition) consultation is required with a Level I trauma surgeon (who is a member of the attending staff) for consideration of transfer of the patient. The attending trauma surgeon of the referring facility should initiate the consultation.
(2) Consultation with the attending trauma surgeon is required in the determination of the necessity of transfer and the circumstances of transfer, including but not limited to additional diagnostic/therapeutic issues, availability of resources, weather conditions.

2. Level III trauma centers caring for the high risk adult trauma patients with the following traumatic injuries must comply with the actions required:

   a. Significant head injuries (intracranial bleeding or GCS ≤ 10) or spinal cord injury with neurologic deficit where neurosurgical consultation and evaluation are not promptly available

   b. Significant multi-system trauma as defined by:

      (1) Head injury (intracranial bleeding or GCS ≤ 10) or spinal cord injury with neurologic deficit complicated by either significant chest and/or abdominal injuries as defined by:

         (a) Chest Injury (as part of multi-system injuries):

         (b) Abdominal Injury (as part of multisystem trauma):

   c. Bilateral femur fracture or posterior pelvic fracture complicated by significant chest and/or abdominal injuries as defined above

   d. Trauma patient on mechanical ventilation for > 4 days

   e. Life threatening complications, such as acute renal failure (creatinine > 2.5) or coagulopathy (twice the normal value for individual facility)

   Actions Required:

      (1) Mandatory, timely (but within 12 hours after recognition of condition) consultation is required with a Level I or key resource facility trauma surgeon (who is a member of the attending staff) for consideration of transfer of the patient. The primary attending physician at the Level III facility should initiate the consultation.

      (2) Consultation with the trauma surgeon is required in the determination of the necessity of transfer and the circumstances of transfer, including but not limited to additional diagnostic/therapeutic issues, availability of resources, weather conditions.

      (3) Consultation and or transfer decisions in patients with traumatic injuries less severe than those listed above shall be determined by the RETAC based on resources, facilities, and personnel available in the region and shall be made in accordance with RETAC protocols.

3. Level IV trauma centers caring for patients with the following traumatic injuries must comply with the actions required:

b. Significant head injuries (intracranial bleeding or GCS ≤ 10) or spinal cord injury with neurologic deficit

c. Significant multi-system trauma as defined by:

   (1) Head injury (intracranial bleeding or GCS ≤ 10) or spinal cord injury with neurologic deficit complicated by either significant chest and/or abdominal injuries as defined by:

      (a) Chest Injuries (as part of multisystem trauma):

      (b) Abdominal Injuries (as part of multi-system trauma):

d. Bilateral femur fracture or posterior pelvic fracture complicated by either significant chest or abdominal injuries as defined above

e. Trauma patient on mechanical ventilation

f. Life threatening complications, such as acute renal failure (creatinine > 2.5) or coagulopathy (twice the normal value for individual facility)

Actions required:

(1) Mandatory timely, (but within 6 hours after recognition of condition) transfer is required for patients with the above defined injuries.

(2) The primary attending physician at the level IV trauma center shall consult with the attending trauma surgeon at the key resource facility prior to transfer to determine the most appropriate destination for such patients and to discuss the circumstances of transfer such as additional diagnostic/therapeutic issues, availability of resources, weather conditions, etc.

(3) Consultation and or transfer decisions in patients with traumatic injuries less severe than those listed above shall be determined by the RETAC based on resources, facilities, and personnel available in the region and shall be in accordance with RETAC protocols.

4. Nondesignated Facilities

Until July 1, 1999, the primary attending physician at nondesignated facilities that have submitted by January 1, 1998 an application request per rule 301(A)(3) or 301(A)(4) for designation or re-designation and that receive and are accountable for trauma patients with any traumatic conditions other than as defined in 204(C)(5) must consult with an attending trauma surgeon at a key resource facility to determine if the patient requires transfer to a designated facility. Timing of such consultations must occur within six hours of recognition for all traumatic conditions other than as defined in 204(C)(5). Nondesignated facilities must transfer all trauma patients except those defined in rule 204(C)(5) to the appropriate, designated trauma center. Transfer agreements are required.

5. Noncomplicated Trauma Injuries

Interfacility transfer of noncomplicated, non-life threatening single system injury
(i.e. isolated hip fracture) trauma patients shall be made in accordance with RETAC protocols. RETACs must monitor transport within their regions and report systematic exceptions to the protocols or regulations to the Department.

6. RETACs must monitor treatment and transfer of patients with the above conditions. Documentation and QA must be completed on such patients. Systematic exceptions of the standards must be reported to the Department. For example, if significantly injured patients with multi-system trauma injuries are consistently transported to undesignated or level IV facilities, such transport deviation from the standards would constitute a systematic exception that must be reported.

7. RETACs are responsible for ensuring that interfacility transfer agreements exist in all facilities transferring patients within and outside the area.

D. Interfacility Transfer and Consultation

1. For the purpose of 204.D., “critical injuries” are defined as any of the following:
   a. Bilateral pulmonary contusions requiring non-traditional ventilation
   b. Multi-system trauma with preexisting or life threatening coagulopathy
   c. Pelvic fractures with unrelenting hemorrhage
   d. Aortic tears
   e. Liver injuries with vena cava injury or requiring emergency surgery with liver packing
   f. Coma for longer than 6 hours or with focal neurologic deficit.

2. For the purpose of 204.D., “high risk injuries” are defined as any of the following:
   a. Penetrating injuries to head, neck, torso, or proximal extremities
   b. Mechanical ventilation of > 16 hours
   c. Persistent in-hospital evidence of physiologic compromise including:
      tachycardia relative to age plus signs of poor perfusion (CFT > 2 seconds, cool extremities, decreased pulses, altered mental status, or respiratory distress), hypotension
   d. Hemodynamically stable children with documented visceral injury admitted for “observational” management and requiring blood transfusion or fluids > 40cc/kg.
   e. Injury Severity Score ≥ 9, including, but not limited to:
      i. Multi-system blunt injuries (> 2 systems)
      ii. Pelvic or long bone fractures in conjunction with multi-system injuries
      iii. Altered mental status (GCS < 10) with significant trauma
3. For the purpose of 204.D., “high risk mechanisms” are defined as any of the following high energy transfer mechanisms:
   a. falls > 20 feet
   b. auto crashes with significant vehicle body damage
   c. significant motorcycle crashes
   d. all terrain vehicle (ATV) crashes

4. Level II trauma centers with pediatric commitment designation (LII/PC) that care for pediatric patients (age 0-12 years) with critical injuries must comply with the actions required:
   **Actions required:**
   a. Mandatory, timely (but within 6 hours after recognition of condition) consultation\(^1,2\) is required with an attending trauma surgeon from a Regional Pediatric Trauma Center (RPTC) or a Level I trauma center with Pediatric Commitment (LI/PC).

5. Level I and II trauma centers without pediatric commitment and Level III centers caring for pediatric trauma patients (age 0-12 years) with critical injuries or high risk injuries must comply with the actions required:
   **Actions required:**
   a. **Children 0-5 years** of age with critical injuries shall be transferred with prior consultation\(^1,2\) to a Regional Pediatric Trauma Center (RPTC). If such a center is not available, then transfer\(^1,2\) shall be to a Level I Trauma Center with Pediatric Commitment (LI/PC). If such a center is not available, then transfer shall be to a Level II Trauma Center with Pediatric Commitment (LII/PC). If no center with pediatric commitment is available, transfer\(^1,2\) shall be to the highest level trauma center available.
   b. **Children 6 - 12 years** of age with critical injuries. Mandatory, timely (but within 6 hours after recognition of condition) consultation\(^1,2\) is required with an attending trauma surgeon at a RPTC or a LI/PC for consideration of transfer of the patient.
   c. **Children 0 - 12 years** of age with high risk injuries. Mandatory, timely (but within 6 hours of recognition of condition) consultation\(^1,2\) is required with an attending trauma surgeon at a RPTC or LI/PC for consideration of transfer of the patient.

6. Level IV trauma centers and nondesignated facilities caring for pediatric patients (age 0-12 years) with critical injuries or high risk injuries must comply with the actions required:
   **Actions required:**
   a. **Children 0-5 years** of age with critical injuries shall be transferred\(^1,2\) to a Regional Pediatric Trauma Center (RPTC). If such a center is not available, then transfer\(^1,2\) shall be to a Level I Trauma Center with
Pediatric Commitment (LI/PC). If such a center is not available, then transfer shall be to a Level II Trauma Center with Pediatric Commitment (LII/PC). If no center with pediatric commitment is available, transfer shall be to the highest level trauma center available.

b. **Children 6-12 years** of age with critical injuries shall be transferred to a RPTC or a LI/PC. If such a center is not available then to a LII/PC. If no center with pediatric commitment is available, transfer to the highest level trauma center available.

c. **Children 0-5 years** of age with high risk injuries shall be transferred to either a RPTC or a LI/PC. If such a center is not available then to a LII/PC. If no center with pediatric commitment is available transfer to the highest level trauma center available.

d. **Children 6-12 years** of age with high risk injuries shall be transferred with prior consultation to either a RPTC, LI/PC or LII/PC. If no center with pediatric commitment is available then transfer to the highest level trauma center available.

7. Level IV trauma centers and nondesignated facilities caring for pediatric patients (age 0-12 years) who are injured by high risk mechanisms shall be treated as follows:

**Actions required:**

a. Mandatory, timely (but within 6 hours) consultation is required with an attending trauma surgeon from a RPTC, LI/PC or LII/PC for consideration of transfer.

8. Consultation and/or transfer decisions in pediatric patients with traumatic injuries less severe than those listed above shall be determined by the RETAC based on resources, facilities, and personnel available in the region and shall be in accordance with the RETAC protocols.

9. **Nondesignated Facilities**

Nondesignated facilities that receive and are accountable for pediatric trauma patients with any traumatic conditions other than non-complicated, non-life threatening, single system injuries must transfer those patients to the appropriate, designated trauma center. Transfer agreements are required.

10. RETACs must monitor transport of pediatric trauma patients within their regions and report systematic exceptions to the protocols or regulations to the Department.

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*For individuals 13 to 18 years of age, interfacility consultation or transfer can follow adult or pediatric interfacility regulations based on severity of illness.

1 Consultation is required in the determination of the necessity of transfer and the circumstances of transfer, including but not limited to additional diagnostic/therapeutic issues, availability of resources, weather conditions.

2 Consultation must be initiated by the attending trauma surgeon of the referring Level I, II or III trauma center or attending physician of the Level IV or nondesignated facility.

E. **Divert**

If coordinated within the RETAC and pursuant to protocol, facilities may go on divert status for the following reasons:
1. Lack of critical equipment
2. Operating room saturation
3. Emergency department saturation
4. Intensive care unit saturation
5. Facility structural compromise
6. Disaster
7. Lack of critical staff

Redirection of trauma patient transport shall be in accordance with the prehospital trauma triage algorithm guideline (exhibit A) and these regulations when a trauma center is on divert status.

Trauma facilities must keep a record of times and reasons for going on divert status. This information must be made available for RETAC and/or Department audit.

RETACs must audit facility diversion of trauma patients in their areas. Upon consideration of the reason for divert status, the authorizing personnel and other pertinent facts, RETACs may institute corrective action if the diversion was not reasonable or necessary.

F. Bypass

At times the prehospital trauma triage algorithm guideline (exhibit A) may require that prehospital providers bypass the nearest facility to transport the patient to a higher level trauma center. The necessity for such bypass must be initially determined by the physiologic criteria in the algorithm. However, certain situations may require different transport (such as excessive expected transport time to the nearest trauma center, or lengthy extrication time requiring air evacuation, or other emergency conditions (traumatic cardiac arrest or transfer to a subspecialty center).

RETACs must develop protocols for patient destination within their areas that address bypass for situations not addressed in the algorithms. Bypass situations must be monitored and the RETAC must require justification for deviation.

203. Minimum Standards and Organizational Requirements for RETAC

A. County commissioners from the counties comprising each RETAC shall determine how council members will be selected.

B. Each RETAC shall meet at least four times per year. A chairperson of the RETAC shall be selected and that person or his/her designee shall serve as the liaison for that region's communications with the Department. The RETACs may appoint subcommittees, advisory groups or otherwise obtain community assistance in completion of council business. After the appointment of members to the RETAC, the RETAC shall establish by-laws which include council member terms of office and other pertinent matters.

C. Multi-county RETACs must be comprised of counties that are contiguous. When establishing RETACs, areas must attempt to represent all participant counties if possible. At least seventy-five percent of council membership must reside in, or provide health care services within the region. Statutorily specified members must reside in or provide services within the region.
D. Regions must identify at least one key resource facility that will be used, and that will be represented the regional council. The key resource facility shall be a Level I or II facility, and shall provide consultation and technical assistance to the region regarding education, quality, training, communications, and other trauma issues.

E. Regions must develop system monitoring protocols that allow for oversight of state and regional standards and require communication among regional prehospital physician advisors.

F. Regions must establish oversight quality of care goals for the RETAC. These goals (QA/QI) and standards must conform to the QA/QI standards set forth elsewhere in these regulations.

G. Regions must develop injury prevention goals and objectives. The region must monitor injury prevention programs within their RETAC, and develop coordination where possible.

H. Regions must integrate the provision of trauma services with other local and statewide disaster plans (such as State Patrol, county administration, Office of Emergency Management).

204. The State Emergency Medical and Trauma Services Advisory Council (SEMTAC) may grant exemptions from one or more standards of these regulations if the applicant can submit information that demonstrates that such exemption is justified. The council must find, based upon the information submitted and other pertinent factors, that particular standards are inappropriate because of special circumstances which would render such compliance unreasonable, burdensome or impractical. Exemptions or variances may be limited in time or may be conditioned as the Council considers necessary to protect the public welfare.
physicians at the Level IV facility. Disagreements as to patient disposition will be documented at both facilities.

*Continuing Medical Education (CME).* For Levels I, II, - trauma surgeons, emergency physicians, anesthesia providers, orthopedic surgeons, and neurosurgeons shall have Facility or RETAC defined trauma related CME over a three year period with at least half provided outside of own institution.

**Critical Injuries - Adult** Critical injuries for adult patients are defined as any of the following:

a. Bilateral pulmonary contusions requiring nontraditional ventilation
b. Multi-system trauma with pre-existing coagulopathy (hemophilia)
c. Pelvic fractures with unrelenting hemorrhage
d. Aortic tears
e. Liver injuries with vena cava injury or requiring emergency surgery with liver packing

*Critical Injuries - Pediatric* Critical injuries for pediatric patients (age 0-12 years) are defined as any of the following:

a. Bilateral pulmonary contusions requiring nontraditional ventilation
b. Multi-system trauma with pre-existing or life threatening coagulopathy (hemophilia)
c. Pelvic fractures with unrelenting hemorrhage
d. Aortic tears
e. Liver injuries with vena cava injury or requiring emergency surgery with liver packing.
   f. Coma for longer than 6 hours or with focal neurologic deficit.

*Divert* - Redirection of the trauma patient to a different receiving facility. Redirection shall be in accordance with the prehospital trauma triage algorithm, as set forth in Chapter 2. Reasons for going on divert are limited to lack of critical equipment or staff; operating room, emergency department, or intensive care unit saturation; disaster or facility structural compromise.

*High Risk - Adult trauma patients:* High risk adult trauma patients are defined as any of the following:

a. Level IV - Significant head injuries (intracranial bleeding or GCS <10) or spinal cord injury with neurologic deficit. Level III - Significant head injuries (intracranial bleeding or GCS<10) or spinal cord injury with neurologic deficit where neurological consultation and evaluation are not promptly available.

   b. Significant multi-system trauma as defined by:

   (1) Head injury (intracranial bleeding or GCS <10) or spinal cord injury with neurologic deficit complicated by either significant chest and/or abdominal injuries as defined by:

      (a) Chest injury (as part of multi-system trauma):

         i) Multiple rib fractures >4 unilaterally or >2 bilaterally
ii) Hemothorax

(b) Abdominal injury (as part of multi-system trauma):

i) Significant intra and retroperitoneal bleeding

ii) Hollow organ or solid visceral injury

c. Bilateral femur fracture or posterior pelvic fracture complicated by significant chest and/or abdominal injuries as defined above.

d. Level IV - All trauma patients on mechanical ventilation. Level III - Trauma patients on mechanical ventilation for > 4 days.

e. Life threatening complications, such as acute renal failure (creatinine>2.5) or coagulopathy (twice the normal value for individual facility).

**High Risk - Pediatric trauma patients.** High risk pediatric trauma patients (age 0-12 years) are defined as any of the following:

a. Penetrating injuries to head, neck, torso, or proximal extremities

b. Mechanical ventilation of > 16 hours

c. Persistent in-hospital evidence of physiologic compromise including: tachycardia relative to age plus signs of poor perfusion (CFT>2 seconds, cool extremities, decreased pulses, altered mental status, or respiratory distress), hypotension

d. Hemodynamically stable children with documented visceral injury admitted for observational management and requiring blood transfusion or fluids>40cc/kg

e. Injury Severity Score>9, including but not limited to:

   i. Multi-system blunt injuries (>2 systems)

   ii. Pelvic or long bone fractures in conjunction with multi-system injuries

   iii. Altered mental status (GCS<10) with significant trauma

**High Risk Mechanisms** These are defined as any of the following high energy transfer mechanisms for pediatric patients:

a. Falls>20 feet

b. Auto crashes with significant vehicle body damage

c. Significant motorcycle crashes

d. All terrain vehicle (ATV) crashes

**Minimum data set** - data specified pursuant to Chapter 1 of these regulations.

**Morbidity and Mortality Review** - a case presentation of all complications, deaths, and cases of interest for educational purposes to improve overall care to the trauma patient. Case presentations shall include all aspects and contributing factors of trauma care from pre-hospital care to discharge or death. The multi-
disciplinary group of health professionals shall meet on a regular basis, but not less than every two months. The documentation of the review may include date, reason for review, problem identification, corrective action, resolution and education. Documented minutes shall be maintained on site and readily available.

**Outreach** - the act of providing resources to other facilities in order to improve response to the injured patient. These resources shall include, but not be limited to, clinical consultation and public and professional education. Trauma centers shall be centers of excellence and shall share this expertise with other trauma centers and non-designated facilities. Timely and appropriate communication, consultation and feedback is imperative to patient outcome. Key Resource Facilities are Level I & II trauma centers which have an expanded responsibility in providing on-going consultation, education and technical support to referring facilities, individuals, or RETACs.

**On Call and Promptly Available.** Level I - Level II - available on short notice to meet patient requirements as defined in Rule 303 B.2.a. (footnote 1). Level III - the surgeon will meet high and moderate risk trauma patients and those with significant mechanism (as defined in the prehospital trauma triage algorithms) upon arrival, by ambulance, in the emergency department. For those patients where adequate prior notification is not possible, the surgical response shall be 20 minutes from arrival. Level IV-per requirements as defined in Rule 303 B.2.c. (footnotes 2, 3, 12).

**Quality Improvement Program** - A defined plan for the process to monitor and improve the performance of a trauma program is essential. This plan shall address the entire spectrum of services necessary to ensure optimal care to the trauma patient, from pre-hospital to rehabilitative care. This plan may be parallel to, and interactive with, the hospital-wide quality improvement program but may not be replaced by the facility process.

**Special Audit for Trauma Deaths.** All trauma deaths shall be audited. A comprehensive review audit shall be initiated by the Trauma Service Director in Levels I, II, III facilities and by the appropriate personnel designated by the Level IV facilities. The trauma nurse coordinator shall participate in these audits. A written critique shall be used to document the process to include the assessment, corrective action and resolution.

**Trauma Multidisciplinary Committee** - This Committee is responsible for the development, implementation, and monitoring of the trauma program at each designated trauma center. Functions include but are not limited to: establishing policies and procedures; reviewing process issues, e.g., communications; promoting educational offerings; reviewing systems issues, e.g., response times and notification times; and reviewing and analyzing trauma Registry data for program evaluation and utilization. Attendance required will be established by the committee. Membership will be established by the facility.

**Trauma Nurse Coordinator** - The terms “trauma nurse coordinator” and “trauma coordinator” are used interchangeably in these regulations (6 CCR 1015). The trauma nurse coordinator (TNC) works to promote optimal care for the trauma patient through the clinical program, administrative functions, and professional and public education. The TNC shall be actively involved in the state trauma system. The essential responsibilities of the TNC include maintenance of the trauma registry, continuous quality improvement in trauma care, and educational activities to include injury prevention.

**Trauma Service** - The Trauma Service is an organized, identifiable program which includes: a Trauma Service Director, a Trauma NURSE Coordinator, a Multi-disciplinary Trauma Committee, Quality Improvement Program, Injury Prevention, and Data Collection/Trauma Registry.

**Trauma Service Director** - The Trauma Service Director is a board certified general surgeon who: is responsible for: service leadership, overseeing all aspects of trauma care, and administrative authority for the hospital trauma program including: trauma multidisciplinary committee, trauma quality improvement program, physician appointment to and removal from trauma service, policy and procedure enforcement, peer review, trauma research program, and key resource facility functions, if applicable; participates in the
on-call schedule; practices at own institution on a full time basis; and participates in all facility trauma related committees.

In Level I facilities, the trauma service director shall participate in an organized trauma research program with regular meetings with documented evidence of productivity. In Level IV, the Trauma Service Director may be a physician so designated by the hospital who takes responsibility for overseeing the program.

**Trauma Team** - A facility defined team of clinicians and ancillary staff, including those required by these rules.

**Trauma Team Activation** - A facility defined method (protocol) for notification of the trauma team of the impending arrival of a trauma patient based on the prehospital trauma triage algorithms as set forth in Chapter 2.

**TNCC or Equivalent** - the training provided in accordance with the Emergency Nurses Association Trauma Nurse Core Course curriculum. An equivalent program is one which has been approved by the Department. The burden shall be upon the applicant to prove that the program is equivalent to TNCC.

### 301. Designation Process

**A. Applications**

1. By January 1, 1998, all licensed Colorado facilities receiving trauma patients by ambulance or other means shall submit an application in writing for designation or re-designation as a trauma center an agreement of non-designation to the Department.

2. A facility requesting non-designation status must file a non-designation agreement that at minimum states:

   a. The facility understands and agrees that trauma patients as defined by rule 204(C), are intended by law to be treated at designated trauma centers which have demonstrated the capacity to competently care for such patients.

   b. The facility chooses not to seek such designation

   c. The facility understands that trauma patients are defined as patients who must be transported to a designated trauma facility as determined in the triage/transport/transfer regulations in rule 204(C) and the prehospital algorithm.

   d. If the trauma patient as defined in rule 204(C) is transported to a non-designated facility, the resuscitation, stabilization and/or transfer of that patient to a designated trauma facility will be arranged according to 204(C)(4).

3. An application for trauma center designation or re-designation must contain a signed board of director's resolution affirming the facility's commitment to seek designation and participate in the statewide emergency medical and trauma care system. It also must state, at a minimum:

   a. The level of designation the facility requests
b. Unique attributes or circumstances that make the facility capable of meeting particular of special community needs

c. Why or how the facility views itself as a necessary component of the state-wide trauma system

d. How the facility's designation or re-designation fits into its Regional Emergency Medical and Trauma Advisory Council (RETAC) plans, organization and geography

4. A facility requesting specialty status as a burn or pediatric trauma care center must file a request that at a minimum states:

a. The type of specialty status requested

b. The special attributes that justify such a designation (including but not limited to such things as specialized staff, expertise, equipment, or space for the treatment of particular types of traumatic injuries)

c. How the facility's specialty designation will integrate into its RETAC plan, specifically why it is a necessary component to the area RETAC and how it will enhance trauma care, as well as how it integrates into the organization and geography of the area

5. Effective January 1, 1998, applicants for designation and re-designation shall submit the required fee with their application. Applicants that submit their request prior to January 1, 1998 shall submit the designation fee following notification of the required fee by the department.

6. The designation and redesignation fees for trauma centers are as follows:

a. Levels I through V:

   Level I - $26,600 Level II - $25,900 Level III - $16,600 Level IV - $6,800 Level V - $6,800

b. The specialty designation and redesignation fees below shall be separate from and in addition to the above fees:

   Independent - $17,400 Concurrent - $8,400

7. The criteria to be applied for designation facilities are provided in the in rule 303 (general criteria), rule 307 (pediatric criteria), and rules 305 and 306 (burn criteria), but shall also include:

a. any unique attributes or circumstances that make the facility capable of meeting particular or special community needs, and

b. how the facility's designation fits into the design and plans of the RETAC

B. Review Process

1. The Department shall assemble review teams to conduct on-site reviews of facilities requesting designation. If a facility is dissatisfied with a team member chosen for its review, upon request by the facility, the department may replace that member
prior to the site visit. 

2. Such review shall be conducted by the following teams:

a. Level I facilities - team of 4 members and a State observer:
   
   (1) Out-of-state reviewers are required
   
   (2) Multi disciplinary team is required (2 trauma surgeons, 1 trauma nurse coordinator, 1 emergency physician)

b. Level II facilities - team of 4 members and a State observer:

   (1) Out-of-state reviewers are required
   
   (2) Multi disciplinary team is required (2 trauma surgeons, 1 trauma nurse coordinator, 1 emergency physician)

c. Level III facilities - team of 3 members and a State observer:

   (1) 3 members, 2 may be from in-state
   
   (2) Reviewers must reside and work outside of the RETAC in which the facility under review is located
   
   (3) Multi disciplinary team is required (1 trauma surgeon, 1 emergency physician, 1 trauma nurse coordinator or registered nurse involved in trauma program management)

d. Level IV facilities - team of 2 members and a State observer:

   (1) Reviewers must reside and work outside of the RETAC in which the facility under review is located
   
   (2) Multi-disciplinary team is required (1 emergency physician or surgeon, 1 trauma nurse coordinator or registered nurse involved in trauma program management)

e. Level V facilities - team of 2 members and a State observer:

   (1) Reviewers must reside and work outside of the RETAC in which the facility under review is located
   
   (2) Multi-disciplinary team is required (1 emergency physician or surgeon, 1 trauma nurse coordinator or registered nurse involved in trauma program management)

3. The on-site review team shall evaluate the appropriateness, capabilities, and commitment of the applicant facility to meet the responsibilities, required equipment, and performance standards set forth in the facilities designation criteria for the level of designation sought. The team's evaluation and recommendation to the Department shall be based upon consideration of all pertinent information, including but not limited to:

   a. Inspection of the facility
b. Review of presurvey questionnaire

c. Review of medical records, including patient records

d. Review of patient discharge summaries

e. Review of patient care logs

f. Review of QA/QI trauma records

g. Review of rosters, schedules, meeting minutes

h. Interviews with appropriate individuals

i. Review of research, prevention, and educational programs

j. Other documentation where appropriate

4. The on-site review team shall make a verbal report of its findings (exit interview) to the applicant prior to leaving the facility. The Department shall forward written findings and recommendations to the State Emergency Medical and Trauma Services Advisory Council according to time frames consistent with the Council bylaws. The Council, or a subcommittee thereof, shall review the reports of the on-site review team, consider any unique attributes or circumstances that make the facility capable of meeting particular or special community needs, and render a recommendation to the Department.

5. The Department shall make the final determination of designation regarding each application upon consideration of all pertinent factors, including but not limited to the application, the evaluation and recommendations by the on-site review team, the best interests of trauma patients, any unique attributes or circumstances that make the facility capable of meeting particular or special community needs, and the manner in which this application integrates into the statewide emergency medical and trauma care system.

6. The Department shall notify the applicant in writing of its decision within 30 days of receiving the recommendation from the Council.

7. Designation shall last three years from the date of notice of designation, unless otherwise revoked for cause.

8. Six months prior to the end of the designation period, the applicant shall file a notice to continue or withdraw from its designated status. If a notice to continue is filed, the Department shall verify the facility's compliance with the designation standards and these regulations and perform a new site visit which shall conform to the visits addressed in section 301(B) of these regulations.

9. Appeals - Facilities that disagree with departmental designation decisions may appeal those decisions of the Board of Health within 30 days of receipt of the Department's notice of non-designation. The board shall consider the appeal based upon the written documentation, briefs submitted by the parties and oral argument, and render a final decision for the department.
A. Denial

1. The Department may deny designation or redesignation to a facility if the facility:
   a. Does not meet the requirements for designation as set forth in these regulations
   b. Makes a false statement of material fact in its application or in documents submitted in support of its application
   c. Refuses inspection or a part of inspection
   d. Submits an application that does not comply with or integrate into its RETAC plan

B. Revocation

1. The Department may revoke designation of a facility if any owner, officer, director, manager, or other employee:
   a. Fails or refuses to comply with the provisions of these regulations
   b. Fails to provide data to the trauma registry in a timely, complete and accurate fashion
   c. Makes a false statement of a material fact about facility capabilities or other pertinent circumstances in any record or in a matter under investigation for any purposes connected with this chapter
   d. Prevents, interferes with, or attempts to impede in any way, the work of a representative of the Department in implementing or enforcing these regulations or the statute
   e. Falsely advertises or in any way misrepresents the facility's ability to care for trauma patients based on its designation status
   f. Is substantially out of compliance with these regulations and has not rectified such noncompliance
   g. Fails to provide reports required by the registry or the state in a timely and complete fashion

C. Procedures for Revocation or Denial

1. Procedures for revocation or denial of designation or redesignation are as follows:
   a. The Department will notify a facility in writing of such an action, incorporating its reasons for the action and the facility's rights on appeal.
   b. The facility shall be given 10 days from receipt of the notice of the action to submit a written plan of correction to the Department for consideration.
   c. The Department shall approve or disapprove the plan within 10 days from the date of receipt of that plan.
d. If the corrective action plan is approved by the Department the facility shall implement the changes within 20 days of receipt of the Department's approval.

e. Upon satisfactory evidence of correction, the Department shall either dismiss its action, designate the facility or reinstate the previous designation. Satisfactory evidence may include an on-site review, documentation as requested or other factors.

f. If a facility chooses not to pursue the corrective plan of action, it may surrender its designation and sign a non-designation agreement, or it may appeal the denial or revocation in accordance with section 301(B)(9).

1. All physician reviewers must be certified by the American Board of Medical Specialties. All reviewers completing site reviews must be currently active in trauma care at that level or above. Team members chosen for site review must not have a conflict of interest with the facility currently under review.

### 303. Trauma Facility Designation Criteria - Level I and II

<table>
<thead>
<tr>
<th>Category</th>
<th>Level I</th>
<th>Level II</th>
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<tbody>
<tr>
<td><strong>A. HOSPITAL ORGANIZATION</strong></td>
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<tr>
<td>1. Trauma Service</td>
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<td>a. Trauma Team</td>
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<td>b. Trauma Team</td>
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<td>Activation</td>
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<td>2. Trauma Service Director</td>
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<td>3. Trauma Multidisciplinary Committee</td>
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<td>4. Hospital Department/Division/Section</td>
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<td>a. General Surgery</td>
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<td>b. Neurologic Surgery</td>
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<td>c. Orthopaedic Surgery</td>
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<td>d. Emergency Services</td>
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<tr>
<td>e. Anesthesia</td>
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<tr>
<td><strong>B. CLINICAL CAPABILITIES - Specialty Availability</strong></td>
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<tr>
<td>1. Annual Volume Criteria</td>
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<td>a. At least 400 trauma patients with an</td>
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ISS score of 16 or >
2. In House 24 hours a day
   a. General Surgery
   b. Emergency Medicine
   c. Anesthesia
3. On call and promptly available
   a. Anesthesiology
   b. Cardiac Surgery
   c. Cardiology
   d. General Surgery
   e. Hand Surgery
   f. Infectious Disease
   g. Internal Medicine
   h. Microvascular Surgery (Replant/flaps)
      i. Neurologic Surgery
   j. Obstetric/Gynecologic Surgery
   k. Ophthalmic Surgery
   l. Oral/Maxillofacial Surgery
   m. Orthopaedic Surgery
   n. Pediatric Surgery
   o. Pediatrics
   p. Plastic Surgery
   q. Pulmonary Medicine
   r. Radiology
   s. Thoracic Surgery
   t. Urologic Surgery
C. FACILITIES/RESOURCES/CAPABILITIES
   1. Emergency Department (ED)
      a. Personnel
         1) Designated Physician Director
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<tr>
<td>2) Physician who has special competence in care of critically injured and who is a designated member of the trauma team and is physically present in the ED 24 hours a day</td>
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<td>3) Nursing personnel with special capability in trauma care who provide continual monitoring of the trauma patient from hospital arrival to disposition in ICU, OR, or patient care unit</td>
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<tr>
<td>b. Equipment for resuscitation of patients of all ages shall include but not be limited to:</td>
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<tr>
<td>1) Airway control and ventilation equipment including laryngoscopes and endotracheal tubes of all sizes, bag-mask resuscitator, pocket masks, and oxygen</td>
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<td>2) Pulse oximetry</td>
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<td>3) End-Tidal CO$_2$ determination</td>
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<td>4) Suction devices</td>
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<td>5) Electrocardiograph-oscilloscope-defibrillator</td>
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<td>6) Apparatus to establish central venous pressure monitoring</td>
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<td>7) Standard intravenous fluids and administration devices, including large-bore intravenous catheters</td>
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<tr>
<td>8) Sterile surgical sets for</td>
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</table>
a) Airway control/cricothyrotomy
b) Thoracotomy
c) Vascular access
d) Chest decompression
9) Gastric decompression
10) Drugs necessary for emergency care
11) X-ray availability, 24 hours a day
12) Two-way communication with vehicles of emergency transport system
13) Skeletal traction devices cervical traction
14) Arterial catheters
15) Thermal control equipment
   a) For patient
   b) For blood

2. Operating suite
   a. Personnel and operating room
      adequately staffed in-house and immediately available 24 hours a day
   b. Equipment for all ages shall include but not be limited to:
      1) Cardiopulmonary bypass capability
      2) Operating microscope and microinstruments
      3) Thermal
control Equipment
   a) For patient
   b) For blood
and fluids
   4) X-ray
capability including c-arm image intensifier
   5) Endoscopes
   6) Craniotomy
   7) Equipment
   8) Equipment for
   spine stabilization and
   instrumentation

3. Postanesthetic
   recovery room (surgical intensive care unit is acceptable)
   a. Registered nurses
   and other essential personnel 24 hours a day
   b. Equipment for
   the continuous monitoring of
   temperature, hemodynamics, and gas exchange
   c. Equipment for the
   continuous monitoring of
   intracranial pressure
   d. Pulse oximetry
   e. End-tidal CO₂
determination
   f. Thermal control

4. Intensive care units
   (ICUs) for trauma
   patients
   a. Personnel
      1) Designated
      surgical director of
      trauma patients
      2) Physician, with
      privileges in critical care
and approved by the trauma director, on duty in ICU 24 hours a day or immediately available in hospital

b. Equipment - Appropriate monitoring and resuscitation equipment

c. Support Services - Immediate access to clinical diagnostic services

5. Acute Hemodialysis Capability

6. Organized burn care
   a. Physician-directed burn center staffed by nursing personnel trained in burn care and equipped properly for care of the extensively burned patient
   OR
   b. Transfer agreement with burn center

7. Acute spinal cord/head injury management capability with surgeons capable of addressing acute spinal and head injury
   OR
   Transfer agreement to Level I or II center

8. Radiological special capabilities
   a. In-house radiology technician 24 hours a day
   b. Angiography
   c. Sonography
   d. Nuclear scanning
   e. Computed
tomography (CT)
  f. CT technician 24 hours a day availability
  g. Interventional radiology
  h. MRI 24 HR capability on site without transfer of patient
9. Rehabilitation
  a. Rehabilitation service staffed by personnel trained in rehabilitation care and equipped properly for acute care of the critically injured patient
  b. Full in-house service or transfer agreement to a rehabilitation service for long-term care
10. Clinical laboratory service (available 24 hours a day)
  a. Standard analyses of blood, urine, and other body fluids
  b. Blood typing and cross-matching
  c. Coagulation studies
  d. Comprehensive blood bank or access to a community central blood bank and adequate storage facilities
  e. Blood gases and pH determination
  f. Microbiology
  g. Drug and alcohol screening
  h. Ability to collect bloods samples to be sent with transfer

D. QUALITY IMPROVEMENT
1. Organized quality improvement program
2. Trauma registry, current data
3. Special audit for all trauma deaths
4. Morbidity and mortality review
5. Trauma conference, multidisciplinary
6. Medical nursing audit, utilization review, tissue review
7. Review of prehospital trauma care and integration with EMS Plan
8. Published on-call schedule must be maintained for surgeons, neurosurgeon, orthopaedic surgeons, and other major specialists
9. Times of and reasons for trauma-related divert must be documented and reviewed by quality improvement program
10. Quality improvement personnel dedicated to and specific for the trauma program

E. OUTREACH PROGRAM
   Telephone and on-site consultations with physicians of the community and outlying areas

F. PREVENTION/PUBLIC EDUCATION
   1. Epidemiology research
      a. Conduct studies
in injury control
b. Collaborate with other institutions in research
c. Monitor progress of prevention programs
d. Consult with qualified researchers on evaluation measures

2. Surveillance
a. Special ED and field collection projects
b. Expanded trauma registry data
c. Minimum trauma registry data*

3. Prevention
a. Designated prevention coordinator
b. Outreach activities and program development
c. Information resource
d. Collaboration with existing national, regional, and state programs

* All designated and undesignated facilities must submit the minimum data set information to the state.

G. TRAUMA RESEARCH PROGRAM

1. Organized program with designated director
2. Regular meeting of research group
3. Evidence of productivity
   a. Proposals reviewed by IRB
   b. Presentation at local/regional/national
meetings

c. Publications in peer-reviewed journals  E  D
d. Peer-Reviewed extramural funding for research activities  E  D

H. CONTINUING EDUCATION

1. Facilities shall provide in-house continuing education for:
   A. Staff Physicians  E  E
   B. Nurses  E  E
   C. Allied health personnel  E  E
   D. Community physicians  E  E

2. Continuing medical education (CME) requirements for physicians:
   A. Trauma related CME over the period of designation  E  E
   B. ATLS SUCCESSFUL COMPLETION OF AN ATLS COURSE

I. TRAUMA SERVICE SUPPORT PERSONNEL

1.) Trauma Coordinator  E  E
2.) Trauma data entry support  E  E

J. ORGAN PROCUREMENT ACTIVITY

K. TRANSFER AGREEMENTS

Transfer agreements should be re-signed every three years

1. As transferring facility  D  E
2. As receiving  E  E
L. INTERFACILITY CONSULTATION AND TRANSFER - ADULT

1. Adult - Critical Injuries
   Levels II, III
   a. Facility shall develop and adhere to protocols regarding the mandatory consultation with a Level I trauma surgeon, for consideration of transfer of the patient within 6 hours after recognition of condition. The attending trauma surgeon of the referring facility shall initiate the consultation.

   Level IV
   b. Facility shall develop and adhere to protocols for the mandatory transfer of the patient, after consultation within 6 hours after recognition of the condition.

2. Adult - High risk injuries
   Level III
   a. Facility shall develop and adhere to protocols regarding the mandatory consultation with a Level I or key resource facility trauma surgeon for consideration of transfer, within 12 hours after recognition of condition. The primary attending trauma surgeon of the referring facility shall initiate the consultation.
Level IV
  b. Facility shall develop and adhere to protocols for the mandatory transfer of the patient, after consultation within 6 hours after recognition of the condition.

M. DIVERT
  1. Facility shall develop and adhere to protocols regarding divert in coordination with the RETAC. The protocols shall be in accordance with the prehospital trauma triage algorithm.
  2. Facility shall keep a record of times and reasons for going on divert.

NOTES:
1. The active involvement of the trauma surgeon is crucial to optimal care of the injured patient in all phases of management, including resuscitation, identification and prioritization of injuries, therapeutic, decisions, and operative procedures. In both Level I and II facilities the 24-hour in-house availability of the attending trauma surgeon is the most direct method for providing this involvement. However, alternative methods for providing immediate availability of the attending surgeon are also acceptable, as follows:

   In hospitals with residency programs, evaluation and treatment may be started by a team of surgeons that will include a PGY4 or more senior surgical resident who is a member of that hospital's residency program. This may allow the attending surgeon to take a call from outside the hospital. In this case, local criteria must be established to define conditions requiring the attending surgeon's immediate hospital presence. The attending surgeon's participation in major therapeutic decisions, presence in the emergency department for major resuscitation, and presence at operative procedures are mandatory. Compliance with these criteria and their appropriateness must be monitored by the hospital's trauma quality improvement program.

   In Level II hospitals without residency programs, local conditions may allow the surgeons to be rapidly available on short notice. Under these circumstances local criteria must be established that allow the general surgeon to take call from outside the hospital, but with the clear commitment on the part of the hospital and the surgical staff that the general surgeon will be present in the emergency department at the time of arrival of the trauma patient to supervise resuscitation and major therapeutic decisions, provide operative treatment, and be available to care for trauma patients in the ICU. Compliance with this requirement and applicable criteria must be monitored by the hospital's quality improvement program.

2. To be staffed by physicians board certified or eligible for certification in emergency medicine.

3. Coverage shall be an in-house anesthesiologist in the operating room at the time of arrival of the patient; or by having a published primary and back-up call schedule providing anesthesiologist availability in the operating room at the time of arrival of the patient. The facility is responsible for monitoring physician response times in their trauma performance improvement program.

4. Physicians on call may cover only 1 institution and must be of commensurate experience and training as those on staff.

5. Level I and Level II trauma centers shall: a) have facility defined criteria for neurosurgical (attending and resident) activation; b) have facility defined neurosurgeon (attending and resident) response time requirements; c) if neurosurgeons take call at more than one institution (either trauma or non-trauma) at a time, written primary and back-up call schedules are required, unless the combined volume of trauma related emergency neurosurgical operative procedures in those institutions is less than an average of 25 per year over the last three calendar years for which data are available; d) monitor compliance with the facility defined protocols for neurosurgeon activation and response times in their trauma performance improvement program.
If this requirement is fulfilled by technicians not in-house 24 hours a day, quality improvement must verify that the procedure is promptly available.

Data must be submitted within 60 days of discharge.

Any mandatory board certification for physicians required by these rules means certification by the American Board of Medical Specialties or the American Board of Osteopathic Medicine.

303. Trauma Facility Designation Criteria - Level III

Standards for facilities designated as Level III Trauma Centers - The facility must be licensed as a general hospital.

A. Administration and Organization Criteria. A Level III Trauma Center shall have:

1. A trauma program with:

   a. An administrative organizational structure that identifies the institutional support and commitment. The program's location within that structure must be placed so that it may interact with at least equal authority with other departments providing patient care within the facility.

   b. Medical staff commitment to support the program demonstrated by a written commitment to provide the specialty care needed to support optimal care of the injured patient and specific delineation of surgical privileges.

   c. Policies that identify and establish the scope of trauma care for both adult and pediatric patients, including but not limited to:

      1) Initial resuscitation and stabilization;

      2) Admission and inter-facility consultation and transfer criteria;

      3) Surgical capabilities;

      4) Critical care capabilities;

      5) Rehabilitation capabilities if available;

      6) Neurosurgical capabilities if available;

      7) Spinal Cord surgical capabilities if available;

      8) Other specialist capabilities if available; and

      9) Written procedure for receipt and transfer of patients by fixed and rotary wing aircraft.

   d. A Trauma Medical Director who is a board certified general surgeon, or is board qualified working toward board certification. A facility may have another physician as a co-trauma medical director. The Trauma Medical Director:

      1) Is responsible for service leadership, overseeing all aspects of trauma care, with administrative authority for the hospital trauma program including:
a) Trauma multidisciplinary program,

b) Trauma quality improvement program,

c) Provision of recommendations for physician appointment to and removal from the trauma service,

d) Policy and procedure development and enforcement, and

e) Peer review.

2) Participates on a local or statewide basis in trauma educational activities for healthcare providers or the public.

3) Functions as trauma medical director at only one facility.

4) Participates in the on-call schedule.

5) Participates in regional trauma system development.

e. A facility defined trauma team, with an identifiable team leader.

f. A facility defined trauma team activation protocol that includes who is notified and the response requirements. The protocol shall base activation of the team on the anatomical, physiological, mechanism of injury criteria and co-morbid factors as outlined in the pre-hospital trauma triage algorithms as set forth in chapter 2.

g. A facility defined trauma service with the personnel and resources identified as needed to provide care for the injured patient.

h. A registered nurse identified as the Trauma Nurse Coordinator with educational preparation and clinical experience in care of the injured patient as defined by the facility. This position is responsible for the organization of services and systems necessary for a multidisciplinary approach to care of the injured patient.

i. Multi-disciplinary trauma committee with specialty representation. This committee is involved in the development of a plan of care for the injured patient and is responsible for trauma program performance. Membership will be established by the facility and attendance requirements established by the committee.

j. A quality improvement program as defined in section VIII of this chapter.

k. Divert protocols, to include:

1) Coordination with the RETAC

2) Notification of pre-hospital providers

3) Reason for divert

4) A method for monitoring times and reasons for going on divert.
l. A trauma registry as required in Chapter 1 of these rules, and trauma data entry support,

m. Participation in the RETAC and statewide quality improvement programs as required in rule.

2. Hospital departments/divisions/sections

   a. Surgery
   
   b. Emergency Medicine
   
   c. Anesthesia

B. A Level III trauma center shall meet all of the following clinical capabilities criteria:

   1. Emergency Medicine in house 24 hours a day.

   2. The following service available in person 24 hours a day within 20 minutes of trauma team activation:

      a. General surgery. Coverage shall be provided by:

         1) The attending board certified surgeon or board qualified surgeon working toward certification, who may only take call at one facility at any one time, and

         2) The surgeon will meet those patients meeting facility defined Trauma Team Activation criteria upon arrival, by ambulance, in the emergency department. For those patients meeting Trauma Team Activation criteria where adequate prior notification is not possible, the surgical response shall be 20 minutes from notification.

   3. The following services on - call and available within 30 minutes of request by the trauma team leader:

      a. Anesthesia. Coverage shall be by:

         1) A board certified anesthesiologist, or

         2) A Certified Registered Nurse Anesthetist (CRNA).

      b. On and after July 1, 2004, orthopedic surgery. Coverage shall be by:

         1) A board certified or board qualified orthopedic surgeon working toward certification.

   4. The following non-surgical specialists on call, credentialed and available in person or by tele-radiology for patient service upon request of the trauma team leader:

      a. A radiologist, and

      b. Internal medicine.
C. A Level III trauma center shall have all of the following facilities, resources, and capabilities:

1. An Emergency Department with:
   a. Personnel, to include:
      1) A designated physician director who is board certified in emergency medicine, family practice, internal medicine, or surgery, and whose primary practice is in emergency medicine.
      2) Physician(s) designated as member(s) of the trauma team:
         a) Physically present in the Emergency Department 24 hours/day. And who are board certified in emergency medicine, family practice, internal medicine or surgery and
         b) Who are Advanced Trauma Life Support verified unless board certified in emergency medicine and
         c) Whose primary practice is in emergency medicine.
         d) All physicians hired or contracted for services after 2005 must be board certified in emergency medicine or board qualified working toward certification.
   3) Registered Nurses in-house 24 hours a day who:
      a) Provide continuous monitoring of the trauma patient until release from the Emergency Department, and
      b) At least one Registered Nurse in the Emergency Department 24 hours/day who maintains current verification in Trauma Nurse Core Course or equivalent

b. Equipment for the resuscitation of patients of all ages shall include but not be limited to:
   1) Airway control and ventilation equipment including laryngoscopes and endotracheal tubes of all sizes, bag mask resuscitators, and oxygen
   2) Pulse oximetry
   3) End-tidal CO2 determination
   4) Suction devices
   5) Electrocardiograph-oscilloscope-defibrillator
   6) Internal paddles - adult and pediatric
   7) Apparatus to establish central venous pressure monitoring
   8) Standard intravenous fluids and administration devices, including
large bore intravenous catheters

9) Sterile Surgical sets for:
   a) Airway control/cricothyrotomy
   b) Thorocostomy - needle and tube
   c) Thoracotomy
   d) Vascular access to include central line insertion and interosseous access
   e) Peritoneal lavage

10) Gastric Decompression

11) Drugs necessary for emergency care

12) X-ray availability, 24 hours a day

13) Two-way communication with emergency transport vehicles

14) Spinal immobilization equipment/cervical traction devices

15) Arterial catheters

16) Thermal control equipment for:
   a) Patients
   b) Blood and fluids

17) Rapid infuser system

18) Medication chart, tape or other system to assure ready access to information on proper dose-per-kilogram for resuscitation drugs and equipment sizes for pediatric patients

2. An operating room available 24/ hours a day with:

   a. Facility defined Operating Room team on-call and available within 30 minutes of request by trauma team leader,

   b. Equipment for all ages shall include, but not be limited to:

      1) Thermal control equipment for:
         a) Patients
         b) Blood and Fluids

      2) X-ray capability, including c-arm image intensifier

      3) Endoscope, broncoscope
4) Equipment for fixation of long bone and pelvic fractures

5) Rapid infuser system

6) Equipment for the continuous monitoring of temperature, hemodynamics and gas exchange

3. Post-anesthetic recovery room (surgical intensive care unit is acceptable) with:
   a. Registered nurses available within 30 minutes of request, 24 hours a day
   b. Equipment for the continuous monitoring of temperature, hemodynamics and gas exchange
   c. Thermal control equipment for:
      1) Patients
      2) Blood and fluids

4. Intensive Care Unit for injured patients with:
   a. Personnel, to include:
      1) A director, or co-director who is a surgeon with facility privileges to admit patients to the critical care area, and is responsible for setting policies and oversight of the care related to trauma ICU patients;
      2) A physician, approved by the trauma director who is available within 30 minutes of notification to respond to the needs of the trauma ICU patient; and
      3) Registered nurses.
   b. Equipment for the continuous monitoring of temperature, hemodynamics and gas exchange.

5. Radiological Services, available 24 hours a day, with:
   a. A radiology technician available within 30 minutes of notification of Trauma Team Activation;
   b. A Computed Tomography technician available within 30 minutes of request;
   c. Computed tomography (CT); and
   d. Ultrasound.

6. Clinical Laboratory Services, to include:
   a. Standard analysis of blood, urine and other body fluids;
   b. Blood typing and cross matching;
c. Coagulation studies;

d. Blood and blood components available from in-house, or through community services, to meet patient needs and blood storage capability;

e. Blood gases and pH determination;

f. Microbiology;

g. Serum alcohol and toxicology determination; and

h. A clinical laboratory technician in-house.

7. Respiratory therapy services, in-house.

8. Neuro-trauma Management

a. Acute Spinal Cord Management with:

1) Neurosurgeons or orthopedic surgeons with special qualifications in acute spinal cord management, on-call and available within a facility defined time of request of the trauma team leader, or

2) Written transfer guidelines for patients with spinal cord injuries as defined in Section VIX of this chapter,

b. Acute Brain Injury Management with a:

1) Neurosurgeon on-call and available within 30 minutes of the request of the trauma team leader, or

2) Written transfer guidelines for patients with acute brain injuries as defined in Section IX of this chapter.

9. Organized burn care for those patients identified in section 306 of this chapter, with transfer guidelines with a burn center as defined in Section IX of this chapter.

10. Rehabilitation services with:

a. A physician who is credentialed by the facility to provide leadership for physical medicine and rehabilitation, and

b. Policies and procedures for the early assessment of the rehabilitation needs of the injured patient, and

c. Physical therapy, and

d. Occupational therapy, and

e. Speech therapy, and

f. Social Services; or

g. Transfer guidelines for access to rehabilitation services.
11. Injury Prevention/Public Education, with:
   a. Outreach activities and program development;
   b. Information resources for the public; and
   c. Facility developed or collaboration with existing national, regional and state programs.

12. In-house trauma related continuing education, for:
   a. Non-physician trauma team members, and
   b. Nurses in the Emergency Department and Intensive Care Unit with facility defined competency testing and orientation programs.

13. CME requirements for surgeons, orthopedic surgeons, emergency physicians, anesthesiologists/CRNA's and neurosurgeons if providing trauma care, to include:
   a. 10 hours of trauma related, facility defined CME annually or 30 hours over the three-year period preceding any site review,
   b. On and after July 1, 2004, current Advanced Trauma Life Support verification for all physicians providing emergency department coverage who are not board certified in emergency medicine,
   c. Documentation of successful completion of an Advanced Trauma Life Support course for surgeons and all emergency physicians who are board certified in emergency medicine.

303. Trauma Facility Designation Criteria - Level IV

Standards for facilities designated as Level IV Trauma Centers-

The facility must be licensed as one of the following:

1. a general hospital

2. a community clinic and emergency center (CCEC), and be open 24 hours a day, 365 days a year

3. a critical access hospital (CAH) and be open 24 hours a day, 365 days a year with physician coverage for trauma patients arriving by ambulance as described in the clinical capabilities criteria.

A. Administration and Organization Criteria. A Level IV Trauma Center shall have:

1. Commitment by administration and medical staff to support the trauma program demonstrated by written commitment from the facility's board of directors, owner/operator, or administrator to provide the required services.

2. A written commitment to regional planning and system development activities.

3. A trauma program with policies that identify and establish the scope of trauma care for
both adult and pediatric patients, including but not limited to:

- Initial resuscitation and stabilization;
- Admission criteria;
- Surgical capabilities if available;
- Critical care capabilities if available;
- Rehabilitation capabilities if available; and
- Written procedure for transfer of patients by fixed and rotary wing aircraft.

4. A physician designated by the facility as the Trauma Medical Director who takes responsibility for the trauma program. Responsibilities include:

- Participation in trauma educational activities for healthcare providers or the public;
- Leadership for the trauma program and oversight of the trauma quality improvement process; and
- Administrative authority for the trauma program, including, recommendations for trauma privileges, policy and procedure enforcement, and peer review.

5. A facility defined trauma team activation protocol that includes who is notified and the response expectations. The protocol shall base activation of personnel on anatomical, physiological, mechanism of injury criteria and co-morbid factors as outlined in the prehospital trauma triage algorithms as set forth in Chapter 2.

6. A defined method of activating trauma response personnel consistent with the scope of trauma care provided by the facility.

7. A staff person identified as the Trauma Coordinator with clinical experience in care of the injured patient, who is responsible for coordination of the trauma program functions.

8. An identified multidisciplinary committee involved in the development of a plan of care for the injured patient and is responsible for trauma program performance. Membership will be established by the facility and the committee will establish attendance.

9. A quality improvement program as defined in section VIII of this chapter.

10. Divert protocols, to include:

- Coordination with the Regional Emergency Medical and Trauma Advisory Council
- Notification of pre-hospital providers
- Reason for divert
d. A method for monitoring times and reasons for going divert.

11. Interfacility transfer criteria/guidelines as a transferring facility (if applicable) as defined in Section VIX of this chapter.

12. Interfacility transfer policies and protocols as defined in Section VIX of this chapter.

13. Participation in the state trauma registry as required in Chapter 1.

14. Participation in the RETAC and statewide quality improvement programs as required in rule.

15. If licensed as a Community Clinic with Emergency Care (CCEC):

   a. A central log on each trauma patient/individual presenting with an emergency condition who comes seeking assistance and whether he or she refused treatment, was refused treatment, or whether the individual was transferred, admitted and treated, died, stabilized and transferred, or discharged.

   b. A policy requiring the provision of a medical screening of all individuals with trauma related emergencies that come to the clinic and request an examination or treatment. The policy shall not delay the provision of a medical screening in order to inquire about an individual's method of payment or insurance status.

   c. Provide further medical examination and such treatment as may be required to stabilize the traumatic injury within the staff and facility's capabilities available at the clinic, or to transfer the individual. The transferring clinic must provide the medical treatment, within its capacity, which minimizes the risk to the individual, send all pertinent medical records available at the time of transfer, effect the transfer through qualified persons and transportation equipment, and obtain the consent of the receiving trauma center.

B. A Level IV trauma center shall meet all of the following clinical capabilities criteria:

   1. The physician must be present in the emergency department at the time of arrival of the trauma patient meeting facility defined Trauma Team Activation criteria, arriving by ambulance. For those patients where adequate prior notification is not possible, the emergency physician shall be available within 20 minutes of notification.

C. A Level IV trauma center shall have all of the following facilities, resources, and capabilities:

   1. An Emergency Department with:

      a. Physicians who are credentialed by the facility to provide emergency medical care and maintain current Advanced Trauma Life Support (ATLS) verification.

      b. Registered nurses who provide continuous monitoring of the trauma patient until release from the ED. At least one registered nurse in house 24 hours a day who maintains current Trauma Nurse Core Course verification or equivalent
c. Equipment for the resuscitation of patients of all ages shall include but not limited to:

1) Airway control and ventilation equipment including laryngoscopes and endotracheal tubes of all sizes, bag mask resuscitators, and oxygen

2) Pulse oximetry

3) End-tidal CO₂ determination

4) Suction devices

5) Electrocardiograph-oscilloscope-defibrillator

6) Standard intravenous fluids and administration devices, including large bore intravenous catheters

7) Sterile surgical sets for:
   a) Airway control/cricothyrotomy
   b) Vascular access to include central line insertion and interosseous access
   c) Thorocostomy - needle and tube

8) Gastric decompression

9) Drugs necessary for emergency care

10) X-ray availability, 24 hours a day

11) Two-way communication with emergency transport vehicles

12) Spinal immobilization equipment

13) Thermal control equipment for patients and fluids

14) Medication chart, tape or other system to assure ready access to information on proper dose-per-kilogram for resuscitation drugs and equipment sizes for pediatric patients

2. If an operating room and/or intensive care unit are utilized for the trauma patient, there must be policies that identify and define the scope of care that include the supervision, staffing and equipment requirements that the facility will utilize.

3. Radiological capabilities available 24 hours a day with a radiology technician or person with limited certification in x-ray available within 30 minutes of notification of trauma team activation.

4. Clinical laboratory services available 24 hours a day. A spun hematocrit, dip urinalysis and the ability to collect blood samples to be sent with transferred patients must be available.
5. Participates in local/regional/statewide Injury Prevention/Public Education.

6. Continuing education for all physicians providing trauma care, with:
   a. Current ATLS, and
   b. 10 hours of trauma related facility defined CME annually or 30 hours over the 3 year period preceding any site review.

7. Facility defined, trauma related continuing medical education requirements for nurses.

303. Trauma Facility Designation Criteria - Level V

Standards for facilities designated as Level V Trauma Centers - The facility must be licensed as a general hospital, a community clinic and emergency center (CCEC) or a critical access hospital (CAH).

A. Administration and Organization Criteria. A Level V Trauma Center shall have:

   1. Commitment by administration and medical staff to support the trauma program as demonstrated by written commitment from the facility’s Board of Directors, owner/operators, or administrator to provide the required services.

   2. A written commitment to regional planning and system development activities.

   3. A trauma program with policies that identify and establish the scope of trauma care for both adult and pediatric patients, including but not limited to:
      a. Initial resuscitation and stabilization;
      b. Admission criteria;
      c. Hours of operation. If the facility is not open 24 hours a day, the services as defined in the scope of trauma service policy shall include after-hours plan for availability of services; and
      d. Critical care capabilities if available;
      e. Rehabilitation capabilities if available; and
      f. Written procedure for transfer of patients by fixed and rotary aircraft.

   4. A physician designated by the facility as the Trauma Medical Director who takes responsibility for the trauma program. Responsibilities include:
      a. Participation in trauma educational activities for healthcare providers or the public;
      b. Leadership for the trauma program and oversight of the trauma quality improvement process; and
      c. Administrative authority for the trauma program, including recommendations for trauma privileges, policy and procedure enforcement, and peer review.
5. A facility defined trauma team activation protocol that includes who is notified and the response expectations. The protocol shall base activation of personnel on anatomical, physical, mechanism of injury criteria and co-morbid factors as outlined in the prehospital trauma triage algorithms as set forth in Chapter 2.

6. A defined method of activating trauma response personnel consistent with the scope of trauma care provided by the facility.

7. A staff person identified as the Trauma Coordinator with clinical experience in care of the injured person, who is responsible for coordination of the trauma program functions.

8. An identified multidisciplinary committee involved in the development of a plan of care for the injured patient and is responsible for trauma program performance. Membership will be established by the facility and the committee will establish attendance.

9. A quality improvement program as defined in section VIII of this chapter.

10. Divert protocols, to include:
   
a. Coordination with the Regional Emergency Medical and Trauma Advisory Councils (RETACs)
   
b. Notification of prehospital providers
   
c. Reason for divert
   
d. A method for monitoring times and reasons for going on divert.

11. Interfacility transfer criteria/guidelines as a transferring facility (if applicable) as defined in Section VIX of this chapter.

12. Interfacility transfer policies and protocols as defined in section VIX of this chapter.

13. Participation in the state trauma registry as required in Chapter 1.

14. Participation in the RETAC and statewide quality improvement programs as required in rule.

15. If licensed as a Community Clinics with Emergency Care (CCEC):

   a. A central log on each trauma patient/individual presenting with an emergency condition who comes seeking assistance and whether he or she refused treatment, was refused treatment, or whether the individual was transferred, admitted and treated, died, stabilized and transferred, or discharged.

   b. A policy requiring the provision of a medical screening of all individuals with trauma related emergencies that come to the clinic and request an examination or treatment. The policy shall not delay the provision of a medical screening in order to inquire about an individuals' method of payment or insurance status.

   c. Provide further medical examination and such treatment as may be required
to stabilize the traumatic injury within the staff and facility's capabilities available at the clinic, or to transfer the individual. The transferring clinic must provide the medical treatment, within its' capacity, which minimizes the risk to the individual, send all pertinent medical records available at the time of transfer, effect the transfer through qualified persons and transportation equipment, and obtain the consent of the receiving trauma center.

B. A Level V trauma center shall meet all of the following clinical capabilities criteria:

1. The physician must be present in the emergency department at the time of arrival of the trauma patient meeting facility defined Trauma Team Activation criteria, arriving by ambulance. For those patients where adequate prior notification is not possible, the emergency physician shall be available with 20 minutes of notification.

C. A Level V trauma center shall have all of the following facilities, resources, and capabilities:

1. Emergency Department with:
   a. Physicians who are credentialed by the facility to provide emergency medical care and maintain current Advanced Trauma Life Support (ATLS) verification.
   b. Registered nurses who provide continuous monitoring of the trauma patient until release from the emergency department. At least one RN in house during hours of operation that maintains current Trauma Nurse Core Course verification or equivalent.
   c. Equipment for resuscitation of patients of all ages, including but not limited to:
      1) Airway control and ventilation equipment including laryngoscopes and endotracheal tubes of all sizes, bag mask resuscitators, and oxygen;
      2) Pulse oximetry;
      3) End-tidal CO2 determination;
      4) Suction devices;
      5) Electrocardiograph-oscilloscope-defibrillator;
      6) Standard intravenous fluids and administration devices; including large bore intravenous catheters;
      7) Sterile surgical sets for:
         a) Airway control/cricothyrotomy
         b) Vascular access to include central line insertion and I/O access
         c) Thorocostomy- needle and tube
8) Gastric decompression;
9) Drugs necessary for emergency care;
10) X-ray availability
11) Two way communication with emergency transport vehicles
12) Spinal immobilization equipment
13) Thermal control equipment for patients/fluuids
14) Medication chart, tape or other system to assure ready access to information on proper dose-per-kilogram for resuscitation drugs and equipment sizes for pediatric patients

2. If an operating room and/or intensive care unit are utilized for the trauma patient, there must be policies that identify and define the scope of care that include the supervision, staffing and equipment requirements that the facility will utilize.

3. Radiological capabilities available during hours of operation with a radiology technician or person with limited certification in x-ray available within 30 minutes of notification of trauma team activation.

4. Clinical laboratory services available during hours of operation. A spun hematocrit, dip urinalysis and the ability to collect blood samples to be sent with transferred patients must be available.

5. Participates in local/regional/statewide Injury Prevention/Public Education.

6. Continuing education for physicians providing trauma care, with:
   a. Current ATLS, and
   b. 10 hours of trauma related facility defined CME annually or 30 hours over the 3 year period preceding any site review.

7. Facility defined, trauma related continuing medical education requirements for nurses.

303. Trauma Quality Improvement Programs for Designated Trauma Centers Levels III - V.

   A. All designated Level III - V trauma centers shall have an organized, trauma quality improvement program that demonstrates a plan, process and accountability for continuous quality improvement in the delivery of trauma care. The program shall include, but not be limited to:

   1. A plan that shall address the entire spectrum of services necessary to ensure optimal care to the trauma patient, from prehospital to rehabilitative care. This plan may be parallel to, and interactive with, the hospital-wide quality improvement program as defined in C.R.S. § 25-3-109 but may not be replaced by the facility process. In Level IV-V clinics or facilities, this plan may be part of the hospital-wide quality improvement program, but must have specific defined trauma-related indicators and components. This plan shall include identification of:

      a. The trauma center's organizational structure responsible for the administration
of the plan, to include a description of who has the authority to change policy, procedure or protocols related to trauma care;

b. The responsibility of the trauma service director, or in Level IV-V centers the physician responsible, for coordination of the service in coordination with the trauma nurse coordinator for:

1) The identification of and responsibility for the oversight of the plan;

2) Initiation of corrective action as needed;

3) Conducting a special audit of all trauma deaths with:
   a) Written documentation of the process to include the assessment, any corrective action and resolution; and
   b) The deaths shall be identified as:
   c) Reporting a summary of the audit findings to the trauma multidisciplinary committee;

4) The facility-defined standards of medical care for the trauma patient;

5) A process for corrective action, to include problem identification, action plan, resolution or outcome for loop closure;

6) The method for documentation and maintenance of minutes on site and readily available of special death audits, trauma multidisciplinary committee, or any other committees used in this process;

7) The process for prehospital trauma care review;

8) The data sources to support an effective monitoring system, to include but not be limited to retrospective and concurrent medical record review;

9) A process for the identification and review of facility-defined patient sentinel events, complications and trends;

10) The development and evidence of on-going reporting and trending of institution specific audit filters to facilitate the quality improvement program to identify at a minimum, but not limited to:
   a) Program structure (systems issues) with;
   b) Program process (medical issues) with;
   c) Program outcomes with;

11) Institution specific nursing audits with:
   a) Evidence that nursing performance improvement issues are reviewed as part of the trauma program;
b) Clinical filters for nursing documentation; and

c) Ongoing monitoring and/or trending

12) Methods and process for conducting multidisciplinary peer review to include;

a) A process of peer review as defined in C.R.S. § 12-36.5-104 et. seq. This process shall monitor compliance with, or adherence to facility-defined standards of medical care for the trauma patient. All trauma centers shall have a policy that includes the process and criteria for utilization of a resource outside the facility for peer review. Documentation of findings and recommendations must be maintained with an identified reporting process for loop closure. Qualifications of outside peer reviewer must be identified by the facility as defined in C.R.S § 12-36.5-104;

13) Provision for case presentations of interest for educational purposes to improve overall care to the trauma patient to include:

a) All aspects and contributing factors of trauma care from prehospital to discharge or death; and

b) A review of any event that deviates from an anticipated outcome; and

c) Documentation of the review shall include date, reason for review, problem identification, recommendations, resolution and education;

2. The trauma multidisciplinary committee, as defined in section 303 Level III-V and 306 of these rules, is responsible for trauma program performance at each trauma center. Membership will be established by the facility and the committee will establish attendance requirements. This includes, but is not limited to:

a. The review of all services essential to the care and management of the trauma patient;

b. Meeting on a regular basis, but not less than every two months for Level III facilities, and quarterly for Level IV-V clinics or facilities, to assure timely review and corrective action.

c. Performance management functions include but are not limited to:

1) Establishing and enforcing policies and procedures;

2) Reviewing process issues, e.g., communications; reviewing systems issues, e.g., response times and notification times; and promoting educational offerings; and

3) Reviewing and analyzing trauma registry data for program evaluation and utilization;
305. Burn Center Criteria

<table>
<thead>
<tr>
<th>Category</th>
<th>Essential (E) Desired (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. BURN CARE SYSTEM</strong></td>
<td></td>
</tr>
<tr>
<td>1. Medical and administrative commitment</td>
<td>E</td>
</tr>
<tr>
<td>2. Guidelines for the triage, treatment, and transfer of burn patients from other facilities</td>
<td>E</td>
</tr>
<tr>
<td>3. Hospital accreditation (JCAHO or other)</td>
<td>E</td>
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<tr>
<td><strong>B. ORGANIZATIONAL STRUCTURE</strong></td>
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</tr>
<tr>
<td>1. Burn Service</td>
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<tr>
<td>a. Average annual census of 75 or more patients with acute burn injuries</td>
<td>E</td>
</tr>
<tr>
<td>b. 60 admitted patients that exhibit physiologic criteria set forth in these rules (burn center transfer criteria)</td>
<td>E</td>
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<tr>
<td>2. Burn Center Director</td>
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</tr>
<tr>
<td>a. Licensed surgeon with board certification in general or plastic surgery.</td>
<td>E</td>
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<tr>
<td>b. Certification of special qualifications in surgical critical care</td>
<td>D</td>
</tr>
<tr>
<td>c. Fellowship in burn treatment or experience in treating acute burn injuries for two or more years during previous five years</td>
<td>E</td>
</tr>
<tr>
<td>d. Direct participation in caring for 50 or more acutely burned patients annually</td>
<td>E</td>
</tr>
</tbody>
</table>

a) With defined intervals for data collection and analysis;
 (> 40 whom meet transfer criteria)

3. Staff Surgeons

C. CLINICAL CAPABILITIES - SPECIALTY AVAILABILITY

1. Surgical specialty availability within 30 minutes for
   a. General Surgery
   b. Obstetrics/Gynecology
   c. Orthopaedic Surgery
   d. Plastic Surgery
   e. Cardiothoracic Surgery
   f. Neurologic Surgery
   g. Ophthalmology
   h. Otorhinolaryngology
   i. Urology

2. Nonsurgical specialties availability within 30 minutes for consultation
   a. Anesthesiology
   b. Pediatrics
   c. Pulmonary Medicine
   d. Radiology
   e. Psychiatry

D. FACILITIES/RESOURCES/CAPABILITIES

1. Emergency Department (ED)
   a. Relationship to a trauma center
      1) Relationship of the Emergency Department to the burn service
      2) Emergency
Service Protocols for the care of the acutely burned patient

3) Nursing personnel to provide continual monitoring of the major burn patient from hospital arrival to disposition in the Burn Unit or Operating Room

b. Equipment for resuscitation of burn patient of all ages including but not limited to:

1) Airway control/ventilation equipment
2) Pulse oximetry
3) End-tidal CO2 determination
4) Electrocardiograph-oscilloscope-defibrillator
5) Arterial and PA catheter
6) Sterile surgical sets for airway control/thoracotomy, vascular access
7) Emergency carts with age-appropriate equipment
8) Temperature control devices for IV fluids and blood
9) Temperature control devices for the patient

2. Burn Unit
   a. Personnel
      1) Designated Surgical Director of the Burn Unit
      2) Physician, with privileges appropriate for
the Burn Unit who is assigned to the Burn Unit and available within 15 minutes 24 hours a day

3) Nursing personnel with special capabilities in burn care who provide continual monitoring of the burn patient

b. Equipment for resuscitation of burn patients of all ages including but not limited to:

1) Airway control/ventilation equipment
2) Pulse oximetry
3) End-tidal CO2 determination
4) Electrocardiograph-oscilloscope defibrillator
5) Arterial and PA catheter
6) Sterile surgical sets airway control/thoracotomy, vascular access, escharatomy
7) Emergency carts with age appropriate equipment
8) Temperature control devices for IV fluids and blood
9) Temperature control devices for the patient
10) Weight measurement devices
c. Specialized nursing areas
1) Conference Room
2) Family waiting room

3) Patient exercise room

3. Operating Suites
   a. Dedicated operating room(s)
      1) Operating room staffing on a 24 hour basis
      2) Recovery room

3) Sterile surgical sets for airway control/thoracotomy, vascular access, escharotomy

4. Acute Hemodialysis (available on a 24 hour basis)

5. Radiological Special Capabilities (available on a 24 hour basis)
   a. In-house radiology technician:
      b. Angiography
      c. Ultrasonography
      d. Nuclear medicine
      e. CT Technician

6. Clinical laboratory service (available on a 24 hour basis)
   a. Clinical laboratory services including microbiology
      b. Blood Bank

7. Allograft Usage
   a. Skin Bank relationship
      b. Skin Bank accreditation
      c. Allograft policies in compliance with USFDA

8. Rehabilitation
Personnel
   a. Burn Rehabilitation Program
      1) Physiatrist
      2) Physical Therapist
      3) Occupational Therapies

9. Other Personnel
   1. Social Workers
   2. Dietitian
   3. Pharmacist
   4. Respiratory Therapists

E. QUALITY IMPROVEMENT PROGRAM
   1. Quality Improvement Program
      a. Multi disciplinary Burn Service CQI Committee
      b. Burn registry on internal database
      c. Multidisciplinary Patient Care Conference
      d. Morbidity and Mortality Conference
      e. Special audit for complications and deaths
      f. Infection Control Programs
         1) Demonstrated effectiveness
   2. Burn Service Annual Audits
      a. Burn Severity
      b. Burn mortality
      c. Length of hospitalization
      d. Hospital charges for care

F. BURN SERVICE SUPPORT PERSONNEL
   1. Clinical Burn
Coordinator/Case Manager

2. Burn data entry support

G. EDUCATIONAL PROGRAM
1. Hospital educational programs
   a. Surgical residents orientation
   b. Prehospital providers
   c. Nursing Personnel

2. Community Education and burn prevention courses
3. Outreach program including telephone and on-site consultations with physicians of the community and outlying areas

H. CONTINUITY OF CARE PROGRAM
1. Recreational therapy
2. Education in rehabilitation
3. Support of family members or other significant persons
4. Coordinated discharge planning
5. Follow-up after hospital discharge
6. Access to community resources
7. Evaluation of the patient's physical, psychological, developmental, and vocational status
8. Planning for future rehabilitative and reconstructive needs
## I. BURN PREVENTION PROGRAM

1. Public burn awareness programs

## J. RESEARCH PROGRAM

1. Organized research activities
   a. Meetings of the research group
   b. Evidence of productivity

## K. TRANSFER AGREEMENTS

1. As transferring facility
2. As receiving facility

### 306. Burn Center Consultation And Transfer Criteria

<table>
<thead>
<tr>
<th>BURN CRITERIA</th>
<th>CONSULTATION TRANSFER</th>
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</thead>
<tbody>
<tr>
<td>Second and third degree burns &gt; 10% body surface area (TBSA) in patients &lt; 10 or &gt; 50 years old</td>
<td>Consultation with the attending burn surgeon at a specialty burn facility is required in order to evaluate and consider appropriateness of transfer of adult and pediatric burn patients.</td>
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<tr>
<td>Second and third degree burns &gt; 20% TBSA in other age groups</td>
<td>The attending physician at the nonspecialty center must initiate the consultation.</td>
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<tr>
<td>Second and third degree burns with serious threat of functional or cosmetic impairment to face, hands, feet, genitalia, perineum, and major joints</td>
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<tr>
<td>Third degree burns &gt; 5% TBSA in any age group</td>
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<tr>
<td>High voltage electrical burns including lightning</td>
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<tr>
<td>Injury</td>
<td>Consultation Transfer</td>
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<tr>
<td>-----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
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<tr>
<td>Chemical burns with serious threat of functional or cosmetic impairment</td>
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<tr>
<td>Inhalation injury with burn injury</td>
<td></td>
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<tr>
<td>Circumferential burns of the extremity and chest</td>
<td></td>
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<tr>
<td>Burn injury in patients with pre-existing medical disorders which could complicate management, prolong recovery, or affect mortality</td>
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</tbody>
</table>

**BURN AND OTHER TRAUMA**

Any burn patient with concomitant trauma (for example fractures) in which the burn injury poses the greatest risk of morbidity or mortality. When a patient with both a severe burn and nonburn trauma injury is admitted to a facility without burn specialty designation, consultation about treatment and transfer issues is required. Such consultation shall be initiated by the attending physician at the nonspecialty facility to the attending burn surgeon at a facility with specialty burn designation.

307. Criteria for Designated Regional Pediatric Trauma Centers

A. Administration and organization criteria. A Regional Pediatric Trauma Center as defined in section 25-3.5-703(4)(f) C.R.S. shall have a trauma program with:

1. An administrative organizational structure which identifies the institutional support and commitment. The program's location within that structure must be placed so that it may interact with at least equal authority with other departments providing patient care within the facility.

2. Medical staff commitment to support the program demonstrated by a written commitment to provide the specialty care needed to support optimal care of the injured patient and specific delineation of surgical privileges.
3. A Trauma Medical Director who is a board certified pediatric surgeon, credentialed by the facility for pediatric trauma care.

4. A facility defined Trauma Team, with an identifiable team leader.

5. A facility defined Trauma Team activation protocol. The protocol shall base activation of the team on the anatomical, physiological, mechanism of injury, and co-morbid factors as outlined in the pediatric prehospital trauma triage algorithms as set forth in Chapter 2 of the Statewide Emergency Medical and Trauma Care System Rules, 6 CCR 1015-4.

6. A facility defined trauma service comprised of the personnel and resources identified as needed to provide care for the injured patient. All multi-system trauma patients shall be admitted to that service. The Trauma Medical Director shall direct the service and the cadre of residents or other allied health personnel assigned to that service at any given time.

7. A full time registered nurse identified as the Trauma Program Manager, with educational preparation, verification, and clinical experience in care of the injured as defined by the facility. This position is responsible for the organization of services and systems necessary for a multidisciplinary approach to care of the injured patient.

8. A multi-disciplinary Trauma Committee with specialty representation. This committee is involved in the development of a plan of care for the injured patient and is responsible for trauma program performance.

9. A multidisciplinary Peer Review Committee as defined by the facility. This committee is responsible for monitoring compliance to the facility defined clinical and system standards of care for trauma patients.

10. Hospital departments/divisions/sections
    a. General Pediatric Surgery;
    b. Neurological Surgery;
    c. Orthopaedic Surgery;
    d. Emergency Medicine; and
    e. Anesthesia.

11. Support services/ancillary services, with policies and procedures for access to:
    a. Chemical dependency services;
    b. Child and adult protection services;
    c. Clergy or pastoral care;
    d. Nutritionist services;
    e. Occupational therapy services;
f. Pediatric therapeutic recreation;
g. Pharmacy, with a in-house pharmacist;
h. Physical therapy services;
i. Psychological services;
j. Rehabilitation services;
k. Social services; and
l. Speech therapy services.

B. Clinical capabilities criteria

1. The following services in house and available 24 hours a day with:

a. Pediatric surgery within five minutes of Trauma Team activation. Coverage shall be provided by:

1) an attending board certified pediatric surgeon credentialed by the facility for pediatric trauma care who may only take call at one institution at any one time or have a published backup call schedule; or

2) a post graduate year four (PGY4) or above surgical resident may initiate evaluation and treatment upon the patient's arrival until the arrival of the attending surgeon. In this case, the attending surgeon shall be available within 20 minutes of request by the resident,

b. Pediatric neurosurgery. Coverage shall be provided by:

1) the attending board certified neurosurgeon, who may only take call at one institution at any one time or have a published backup call schedule; or

2) a surgeon who has been judged competent by the chief of neurosurgery to initiate measures to stabilize the patient and initiate diagnostic procedures. In this case, the attending neurosurgeon shall be available within 30 minutes of notification or request by the Trauma Team leader,

c. Pediatric anesthesiology. Coverage shall be provided by:

1) a board certified anesthesiologist in the O.R. at time of arrival of the patient; and

2) a chief resident or fellow within 5 minutes of request by the Trauma Team leader,

d. Pediatric emergency medicine. Coverage shall be provided by:

1) a physician board certified in pediatric emergency medicine; or
2) a physician in a pediatric emergency medicine fellowship at PGY5 level or higher; or

3) a physician having completed pediatric emergency medicine training within the past five years.

2. The following surgical services on-call and present within 30 minutes of request by the Trauma Team leader:
   a. Cardio/thoracic surgery;
   b. Ophthalmic surgery;
   c. Oral/maxillofacial/ENT surgery;
   d. Orthopaedic surgery with a board certified orthopaedic surgeon, who may only take call at one institution at any one time or have a published backup call schedule; and
   e. Urologic surgery.

3. The following non-surgical and surgical specialties including:
   a. A pediatric radiologist on call and available for patient service within 30 minutes of request by the Trauma Team leader,
   b. The following services on call and available for patient consultation or management:
      1) cardiology;
      2) infectious disease;
      3) hand surgery,
      4) microvascular surgery;
      5) plastic surgery;
      6) pulmonary medicine;
      7) nephrology; and
      8) hematology.

C. Facilities/resources/capabilities criteria

1. An emergency department with:
   a. Personnel, to include:
      1) a designated physician director who is board certified in pediatric emergency medicine;
      2) physician(s) designated as a member of the Trauma Team, physically
present in the Emergency Department 24 hours a day, who:

a) are board certified in pediatric emergency medicine; or

b) are in a pediatric emergency medicine fellowship at PGY5 level:

c) or have completed pediatric emergency medicine training within the past five years.

3) registered nursing personnel who provide continuous monitoring of the trauma patient until release from the Emergency Department, who have successfully completed a Trauma Nurse Core Course (TNCC) or equivalent course, and a Pediatric Advanced Life Support (PALS) course,

b. Equipment for the resuscitation of patients of all ages shall include but not be limited to:

1) airway control and ventilation equipment including laryngoscopes and endotracheal tubes of all sizes, bag mask resuscitators, and oxygen;

2) pulse oximetry;

3) end-tidal co2 determination;

4) suction devices;

5) electrocardiograph-oscilloscope-defibrillator with internal paddles - adult and pediatric;

6) apparatus to establish central venous pressure monitoring;

7) standard intravenous fluids and administration devices, including large bore intravenous catheters;

8) sterile surgical sets for:

   a) airway control/cricothyrotomy;

   b) thoracostomy needle and tube;

   d) thoracotomy;

   e) vascular/intraosseous access;

   f) peritoneal lavage;

   g) central line insertion; and

   h) ICP monitoring equipment.

9) gastric decompression;
10) drugs necessary for emergency care;
11) X-ray availability, 24 hours a day;
12) two-way communication with emergency transport vehicles;
13) spinal immobilization equipment;
14) arterial catheters;
15) thermal control equipment for:
   1) patients; and
   2) blood and fluids.
16) rapid infuser system; and
17) length-based emergency tape (LBET).

c. Protocols/procedures for management of the injured child in the emergency department.

2. An operating room available within 30 minutes of request 24 hours a day with:
   a. Facility-defined operating room team in-house and available within 10 minutes of request of Trauma Team leader,
   b. Equipment for all ages shall include, but not be limited to:
      1) cardiopulmonary bypass capability;
      2) operating microscope and microinstruments;
      3) thermal control equipment for:
         a) patients; and
         b) blood and fluids.
      4) x-ray capability, including C-arm image intensifier;
      5) endoscopes;
      6) craniotomy instruments;
      7) equipment for fixation of long bone and pelvic fracture; and
      8) equipment for spinal immobilization and instrumentation.

3. Postanesthetic recovery room (surgical intensive care unit is acceptable) with:
   a. Registered nurses available within 30 minutes of request 24 hours a day;
   b. Equipment for the continuous monitoring of temperature, hemodynamics, gas
exchange and intracranial pressure;

c. Thermal control equipment for:

1) patients; and

2) blood and fluids,

d. Compartmental pressure monitoring equipment.

4. Intensive care unit for injured patients with:

a. Personnel, to include:

1) a surgical director, who:

   a) is responsible for setting policies and administration related to pediatric trauma ICU patients; and

   b) has obtained critical care training during residency or fellowship and has expertise in the perioperative and post injury care of the injured child.

2) a physician, credentialed in pediatric critical care, or a pediatric intensivist, approved by the Trauma Director, who is in the hospital and available within 30 minutes of notification.

3) registered nurses with facility-defined trauma education program.

b. Equipment for monitoring and resuscitation, to include: intracranial pressure monitoring, compartment pressure monitoring, and continuous monitoring of temperature, hemodynamics, and gas exchange.

5. Acute hemodialysis available in house.

6. Radiological services, available 24 hours a day to the trauma patient, with:

a. The following technicians:

1) in-house radiology technician available within 10 minutes of notification; and

2) in-house CT technician available within 10 minutes of notification,

b. The following services:

1) MRI, on site without vehicular transfer of the patient;

2) angiography;

3) sonography;

4) nuclear scanning;

5) computed tomography (CT); and
6) interventional radiology.

c. Physician and technical support staff for the services identified above shall be in-house or available within 30 minutes.

7. Clinical laboratory services, to include:

a. Standard analysis of blood, urine, and other body fluids;

b. Blood typing and cross matching;

c. Coagulation studies;

d. Blood and blood components available from in-house, or through community services, to meet patient needs and blood storage capability;

e. Blood gases and PH determination;

f. Microbiology;

g. Serum alcohol and toxicology determination; and

h. Clinical laboratory technician available in house.

8. Respiratory therapy services, in house.

9. Acute spinal cord management, with surgeons capable of addressing acute spinal cord injury, and with protocols/procedures to address early assessment of the spinal cord injured patient for management or transfer.

10. Organized burn care for those patients identified in section 306 of this chapter in the Statewide Emergency Medical and Trauma Care System rules, 6 CCR 1015-4, with:

a. Specialty designation as a burn center; or

b. Transfer agreements with a facility with a specialty designation as a burn center.

11. Rehabilitation services, with:

a. Leadership of the service by a physician who is a physiatrist or who specializes in orthopedic or neurologic rehabilitation, and

   1) protocols/procedures for the early assessment of the rehabilitation needs of the injured child;

   2) physical therapy;

   3) occupational therapy;

   4) speech therapy; and

   5) social services.
12. Outreach program, with telephone and on-site consultations with physicians of the community and outlying areas regarding pediatric trauma care.

13. Injury prevention/public education, with:
   a. Injury prevention with:
      1) a designated prevention coordinator;
      2) outreach activities and program development;
      3) information resources for the public; and
      4) collaboration with existing national, regional, and state programs.
   b. Injury control research, which may include:
      1) collaboration with other institutions in prevention research;
      2) monitoring progress/effect of prevention programs; and
      3) special surveillance project/data collection projects.

14. Trauma research program, with:
   a. A designated director;
   b. Regular meetings of the research group;
   c. Evidence of productivity, to include:
      1) proposals reviewed by an Internal Review Board (IRB);
      2) presentations at local/regional/national meetings;
      3) publications in peer-reviewed journals; and
      4) peer-reviewed extramural funding for research activities.

15. Continuing medical education (CME), with
   a. In-house CME for:
      1) staff physicians;
      2) nurses;
      3) allied health personnel; and
      4) community physicians.
   b. Physician CME requirements for emergency medicine, trauma surgery, orthopedics, and neurosurgery - 16 hours CME annually or 48 hours over 3 years, with half outside own institution.
c. Nursing CME requirements for emergency department and ICU - 8 hours annually or 24 hours over 3 years.


17. Trauma divert protocols, to include:

   a. A method to report trauma diverts to the Regional Emergency Medical and Trauma Advisory Council (RETAC) for monitoring;

   b. A method for notification of prehospital providers when on divert;

   c. Facility defined criteria for going on divert, not to exceed those identified in the definition section of this chapter; and

   c. A method for monitoring times and reasons for going on divert.

18. Trauma transfer agreements as a transferring and receiving facility, renewed every 3 years.

19. Interfacility consultation protocols/procedures for attending surgeon availability for responding to mandatory consultations and arranging transfers from level I, II, III, IV, and non-designated trauma centers.

20. A trauma registry as required in Chapter 1 of the Statewide Emergency Medical and Trauma Care System rules, 6 CCR 1-15-4, and trauma data entry support.

21. A quality assurance program in accordance with Section 303 (O) of this chapter of the Statewide Emergency Medical and Trauma Care System rules, 6 CCR 1015-4.

22. Participation in RETAC quality improvement programs established in accordance with Chapter 2 of the Statewide Emergency Medical and Trauma Care System rules, 6 CCR 1015-4.

CHAPTER FOUR - REGIONAL EMERGENCY MEDICAL AND TRAUMA ADVISORY COUNCILS

400. In order to ensure effective system development and regional emergency medical and trauma planning, all regions must comply with the following minimum standards and planning regulations.

401. Definitions. As used in this article, unless the context otherwise requires:

1. “Biennial Plan” - A regional emergency medical and trauma services system plan that shall be in a format specified by the Council and the Department and submitted to the Council for approval every other year on July 1, beginning July 1, 2003.

2. “City and County” - A city that shares the same boundaries as the county it resides in.

3. “Continuing Quality Improvement” - The ongoing issue of improving the quality of the regional emergency medical and trauma services system.

4. “Council” - The State Emergency Medical and Trauma Services Advisory Council created in section 25-3.5-104, C.R.S.

6. “EMTS System” - Emergency Medical and Trauma Services System.

7. “Financial Report” - A regional financial accounting in a format specified by the Council and the Department that details the expenditure of money received.

8. “RETAC” - Regional Emergency Medical and Trauma Advisory Council - The representative body appointed by the governing bodies of counties or cities and counties for the purpose of providing recommendations concerning regional area emergency medical and trauma service plans for such counties or cities and counties.


402. RETAC EMTS System Biennial Plan Requirements

Beginning July 1, 2003 and every odd numbered year thereafter on July 1, each Regional Emergency Medical and Trauma Advisory Council with the approval from the governing bodies for the RETAC must prepare a regional emergency medical and trauma services system plan to create and maintain coordinated, integrated emergency medical and trauma system services throughout the region. The Department shall provide technical assistance to any RETAC for preparation, implementation and modification of the plan. This plan shall be submitted to SEMTAC for evaluation and recommendations for approval to the Department. The plan will be in a format specified by the Department with advice from SEMTAC. If the RETAC fails to submit a plan, does not include a county or city and county within their region in the plan or the plan is not approved through the evaluation process established by the council, the Department shall design a plan for the RETAC. This plan, referred to hereafter as the Biennial Plan, shall be comprised of fifteen components. The components are listed below. Each component, at a minimum shall address the current level of activity within that component. The RETAC should develop their plan based on data collected from sources such as, but not limited to, county plans, EMS Council plans, agency profiles, financial reports and strategic planning documents. Every RETAC plan shall provide the following:

A. The plan shall identify the needs of the region to provide minimum services to sick and injured patients at the most appropriate facility. Needs shall be based on but not limited to the following factors:

1. Transfer agreements and protocols used by facilities to move patients to higher levels of care.

2. Facility defined triage and transport plans to be developed by all facilities within the RETAC.

3. Geographical barriers to the transportation of patients.

4. Population density challenges to providing care.

5. Out of hospital resources within the region for the treatment and transportation of sick and injured persons.

6. Accessibility to Department designated facilities within and outside the region

B. The plan shall describe the commitment of each of the member counties or city and counties. Commitment includes but may not be limited to:

1. Cooperation among county and local organizations in the development and implementation of the statewide EMTS system.
2. Participation and representation within the RETAC.

3. Dedicated financial and in-kind resources for regional systems development.

4. Cooperation among county and local organizations in the development and implementation of a coordinated statewide communications system.

C. The plan shall include the description of processes used to ensure facilities, agencies, counties, and city and counties adherence to the RETAC EMTS plan. Processes shall include but not be limited to:

1. A compliance reporting process as defined by SEMTAC and the Department.

2. A continuing quality improvement system as defined by SEMTAC and the Department.

D. The plan shall include a description of public information, education, and prevention programs used within the region to reduce illness and injury.

E. The plan shall describe any functions of the RETAC accomplished through contracted services.

F. The plan shall identify any needs of the RETAC EMTS system through the use of a needs assessment instrument. The needs assessment instrument used by the RETAC must be approved by the RETAC member counties and city and counties. Needs assessment instruments must be approved by or supplied by the Department.

G. The plan shall include a description of the following communication issues:

1. Communication method in place to ensure citizen access to emergency medical and trauma services through the 911 telephone system or its local equivalent.

2. Primary communication method for dispatch of personnel who respond to provide prehospital care.

3. Communication methods used between ambulances and other responders and between ambulances and designated and undesignated facilities.

4. Communication methods used among trauma facilities and between facilities and other medical care facilities.

5. Communication methods used among service agencies to coordinate prehospital and day-to-day requests for service.

6. Communication methods used within and between the RETAC to coordinate service during multicasualty events (interoperability).

H. The plan components shall include:

1. Integration of Health Services - Activities to improve patient care through collaborative efforts among health related agencies, facilities and organizations within the region. The desired outcome of this component is to improve the system by encouraging groups involved in EMTS to
work with other entities (e.g. health related, state, local and private agencies and institutions) to share expertise, to evaluate and make recommendations, and mutually address and solve problems within the region.

2. EMTS Research - Determines the effectiveness and efficiency of the EMTS system through scientific investigation. A continuous and comprehensive effort to validate current EMTS system practices in an effort to improve patient care, determine the appropriate allocation of resources and prevent injury and illness and ultimately death and disability.

3. Legislation and Regulation - Issues related to legislation, regulation and policy that affects all components of the EMTS system. This component defines the level of authority and responsibility for system planning, implementation and evaluation.

4. System Finance - Defines the financial resources necessary to develop and maintain a quality EMTS system.

5. Human Resource - The acquisition of knowledge and skills, recruitment and retention of providers are priorities for a quality EMTS system.

6. Education Systems - Includes the education and training of all providers within the EMTS system and includes efforts to coordinate and evaluate programs to ensure they meet the needs of the EMTS system.

7. Public Access - Includes all means by which users can access the system (9-1-1). This component also includes the provision of pre-arrival instructions provided by emergency medical dispatchers.

8. Evaluation - A process of assessing the attributes (system integration and components) of the EMTS system to ensure that continual improvement can be designed and implemented.

9. Communications System - The efficient transfer of information by voice and data occurring between dispatch centers, EMTS providers, physicians, facilities, public safety agencies and patients seeking care through emergency medical dispatch. Includes EMTS system communications interoperability within and outside the region for multicasualty incidents.

10. Medical Direction - Supervision and direction of patient care within the EMTS system by qualified and authorized physicians, including the medical communities involvement in maintaining quality of care through accepted standards of medical practice and through innovation.

11. Clinical Care - Clinical methods, technologies and delivery systems utilized in providing EMTS in and out of the hospital. Includes emerging community health services, rescue services and mass casualty management.

12. Mass Casualty - Defines the responsibility and authority for planning, coordination and infrastructure for all medical care during incidents where the normal capacity to respond is exceeded.

13. Public Education - Includes the public's involvement in learning experiences to promote and encourage good health and reduce morbidity and
mortality.

14. Prevention - Solutions designed through data collection and analysis, education and intervention strategies to reduce morbidity and mortality related to intentional and unintentional injury and illness

15. Information Systems - The collection of data and analysis as a tool to monitor and evaluate the EMTS system. Information systems are key to providing a means of improving the effectiveness and integration of healthcare delivery.

402.1 RETACs must submit their Biennial Plan to SEMTAC on or before July 1, 2003 and every odd numbered year by July 1. If the plan is found to be inadequate, it will be returned to the RETAC with recommendations for revisions. The revised plan shall be submitted to the Council by September 14th. If the revised plan is not approved, the Department will design a plan for the RETAC. Plan submissions must occur by the dates stated or the opportunity for further submissions is forfeited.