

# Memorandum #03-15

**Date:** February 26, 2015

**To:** SOUTHERN NEVADA DISTRICT BOARD OF HEALTH

**From:** Mary Ellen Britt, RN, MPH, *EMS & Trauma System Manager*  
Cassius Lockett, PhD, MS, *Director of Community Health*  
Joseph P. Iser, MD, DrPH, MSc, *Chief Health Officer* MEB  
cf

---

**Subject:** Public Hearing to Consider/Adopt Amendments to the District's Trauma System Regulations, Southern Nevada Trauma System Plan, and Trauma System Performance Improvement Plan

---

## **I. RECOMMENDATION:**

Staff recommends the Board of Health consider adoption of proposed amendments to the District's Trauma System Regulations, Southern Nevada Trauma System Plan, and SNHD Trauma System Performance Improvement Plan.

## **II. BACKGROUND:**

On January 25, 2015, a Public Hearing was scheduled for today related to amendments to the District's Trauma System Regulations, Southern Nevada Trauma System Plan, and SNHD Trauma System Performance Improvement Plan.

## **III. DISCUSSION:**

Recommended revisions are noted in the following way for all three documents:

- Additions are *italicized and underscored*
- Deletions are surrounded by brackets and have a [strikethrough]
- Comments related to all revisions are shown in the margins

### **Trauma System Regulations**

The Trauma System Regulations were last reviewed and revised in April 2012. In addition to minor housekeeping changes, the following revisions were made:

- 1) Changed name of Nevada State Health Division to Nevada Division of Public and Behavioral Health throughout the document
- 2) Standardized the foreword to be in alignment with other District regulations
- 3) Section 100
  - a) Updated language in existing definitions
  - b) Added definitions which were not previously included in the document, but defined in the Emergency Medical Services (EMS) Regulations

- 4) Section 300.700: Redefined the appeal process
- 5) Section 400.000: Added a reference to the Trauma Medical Audit Committee (TMAC)
- 6) Section 500
  - a) Added the EMS agency medical director/quality improvement coordinator as a standing member of the TMAC
  - b) Deleted the list of ad hoc members
  - c) Revised the language to allow for greater flexibility for adding ad hoc members

#### Southern Nevada Trauma System Plan

The Southern Nevada Trauma System Plan was originally written in 2005 and adopted by the District Board of Health in February 2006. The following housekeeping changes were made throughout the document: 1) Changed title and added new logo; and 2) Changed name of Nevada State Health Division to Nevada Division of Public and Behavioral Health.

Additional revisions include:

- 1) Added "Terms and Acronyms" which were not previously included in the document
- 2) Executive Summary
  - a) Provided additional information about trauma systems
  - b) Updated information about Southern Nevada Trauma System development
  - c) Updated and moved "Summary of Key Events" to Appendix I
  - d) Listed and provided links for key EMS and trauma resource documents
- 3) Compliance with State Statutes and Regulations
  - a) Removed redundant language and updated existing language
  - b) Expanded the description of the State and SNHD responsibilities
- 4) Organizational & Administrative Structure
  - a) Expanded the description of SNHD's role
  - b) Expanded description of boards and committees
  - c) Updated existing language
- 5) Needs Assessment
  - a) Updated to include a more detailed description of trauma system assessments completed to date, with links to summary documents
  - b) Included the results for the HRSA Benchmarks, Indicators and Scoring self-assessments for 2007, 2011 and 2013, which were moved to Appendix J
- 6) Trauma System Design
  - a) Removed redundant language and updated existing language
  - b) Added language to reflect current and projected funding mechanisms
  - c) Added "Disaster Preparedness" section
- 7) Policy Development
  - a) Updated existing language
  - b) Included a list of all related EMS and trauma resource documents
- 8) Trauma System Performance and Patient Safety
  - a) Updated the existing language
  - b) Deleted details now included in the Trauma System Performance Improvement Plan
- 9) Appendices:
  - a) Appendix A: Updated Regional Trauma Advisory Board Regulations
  - b) Appendix B: Updated Board and Committee descriptions
  - c) Appendix C: Updated Trauma Field Triage Criteria protocol
  - d) Appendix D: Deleted redundant or outdated language and added the list of related EMS and trauma resource documents

- e) Appendix E: Added the existing "District Procedure for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma"
- f) Appendix F: Added the existing "District Procedure for Renewal of Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma"
- g) Appendix G: Added the existing "District Procedure for Trauma Bypass/Internal Disaster"
- h) Appendix H: Updated Catchment Area map
- i) Appendix I: Added updated "Summary of Key Events" previously found in the "Executive Summary"
- j) Appendix J: Added the Southern Nevada Trauma System self-assessment results from 2007, 2011 and 2013.

### Trauma System Performance Improvement Plan

The Trauma System Performance Improvement Plan was last revised in 2009. The following housekeeping changes were made throughout the document: 1) Added "System" to the title; 2) Added "Terms and Acronyms," which were not previously included in the document; 3) Added "Table of Contents," which was not previously included in the document; 4) Changed name of Nevada State Health Division to Nevada Division of Public and Behavioral Health; and 5) Updated and reorganized the content based on new guidelines published in the American College of Surgeons (ACS) "*Resources for Optimal Care of the Injured Patient*" and the Society of Trauma Nurses (STN) "*Trauma Outcomes & Performance Improvement*" documents.

Additional revisions include:

- 1) Authority and Scope
  - a) Expanded description of SNHD's role
  - b) Expanded description of the Plan's purpose
- 2) Trauma Patient Population Criteria
  - a) Added definition of a trauma patient from the Trauma System Regulations
  - b) Added definition of a trauma patient from the National Trauma Data Bank
- 3) Data Collection and Analysis
  - a) Added additional potential data sources
  - b) Added recommendation that trauma centers in Clark County submit data to SNHD, in addition to the State
- 4) Process for Monitoring Compliance & Determination of Judgments
  - a) Updated and clarified language
  - b) Added flow charts (Appendices B-E) to more clearly illustrate the process
  - c) Added new language to better define corrective action planning, documentation of evaluation, and loop closure
- 5) Integration into EMS Performance Improvement Process
  - a) Updated language to reflect the reciprocal relationship between the TMAC and EMS Quality Improvement Directors Committee
  - b) Deleted redundant language
- 6) Appendices
  - a) Appendix A: Added the EMS agency medical director/quality improvement coordinator as a standing member of the TMAC
  - b) Appendices B-E: Added new and revised language with regard to the performance improvement review process
  - c) Appendices F-G: Minor housekeeping changes

- d) Appendices H-J: Revised language to reflect new recommendations from ACS and STN
- e) Appendix K: Updated data elements collected in the Trauma Center Quarterly Report as recommended by the workgroup
- f) Appendix L: Added the existing Trauma Field Triage Criteria protocol, with minor housekeeping changes

Staff conducted three public workshops on January 8, January 14, and January 21, 2015 for interested persons to present their views on the proposed amendments to the District's Trauma System Regulations, Southern Nevada Trauma System Plan, and Trauma System Performance Improvement Plan. The Regional Trauma Advisory Board reviewed the proposed amendments and unanimously recommended the above draft documents be forwarded to the Board of Health for adoption.

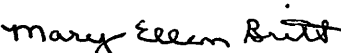
**Attachments:**

- A. Notice of Public Hearing dated 1-25-15
- B. Draft Trauma System Regulations
- C. Draft Southern Nevada Trauma System Plan
- D. Draft Trauma System Performance Improvement Plan

## NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that a public hearing will be held before the Southern Nevada Health District's Board of Health on February 26, 2015, at 8:30 a.m. at the Southern Nevada Health District, 330 S. Valley View Blvd., Las Vegas, Nevada, pursuant to Nevada Revised Statutes 439.366 and 450B.130 for the purpose of considering adoption of proposed amendments to the District's Trauma System Regulations, Southern Nevada Trauma System Plan, and Trauma System Performance Improvement Plan. Copies will be available for review at the Southern Nevada Health District, Office of EMS & Trauma System, 330 S. Valley View Blvd., Las Vegas, Nevada between the hours of 8:00 a.m. to 4:30 p.m. Hard copies of the draft documents may be requested during regular business hours at a charge of one dollar per page. The same may be emailed upon request ([ems@snhdmail.org](mailto:ems@snhdmail.org)). If there are special viewing needs, please call 702-759-1050 for assistance.

All interested persons may appear at the hearing and submit data, views or arguments regarding the proposed amendments. Written data, views and arguments may also be submitted to the District Board of Health in advance of the hearing, addressed to the Chairman of the Southern Nevada District Board of Health at P.O. Box 3902, Las Vegas, NV 89127. The District Board of Health will consider fully all written and oral submissions on the proposed amendments prior to taking action thereon. Questions may be directed to Southern Nevada Health District's Office of Emergency Medical Services & Trauma System at (702) 759-1050.

  
\_\_\_\_\_  
Mary Ellen Britt, RN, MPH  
EMS & Trauma System Manager

1-23-15  
\_\_\_\_\_  
Date

## APPENDIX B

# **CLARK COUNTY** **TRAUMA SYSTEM** **REGULATIONS**

**Comment [HAF1]:** Not necessary to include "Clark County" in the title as these are the Trauma System Regulations promulgated by SNHD.

[April 23, 2012]  
February 26, 2015

DRAFT

## ~~CLARK COUNTY~~ TRAUMA SYSTEM REGULATIONS

Comment [HAF2]: Updated throughout document

WHEREAS, the Southern Nevada Health District (SNHD) has been established by the County of Clark and the cities of Las Vegas, North Las Vegas, Henderson, Mesquite, and Boulder City as the public health authority for those entities and, pursuant to Nevada Revised Statutes (NRS) Chapter 439, has jurisdiction over all public health matters in the [h]Health [d]District; and

WHEREAS, the Southern Nevada District Board of Health (Board) is the governing body of the SNHD, and is authorized to adopt regulations to standardize the trauma system in the interest of the public health, and to protect and promote the public health and safety in the geographical area subject to the jurisdiction of the Health District and is specifically authorized to adopt regulations regarding the designation of hospitals as Centers for Treatment of Trauma as per [by] NRS 450B.237 [to];

- [Establish and adopt a comprehensive trauma system plan concerning the treatment of trauma in Clark County, which includes, without limitation, consideration of the future trauma needs of the county, consideration of and plans for the development and designation of new Centers for the Treatment of Trauma in the county based on the demographics of the county and the manner in which the county may most effectively provide trauma services to persons in the county; and
- Adopt regulations which establish the standards for the designation of hospitals in Clark County as Centers for the Treatment of Trauma which are consistent with the regulations adopted by the State Board of Health.

NOW THEREFORE, the Southern Nevada District Board of Health hereby adopts, promulgates and orders compliance with the following Regulations within Clark County, Nevada:]

WHEREAS, failure to establish a trauma system plan constitutes a hazard to public health and welfare, the Board finds that the regulation of hospitals as Centers for Treatment of Trauma does affect the public health, and finds that it is necessary to adopt Southern Nevada Health District Regulations Governing Trauma Systems to promote and regulate a comprehensive trauma system plan; and

WHEREAS, the Board believes that the following Regulations are designed to protect and promote the public health and safety, it does therefore publish, promulgate, and order compliance within Clark County, Nevada with the substantive and procedural requirements hereinafter set forth.

Comment [B3]: Legal counsel standardized language throughout this section to bring it into alignment with other SNHD regulations.

## **TERMS AND ~~[CONVENTIONS]~~ ACRONYMS**

**Comment [B4]:** Housekeeping

**ACS** ----- means American College of Surgeons

**COBRA** ----- means Consolidated Omnibus Budget Reconciliation Act

**MAB** ----- means Medical Advisory Board

**NAC** ----- means Nevada Administrative Code

**NRS** ----- means Nevada Revised Statutes

**OEMSTS** ----- means Office of Emergency Medical Services & Trauma System

**RTAB** ----- means Regional Trauma Advisory Board

**SNHD** ----- means Southern Nevada Health District

**TMAC** ----- means Trauma Medical Audit Committee

## TABLE OF CONTENTS

Section	Page
100.000 Definitions .....	5
<b>TRAUMA SYSTEM ADMINISTRATION</b>	
200.000 Office of Emergency Medical Services & Trauma System Responsibilities .....	8
200.100 Office of Emergency Medical Services & Trauma System Evaluation .....	8
200.200 Trauma Patient Transport .....	9
200.250 Trauma Patient Refusing Transport .....	9
200.300 Trauma Patient Transfer.....	9
<b>CENTER FOR THE TREATMENT OF TRAUMA OR PEDIATRIC CENTER FOR THE TREATMENT OF TRAUMA AUTHORIZATION PROCESS</b>	
300.000 Process for Authorization .....	11
300.100 Process for Accepting Applications for Authorization .....	12
300.200 Process for Accepting Applications for Renewal of Authorization .....	12
300.300 Duration of Authorization; Renewal of Authorization; and Provisional Authorization of a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma .....	13
300.400 Process for Requesting Change in Level of Designation .....	13
300.500 Denial of Initial or Renewal Application for Authorization or Suspension or Revocation of Existing Authorization by the Board .....	13
300.600 Withdrawal of Existing Authorization by the Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma .....	14
300.700 Appeal Process for Denial of Application for Initial or Renewal Authorization or Suspension or Revocation of Existing Authorization .....	14
<b>REGIONAL TRAUMA ADVISORY BOARD</b>	
400.000 Regional Trauma Advisory Board .....	16
<b>TRAUMA MEDICAL AUDIT COMMITTEE</b>	
500.000 Trauma Medical Audit Committee .....	18

## SECTION 100 DEFINITIONS

- 100.000** **DEFINITIONS.** When a word or term is capitalized, within the body of these Regulations, it shall have the meaning ascribed to it as defined in subsections 100.010 to 100.170 of these Regulations. Unless otherwise expressly stated, words not defined herein shall be given their common and ordinary meaning. The words "shall" and "will" are mandatory; and the word "may" is permissive.
- 100.010** **"AUTHORIZATION"** means the process by which the Board confirms a general hospital licensed in this State has met the requirements pursuant to the provisions of Section 300 of these Regulations which demonstrates the facility's capacity, capability and commitment to pursue Designation by the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma.
- 100.020** **"BOARD"** means the Southern Nevada District Board of Health.
- 100.[149]025** **"[SERVICE] CATCHMENT AREA"** means the geographical area described by a Center for the Treatment of Trauma of Trauma or Pediatric Center for the Treatment of Trauma in its plan for providing treatment for trauma as the area served by that center.
- 100.030** **"CENTER FOR THE TREATMENT OF TRAUMA"** means a general hospital licensed in this State that can care for ~~[p]~~Patients of all ages and both genders and which has been designated as a level I, II or III center by the administrator of the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health pursuant to the provisions of NAC 450B.780 to 450B.875, inclusive; in accordance with the American College of Surgeons trauma center classification scheme.
- 100.040** **"DESIGNATION"** means the process by which the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health confirms a general hospital licensed in this State has met the requirements of a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma, pursuant to the provisions of NAC 450B.780 to 450B.875, inclusive.
- 100.042** **"DISTRICT PROCEDURE"** means Southern Nevada Health District Standard Operating Procedure.
- 100.044** **"HEALTH AUTHORITY"** shall have the meaning ascribed to it in NRS 450B.077 that states, "Health Authority means:  
1. In a county whose population is less than 700,000, the Division.  
2. In a county whose population is 700,000 or more, the district board of health."
- 100.046** **"HEALTH DISTRICT" or "DISTRICT"** means the Southern Nevada Health District, its officers and authorized agents.
- 100.048** **"HEALTH DISTRICT OFFICE OF EMSTS" or "OEMSTS"** means the staff of the Health District charged with the responsibility of administering and regulating the Emergency Medical Services & Trauma System in Clark County.
- 100.050** **"HEALTH OFFICER"** means the Chief Health Officer of the Southern Nevada Health District or the Chief Health Officer's designee.
- 100.055** **"INJURY SEVERITY SCORE"** means an anatomical scoring system that provides an overall score for patients with multiple injuries.
- 100.060** **"MEDICAL ADVISORY BOARD"** means a Board appointed by the Health Officer consisting of one medical director and one operations director for each permitted agency which advises the Health Officer and Board on matters pertaining to the Emergency Medical

**Comment [p5]:** Added clarifying language.

**Comment [p6]:** Housekeeping.

**Comment [B7]:** Housekeeping

**Comment [p8]:** "Patient" newly defined in this section. Housekeeping change throughout the document.

**Comment [p9]:** Housekeeping.

**Comment [p10]:** Housekeeping.

**Comment [p11]:** Not previously defined.

**Comment [B12]:** Not previously defined.

Services system in Clark County.

**100.065** "PATIENT" means any individual that meets at least one (1) of the following criteria: 1) A Person who has a complaint or mechanism suggestive of potential illness or injury; 2) A Person who has obvious evidence of illness or injury; or 3) A Person identified by an informed 2<sup>nd</sup> or 3<sup>rd</sup> party caller as requiring evaluation for potential illness or injury.

Comment [p13]: Not previously defined.

**100.070** **"PATIENT WITH A MAJOR TRAUMA"** means a person who has sustained an acute injury which has:

- I. The potential of being fatal or producing a major disability; and/or
- II. An injury severity score that is greater than 15.

**100.080** **"PATIENT WITH TRAUMA"** means a person who has sustained injury and meets the Triage Criteria used to evaluate the condition of the [p]Patient.

**100.085** **"PEDIATRIC CENTER FOR THE TREATMENT OF TRAUMA"** means a general hospital licensed in this State that can provide comprehensive surgical, medical and nursing care for [p]Patients who are less than 15 years of age and which has been designated as a level I or II pediatric center by the administrator of the [State Health Division] Nevada Division of Public and Behavioral Health, pursuant to the provisions of NAC 450B.780 to 450B.875, inclusive; in accordance with the American College of Surgeons trauma center classification scheme.

Comment [B14]: Added clarifying language from NAC 450B.799

Comment [p15]: Housekeeping.

**100.090** **"PERMITTEE"** means the person who holds a permit issued by the Southern Nevada Health District authorizing the provision of emergency medical care in Clark County through an ambulance service, air ambulance service, or firefighting agency.

**100.095** "PHYSICIAN" means a Person licensed by the Nevada State Board of Medical Examiners or the Nevada State Board of Osteopathic Medicine to practice medicine in Nevada.

Comment [B16]: Language updated as recommended by the Trauma Procedure/Protocol Review Committee (TPPRC). 1-8-15

**100.098** "PREHOSPITAL CARE RECORD" means a form or format, approved by the Health Officer, used for the reporting of Emergency Medical Care rendered by licensed Attendants.

Comment [p17]: Not previously defined.

**100.100** "RECEIVING [HOSPITAL] FACILITY" [means a general hospital licensed in this State with emergency services which has not been designated as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma, but which has been assigned a role by the State Health Division in the system providing treatment for trauma as defined in NAC 450B.840] means a medical facility as approved by the Health Officer.

Comment [p18]: Housekeeping.

**100.120** **"SYSTEM FOR PROVIDING TREATMENT FOR TRAUMA"** means a formally organized arrangement of resources providing health care which is described in writing by a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma and approved by the Board and the [State Health Division] Nevada Division of Public and Behavioral Health whereby a Patient With Trauma is treated at a designated Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma.

Comment [p19]: Housekeeping.

**100.130** **"TRANSFER"** means the prearranged movement of a [p]Patient by ambulance or air ambulance from one (1) hospital to another hospital, a medical facility, a home or other location.

**100.140** **"TRANSPORT"** means the movement of a [p]Patient by ambulance or air ambulance from the scene of an emergency to a designated Center for the Treatment of Trauma, Pediatric Center for the Treatment of Trauma, or medical facility as approved by the Health Officer.

Comment [p20]: Housekeeping.

**100.150** **"TRIAGE CRITERIA"** means a measure or method of assessing the severity of a person's injuries which is used to evaluate the [p]Patient's condition in the field and is based on anatomical considerations, physiological conditions and the mechanism of injury as outlined in the Clark County EMS System Trauma Field Triage Criteria Protocol.

**100.160** **"VERIFICATION"** means the process by which the American College of Surgeons confirms that a hospital licensed in this State is capable of performing as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma and meets the criteria contained in the current "Resources for Optimal Care of the Injured Patient." Verification by the American College of Surgeons is an integral part of the State's Designation process as outlined in NAC 450B.820.

**100.170** **ADOPTION OF PUBLICATION BY REFERENCE.** The most recent edition of "Resources for Optimal Care of the Injured Patient" published by the American College of Surgeons is hereby adopted by reference.

## SECTION 200

### TRAUMA SYSTEM ADMINISTRATION

**200.000 OFFICE OF EMERGENCY MEDICAL SERVICES & TRAUMA SYSTEM RESPONSIBILITIES.** The OEMSTS shall establish standards related to the structure and operation of the trauma system in Clark County to include a program for planning, developing, coordinating, maintaining, modifying and improving the system. The general responsibilities are as follows:

- I. Coordinate with Centers for the Treatment of Trauma or Pediatric Centers for the Treatment of Trauma and public and private agencies in the development and implementation of programs dedicated to injury prevention and public education about the trauma system.
- II. Establish catchment areas for Centers for the Treatment of Trauma or Pediatric Centers for the Treatment of Trauma to facilitate timely transportation of trauma [p]Patients from the scene of an emergency and not for the purposes of restricting referral of [p]Patients requiring Transfer to a higher level of care.
- III. Coordinate with permitted emergency medical service agencies to ensure appropriate Transport and Transfer of [p]Patients within the trauma system.
- IV. Coordinate with all hospitals and rehabilitation services, to facilitate appropriate access to and utilization of resources to provide a full spectrum of trauma care to injured [p]Patients.
- V. Develop and implement a regional trauma performance improvement plan.
- VI. Serve as a central repository for trauma data collection, organization, analysis, and reporting.
- VII. Establish criteria which are consistent with state and national standards to determine the optimal number and level of Centers for the Treatment of Trauma or Pediatric Centers for the Treatment of Trauma to be authorized based upon the availability of resources and the ability to distribute [p]Patients to ensure timely access to definitive care.
- VIII. Develop and implement a procedure for accepting and processing an application from a hospital requesting initial Authorization or renewal of Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma from the Board, including applicable fees.
- IX. Coordinate with members of the public safety, public health and emergency care communities to plan a systematic response to mass casualty events.

**200.100 OFFICE OF EMERGENCY MEDICAL SERVICES & TRAUMA SYSTEM EVALUATION.** The OEMSTS shall develop a trauma performance improvement plan to provide continuous assessment of the structure, functions and outcomes of the system. The plan shall include, but not be limited to the following components:

- I. An internal audit process whereby each Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma shall implement a formal, validated performance improvement and [p]Patient safety program that demonstrates their ability to monitor, evaluate and ensure quality of care within their institution.
- II. An external audit process whereby periodic reviews of each Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma may be conducted by the [State Health Division] *Nevada Division of Public and Behavioral Health* and/or the OEMSTS to determine compliance with applicable State statutes and regulations.

Comment [p21]: Housekeeping.

- III. Initial and renewal verification review site visits of each level I, II, and III Center for the Treatment of Trauma or level I and II Pediatric Center for the Treatment of Trauma conducted by the ACS at least every three (3) years.

Adoption and implementation of a standardized system to collect and manage data from permitted emergency medical service agencies, Centers for the Treatment of Trauma or Pediatric Centers for the Treatment of Trauma, hospitals and other healthcare organizations, as appropriate. The conditions shall be as follows:

- A. The requested data will be specific to planning, research and evaluation of the effectiveness of the trauma system, as determined by the OEMSTS and RTAB.
  - B. All Centers for the Treatment of Trauma or Pediatric Centers for the Treatment of Trauma and hospitals that receive trauma [p]Patients shall provide data when requested.
  - C. The OEMSTS will provide periodic reports on the performance of the trauma system, at least every two years.
- IV. Development of a multidisciplinary medical peer review committee to review and evaluate trauma care in the system, monitor trends in system performance and make recommendations for system improvements.

**200.200 TRAUMA PATIENT TRANSPORT.** Trauma [p]Patients transported by a Permittee authorized to provide emergency medical care in Clark County shall be delivered to a receiving facility, as approved by the Health Officer, in accordance with the procedures and protocols recommended by the Medical Advisory Board and authorized by the Health Officer.

**200.250 TRAUMA PATIENT REFUSING TRANSPORT.**

- I. If a [p]Patient at the scene of an emergency refuses to be transported to a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma after a determination has been made that the [p]Patient's physical condition meets the [t]Triage [e]Criteria requiring transport to the trauma center, the person providing emergency medical care shall evaluate the decision-making capacity of the [p]Patient. If he determines that the [p]Patient is competent, the [p]Patient must be advised of the risks of not receiving further treatment at the trauma center.
- II. If the [p]Patient continues to refuse to be transported to the Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma, the person providing emergency medical care shall request the [p]Patient to sign a release of medical assistance statement in accordance with the procedures and protocols recommended by the Medical Advisory Board and authorized by the Health Officer.

**200.300 TRAUMA PATIENT TRANSFER.**

- I. Trauma [p]Patients may be transferred to Centers for the Treatment of Trauma or Pediatric Centers for the Treatment of Trauma providing that:
  - A. Any Transfer shall be, as determined by the physician of record, medically prudent and conducted according to the most recently established guidelines under the Consolidated Omnibus Budget Reconciliation Act (COBRA) and subsequent announcements.
  - B. The Transfer, when performed by a Permittee authorized to provide emergency medical care in Clark County, shall be conducted in accordance with the procedures and protocols recommended by the Medical Advisory Board and authorized by the Health Officer.

- II. Hospitals shall establish written agreements with Centers for the Treatment of Trauma or Pediatric Centers for the Treatment of Trauma for consultation and to facilitate Transfer of trauma [p]Patients requiring a higher level of care.
- III. Hospitals receiving trauma [p]Patients shall participate in the trauma system quality improvement activities for those [p]Patients who have been treated at their facility and/or transferred from their facility.

**SECTION 300**  
**CENTER FOR THE TREATMENT OF TRAUMA OR**  
**PEDIATRIC CENTER FOR THE TREATMENT OF TRAUMA**  
**AUTHORIZATION PROCESS**

**300.000 PROCESS FOR AUTHORIZATION.** Any hospital that desires Designation as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma in Clark County shall first request Authorization from the Board.

- I. The Board shall determine the needs of the Clark County trauma system based on evidence obtained through continuous evaluation of the system assessing the volume, acuity and geographic distribution of ~~[p]~~Patients requiring trauma care; and the location, depth and utilization of trauma resources in the system.
  - A. The Board's approval of a request for Authorization will be based on a demonstrated need for additional trauma services that cannot be met by existing Centers for the Treatment of Trauma or Pediatric Centers for the Treatment of Trauma.
  - B. The accepted standards for trauma Transport, treatment and referral established by the Board shall be based on those recommended by the ACS.
  - C. All level I, II and III Centers for the Treatment of Trauma or level I and II Pediatric Centers for the Treatment of Trauma in Clark County must be verified by the ACS at the appropriate level.
- II. There are two options for hospitals to apply for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma utilizing the "District Procedure for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma".
  - A. If a need is identified, the Board shall publish a request for proposal for the addition of a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma or for a change in level of Authorization for an existing Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma; or
  - B. A hospital may submit an application for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma, at any time, in accordance with these Regulations.
- III. If a demonstrated need in the system exists and the hospital meets the requirements defined in the "District Procedure for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma" the Board may grant Authorization.
- IV. A hospital shall be authorized as a Center for the Treatment of Trauma according to a graduated process wherein initial Authorization shall be granted at level III only.
- V. At the time for renewal of Authorization, a designated level III Center for the Treatment of Trauma may apply for:
  - A. Renewal of Authorization as a level III Center for the Treatment of Trauma; or
  - B. Initial Authorization as a level I or II Center for the Treatment of Trauma or level I or II Pediatric Center for the Treatment of Trauma
- VI. The provisions of this subsection do not prohibit a hospital that has been designated as:

- A. A level II Center for the Treatment of Trauma from applying for initial Authorization as a level I Center for the Treatment of Trauma, at any time; or
- B. A level I or II Center for the Treatment of Trauma from applying for initial Authorization as a level I or II Pediatric Center for the Treatment of Trauma, at any time.

VII. Upon successful completion of the Designation process outlined in ~~NAC 450B.81[9]Z~~ - 450B.828, including ACS Verification, the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health will issue written notification of Designation at the level verified by the ACS.

Comment [B22]: Housekeeping

Comment [p23]: Housekeeping.

**300.100 PROCESS FOR ACCEPTING APPLICATIONS FOR AUTHORIZATION.** In order for the Board to consider issuing a letter of Authorization to a hospital requesting approval from the Board to be considered for Designation by the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma in Clark County the following steps must be taken:

Comment [p24]: Housekeeping.

- I. Completion of an application for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma which includes a written agreement between the hospital and the Board which addresses:
  - A. The roles and responsibilities of an authorized and designated Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma; and
  - B. The hospital's willingness to comply with the graduated process defined in these Regulations and in the "District Procedure for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma."
- II. Payment of appropriate fees as prescribed by the Board.
- III. Upon receipt and review of the application for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma, the OEMSTS staff will make a recommendation to the Board to approve or deny the application for Authorization, based on the criteria outlined in the "District Procedure for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma."
- IV. Upon receipt of Authorization the applicant may apply to the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health for Designation.
- V. Upon successful completion of the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health Designation process as outlined in ~~NAC 450B.81[9]Z~~ - 450B.828, including Verification by the ACS; the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health will issue written notification of Designation as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma at the level verified by the ACS.

Comment [p25]: Housekeeping.

Comment [p26]: Housekeeping.

Comment [B27]: Housekeeping

Comment [p28]: Housekeeping.

**300.200 PROCESS FOR ACCEPTING APPLICATIONS FOR RENEWAL OF AUTHORIZATION.** Any hospital that desires renewal of Designation as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma in Clark County shall first request renewal of Authorization from the Board.

- I. In order for the Board to consider issuing a letter of Authorization to a hospital requesting approval from the Board to be considered for renewal of their Designation by the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma the following steps must be taken:

Comment [p29]: Housekeeping.

- A. Completion of an application as defined in the “District Procedure for Renewal of Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma”;
- B. Payment of appropriate fees as prescribed by the Board.
- II. Upon receipt and review of the application for renewal of Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma, the OEMSTS staff will make a recommendation to the Board to approve or deny the application based on the criteria outlined in the “District Procedure for Renewal of Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma.”
- III. Upon receipt of renewal of Authorization the applicant may apply to the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health for renewal of their Designation.
- IV. Upon successful completion of the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health renewal of Designation process as outlined in NAC 450B.8205, including renewal of Verification by the ACS; the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health will issue written notification of Designation as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma at the level verified by the ACS.

Comment [p30]: Housekeeping.

Comment [p31]: Housekeeping.

Comment [p32]: Housekeeping.

**300.300 DURATION OF AUTHORIZATION; RENEWAL OF AUTHORIZATION; AND PROVISIONAL AUTHORIZATION OF A CENTER FOR THE TREATMENT OF TRAUMA OR PEDIATRIC CENTER FOR THE TREATMENT OF TRAUMA.** In accordance with the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health Designation requirements outlined in NAC 450B.826 the following conditions apply:

Comment [p33]: Housekeeping.

- I. Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma shall be valid for the period of Designation by the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health, but not more than three (3) years, except as otherwise provided in Section 300.300.
- II. Renewal of Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma shall be valid for the period of Designation by the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health, but not more than three (3) years, except as otherwise provided in Section 300.300.
- III. In conjunction with the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health, if the OEMSTS finds extenuating circumstances exist while an application for renewal of Authorization is pending and that withholding the renewal of Authorization may have a detrimental impact on the health of the public, a recommendation may be made to the Board that a provisional Authorization be issued. The provisional Authorization shall be valid for the period of provisional Designation issued by the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health, but not more than one (1) year. The Board may impose such conditions on the issuance of the provisional Authorization as it deems necessary.

Comment [p34]: Housekeeping.

Comment [p35]: Housekeeping.

Comment [p36]: Housekeeping.

Comment [p37]: Housekeeping.

**300.400 PROCESS FOR REQUESTING CHANGE IN LEVEL OF DESIGNATION.** If a currently designated Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma wishes to seek a higher level of Designation through the ~~[State Health Division]~~ Nevada Division of Public and Behavioral Health they must first request Authorization from the Board utilizing the process defined in Section 300.000 of these Regulations.

Comment [p38]: Housekeeping.

**300.500 DENIAL OF INITIAL OR RENEWAL APPLICATION FOR AUTHORIZATION OR SUSPENSION OR REVOCATION OF EXISTING AUTHORIZATION BY**

**THE BOARD.** In conjunction with the ~~[State Health Division]~~ *Nevada Division of Public and Behavioral Health* conditions outlined in NAC 450B.830, NAC 450B.834, and NAC 450B.836:

Comment [p39]: Housekeeping.

- I. The Board may deny an initial or renewal application for Authorization or may suspend or revoke an existing Authorization of a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma for, but not limited to the following reasons:
  - A. Failure to comply with the requirements of these Regulations or the applicable regulations adopted by the State Board of Health;
  - B. Failure to receive Verification from the ACS indicating that it has complied with the criteria established for a level I, II or III Center for the Treatment of Trauma or level I or II Pediatric Center for the Treatment of Trauma as published in the current "Resources for Optimal Care of the Injured Patient";
  - C. Conduct or practice found to be detrimental to the health and safety of [p]Patients;
  - D. Willful preparation or filing of false reports or records; or
  - E. Fraud or deceit in obtaining or attempting to obtain Authorization or renewal of Authorization.
- II. When practical the OEMSTS shall give written notice of the Board's decision within five (5) business days, however, advance notice is not required to be given by the OEMSTS if the Board, in conjunction with the ~~[State Health Division]~~ *Nevada Division of Public and Behavioral Health*, determines that the protection of the health of the public requires immediate action. If the Board so determines, the OEMSTS may order a summary suspension of the Authorization pending proceedings for revocation or other action.
- III. If a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma wishes to contest the actions of the Board taken pursuant to this section it must follow the appeal process outlined in Section 300.700.

Comment [p40]: Housekeeping.

**300.600 WITHDRAWAL OF EXISTING AUTHORIZATION BY THE CENTER FOR THE TREATMENT OF TRAUMA OR PEDIATRIC CENTER FOR THE TREATMENT OF TRAUMA.** In conjunction with the ~~[State Health Division]~~ *Nevada Division of Public and Behavioral Health* conditions outlined in NAC 450B.830, if a hospital chooses not to continue to be authorized as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma or to change their Authorization to a lower level, it must submit a written notice to the OEMSTS at least six (6) months prior to the date it will discontinue providing trauma services at the authorized level.

Comment [p41]: Housekeeping.

**300.700 APPEAL PROCESS FOR DENIAL OF APPLICATION FOR INITIAL OR RENEWAL AUTHORIZATION OR SUSPENSION OR REVOCATION OF EXISTING AUTHORIZATION.**

- ~~I. The Board shall appoint a Trauma System Hearing Officer(s) who shall adjudicate appeals pursuant to the following subsection III and any other Trauma System Regulations matters for which a hearing is provided by law. The Hearing Officer(s) shall not independently of each other regarding decisions.~~
- II. Hearing Officer(s) shall be selected by the Board from qualified applicants to the Health District. Such individual(s) shall not be employees of the State or any political subdivision of the State, or of any entity which is permitted or regulated pursuant to Emergency Medical Services or Trauma System Regulations adopted by the Board. The

Hearing Officer(s) shall have a working knowledge of emergency medical care and/or trauma care, arbitration and/or law.

- III. ~~Any applicant for Authorization or renewal of Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma aggrieved by the failure or refusal of the Board to issue or renew their Authorization or the provisions of any corrective action or immediate suspension order served upon them shall be entitled to appeal such action or failure to take action or corrective action order to the Trauma System Hearing Officer. The notice of appeal shall be in writing, signed by the appellant, shall specify the action or inaction or order appealed from, and state the grounds of the appeal. The notice of appeal must be filed with the Health Officer no later than seven (7) working days from the receipt by the appellant of notice of the action or order involved. Failure to file a notice of appeal within seven (7) working days will result in forfeiture of any right to a hearing.~~
- IV. ~~No later than five (5) working days following receipt of the notice of appeal, the Health Officer shall hand deliver or mail by certified mail, return receipt requested, a written notice of the time, date, and place of a hearing upon the affected applicant for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma.~~
- V. ~~The Hearing Officer shall convene a hearing on the appeal within twenty-five (25) working days of the Health Officer's receipt of a notice of appeal, or, in the case of an appeal from an immediate suspension without notice, within ten (10) working days of the Health Officer's receipt of a notice of appeal.~~
- VI. ~~At the hearing, the Hearing Officer shall review and hear all evidence and testimony submitted or offered by the parties. All testimony shall be given under oath or affirmation. The Health Officer's case will be presented first, and then the affected or appealing party shall present its case. An opportunity shall be afforded to interested members of the public to be heard. Formal rules of evidence shall not apply, but the Hearing Officer shall have the right to exclude redundant or irrelevant evidence or testimony. All parties shall be entitled to be represented by counsel at the hearing. Effect shall be given to the rules of privilege recognized by law. Objections to evidentiary offers may be made and shall be noted in the record. Subject to these requirements, when a hearing will be expedited and the interest of the parties will not be prejudiced substantially, any part of the evidence may be received in written form. The Hearing Officer(s) may issue subpoenas to compel attendance of any person at the hearing, and require the production of books, records and other documents material to a hearing. The Hearing Officer(s) may inquire of any witness following any segment of testimony. All testimony shall be recorded verbatim, by human or electronic means. Any party requesting a transcript of any oral proceeding, or any part thereof, shall pay the cost thereof.~~
- VII. ~~No later than ten (10) working days following the conclusion of the hearing, the Hearing Officer shall issue a final decision in writing, made pursuant to the legislative declaration that prompt and efficient trauma care is necessary for the health and safety of the people of Nevada, and that minimum standards for such care and all persons providing it must be established, affirming, reversing or modifying the action or inaction of the Health Officer appealed there from. The decision of the Hearing Officer shall be promptly hand delivered or mailed by certified mail, return receipt requested to each party.~~
- VIII. ~~If the Hearing Officer determines the appeal should be granted, the party who requested the appeal may proceed through the process for Authorization or renewal of Authorization as a Center for the Treatment of Trauma or Pediatric Center for the~~

~~Treatment of Trauma as outlined in these Regulations; or resume operations as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma in the case of a suspension, revocation or corrective action provided any and all conditions ordered by the Hearing Officer have been met.~~

- IX. ~~Any party aggrieved by a decision of the Hearing Officer(s) may seek judicial review of the decision of the Hearing Officer(s), in accordance with the provisions of NRS 233B.130(2), and NRS 233B.131 through 233B.150, inclusive.~~

**Comment [B42]:** Section 300.700 revised to reflect changes to appeal process as recommended by legal counsel, as noted below.

*The decisions of the Board of Health are considered final. Any appeal of the Board of Health's denial of an application for initial or renewal of Authorization as a Center for the Treatment of Trauma, or suspension or revocation of an existing Authorization as a Center for the Treatment of Trauma, can be made to the district court on a petition for judicial review in accordance with NRS 233B.130.*

## SECTION 400 REGIONAL TRAUMA ADVISORY BOARD

### 400.000 REGIONAL TRAUMA ADVISORY BOARD.

- I. The primary mission of the Southern Nevada Health District Regional Trauma Advisory Board (RTAB) is to support the Health Officer's role to ensure a high quality system of [p]Patient care for the victims of trauma within Clark County and surrounding areas by making recommendations and assisting in the ongoing design, operation, evaluation and revision of the system from initial [p]Patient access to definitive [p]Patient care.
- II. The RTAB shall consist of members appointed by the Health Officer.
  - A. Standing members of the RTAB shall be:
    1. One (1) trauma medical director from each designated trauma center;
    2. One (1) trauma program manager from each designated trauma center;
    3. The chairman of the Medical Advisory Board; and
  - B. Upon request of the Health Officer, organizations and associations that have an interest in the care of the victims of trauma shall submit to the Health Officer written nominations for appointment to the RTAB.
  - C. After considering the nominations submitted pursuant to paragraph B, the Health Officer shall appoint to the RTAB:
    1. One (1) administrator from a non-trauma center hospital system;
    2. One (1) person representing the public providers of advanced emergency care;
    3. One (1) person representing the private franchised providers of advanced emergency care;
    4. One (1) person representing health education and prevention services;
    5. One (1) person representing the payers of medical benefits for the victims of trauma;
    6. One (1) person representing the general public;
    7. One (1) person representing rehabilitation services;
    8. One (1) person with knowledge of legislative issues/advocacy;
    9. One (1) person involved in public relations/media; and
    10. One (1) person with knowledge of system financing/funding
  - D. In addition to the members set forth in paragraphs A. and C., an employee of the Health District whose duties relate to the administration and enforcement of these Regulations will be an ex officio member of the RTAB.
- III. Each standing member may designate an alternate member to serve in [their] his/her place should [they] he/she be temporarily unable to perform the required duties of this section. The Health Officer will designate or approve the alternates for the other members of the Board.
- IV. Appointed members of the RTAB shall serve two (2) year terms, from July 1 through

**Comment [B43]:** Housekeeping to reflect language in Trauma System Plan.

June 30 of the second year. The Health Officer may appoint persons to fill the unexpired portion of the terms of vacant positions on the RTAB in the manner prescribed in this section. The members shall elect their chairman from amongst the body.

- V. Voting shall be done by roll call vote. The chairman of the RTAB may vote on all issues before the body. Issues shall be passed by a simple majority.
- VI. Members of the RTAB may establish subcommittees to study specific matters falling within the area of responsibility of the RTAB.
- VII. The RTAB shall:
  - A. Review and advise the Health Officer regarding the management and performance of trauma services in this county;
  - B. Advise the Health Officer on matters of policy relating to trauma care;
  - C. Advise the Board and the Health Officer with respect to the preparation and adoption of regulations regarding trauma care; ~~[and]~~
  - D. Evaluate the effectiveness of the trauma system based on statistical analysis of EMS/trauma data collected ~~[and critical patient outcomes.]; and~~
  - E. Establish a trauma peer review committee to review, monitor, and evaluate trauma system performance and make recommendations for system improvements. When functioning as a peer review committee, the committee derives its authority and privilege from NRS 49.117 through NRS 49.123 and NRS 49.265.
- VIII. [The RTAB shall meet ~~[at least]~~ on a quarterly basis unless the chairman ~~[shall]~~ determines that more or less frequent meetings are necessary.]
- III. Members of the RTAB shall serve without pay.
- IV. The RTAB members shall disclose any direct or indirect interest in or relationship with any individual or organization that proposes to enter into any transaction with the Board (NRS 281A.420).
- V. Nothing contained herein shall be construed as making any action or recommendation of the RTAB binding upon the Health Officer or the Board.

Comment [ME44]: This language was added based on the recommendation of legal counsel.

Comment [B45]: Housekeeping

## SECTION 500 TRAUMA MEDICAL AUDIT COMMITTEE

### 500.000 TRAUMA MEDICAL AUDIT COMMITTEE.

- I. The Trauma Medical Audit Committee (TMAC) ~~[shall meet no less than quarterly,]~~ is a multidisciplinary medical review committee of the District Board of Health that will meet regularly, including as a peer review committee, to review, monitor, and evaluate trauma system performance and make recommendations for system improvements. The TMAC, when functioning as a peer review committee, derives its authority and privilege from NRS 49.117 - 49.123; NRS 49.265; and NRS 450B.237.
- II. The scope of the TMAC shall include, but not be limited to:
  - A. Participation in the development, implementation, and evaluation of medical audit criteria;
  - B. Review and evaluation of trauma care in the county;
  - C. Review of trauma deaths in the county;
  - D. Participation in the designing and monitoring of quality improvement strategies related to trauma care; and
  - E. Participation in research projects.
- III. The TMAC shall consist of the following members:
  - A. The Standing TMAC members shall be appointed by the Health Officer. They include:
    1. Trauma medical director from each designated trauma center
    2. Trauma program manager from each designated trauma center
    3. County medical examiner or designee
    4. ~~[Regional trauma coordinator]~~ EMSTS manager or designee
    5. Neurosurgeon recommended by ~~[Southern Nevada Health District]~~ the Health Officer.
    6. Anesthesiologist recommended by ~~[Southern Nevada Health District]~~ the Health Officer.
    7. Orthopedic surgeon recommended by ~~[Southern Nevada Health District]~~ the Health Officer.
    8. Emergency Physician not affiliated with a trauma center, recommended by ~~[Southern Nevada Health District]~~ the Health Officer.
    9. Permitted emergency medical services agency medical director/quality improvement coordinator recommended by the Health Officer.
  - B. ~~Ad Hoc members that may participate include[=]~~ other relevant individuals or subject matter experts, as determined by the chairman and Health Officer.
    1. ~~[Medical director aeromedical services]~~
    2. ~~Designated assistant trauma medical directors or trauma surgeon staff of trauma centers~~
    3. ~~Approved Physicians enrolled in trauma fellowships~~

**Comment [B46]:** Housekeeping to reflect language in the Trauma System Plan.

**Comment [B47]:** Reflects change in title and responsibilities.

**Comment [B48]:** Formalized EMS agency representative as a standing member of the TMAC as recommended by the TPPRC. 1-8-15

**Comment [B49]:** Workgroup recommended revising the language to allow greater flexibility.

4. ~~Trauma center intensivists~~
  5. ~~Assistant trauma program managers~~
  6. ~~Physicians from non-trauma center hospitals who are presenting cases~~
  7. ~~Southern Nevada Health District Emergency Medical Services & Trauma System Manager and appropriate Health District staff~~
  8. ~~Permitted emergency medical services agency medical directors/quality improvement coordinators]~~
- IV. Each standing member may designate an alternate member to serve in their place should they be temporarily unable to perform the required duties of this section. The Health Officer will designate or approve the alternates for the other members of the TMAC.
- V. Appointed members of the TMAC shall serve two (2) year terms, from January 1 through December 31 of the second year. The Health Officer may appoint persons to fill the unexpired portion of the terms of vacant positions on the TMAC in the manner prescribed in this section. The members shall elect their chairman from amongst the body.
- VI. The TMAC shall meet on a quarterly basis unless the chairman determines that more or less frequent meetings are necessary.
- VII. Members of the TMAC shall serve without pay.
- VIII. Attendance
- A. Attendance at the meetings for the trauma medical directors and trauma program managers or their designees is mandatory. The trauma medical directors and the trauma program managers are expected to attend 90% of the scheduled TMAC meetings annually. After three (3) consecutive absences in a calendar year, an appointed member may be replaced on the TMAC.
  - B. Resignations from the TMAC shall be submitted, in writing, to the ~~[Health District]~~ OEMSTS.
  - C. Invitees may participate in the peer review of specified cases where their expertise is requested. All requests for invitees must be approved by the ~~[Health District]~~ OEMSTS in advance of the scheduled meeting.
  - D. Invitees not participating in the peer review of specified cases must be approved by the ~~[Health District]~~ OEMSTS and all trauma medical directors.
- IX. Due to the advisory nature of the TMAC, many issues require consensus rather than a vote process. Vote process issues will be identified as such by the ~~chair~~~~[person]~~~~man~~. Voting members shall be the standing committee members. When voting is required, a simple majority of the voting members of the standing committee need to be present. Members may not participate in voting when a conflict of interest exists.
- X. Minutes will be kept by ~~[Health District]~~ OEMSTS staff and distributed to the members at each meeting. All official correspondence and communication generated by the TMAC will be approved by the TMAC members and released by ~~[Health District]~~ OEMSTS staff on Southern Nevada Health District letterhead.
- XI. All proceedings, documents and discussions of the TMAC, when functioning as a peer review committee, are confidential and are covered under NRS 49.117 - 49.123 and NRS 49.265. The privilege relating to discovery of testimony provided to the TMAC shall be applicable to all proceedings and records of the TMAC whose purpose is to review, monitor, evaluate, and report on trauma system performance.

**Comment [B50]:** New language to reflect frequency of meetings.

**Comment [B51]:** Housekeeping

**Comment [B52]:** Housekeeping

**Comment [B53]:** Housekeeping

All members and invitees shall sign a confidentiality agreement not to divulge or discuss

information that would have been obtained solely through TMAC meetings. Prior to guest(s) participating in the meeting, the chair[person] man is responsible for explaining the signed confidentiality agreement to invitees. Invitees should only be present for the portions of meetings they have been requested to attend.

Comment [B54]: Housekeeping

- XII. Nothing contained herein shall be construed as making any action or recommendation of the TMAC binding upon the Health Officer or the Board.

APPENDIX C

**[~~Clark County~~] Southern Nevada  
Trauma System Plan**

**[~~February 23, 2006~~]  
February 26, 2015**



**Comment [ME1]:** Changed title and added new logo endorsed by Regional Trauma Advisory Board.

Southern Nevada Health District ~ P.O. Box 3902 ~  
Las Vegas, Nevada 89127

## **TERMS AND ACRONYMS**

**Comment [ME2]:** Initially added "Terms and Conventions" as recommended by workgroup. Changed to "Terms and Acronyms" as recommended by SNHD legal counsel

<u>ACS</u>	means American College of Surgeons
<u>ACS-COT</u>	means American College of Surgeons Committee on Trauma
<u>ALS</u>	means Advanced Life Support
<u>ATLS</u>	means Advanced Trauma Life Support
<u>BIS</u>	means Benchmark Indicators and Scoring tool outlined in HRSA Model Trauma System Planning and Evaluation Document
<u>Board</u>	means Southern Nevada District Board of Health
<u>CDC</u>	means Centers for Disease Control and Prevention
<u>COBRA</u>	means Consolidated Omnibus Budget Reconciliation Act
<u>DPBH</u>	means Division of Public and Behavioral Health of the Nevada Department of Health and Human Services
<u>ED</u>	means Emergency Department
<u>EDAT</u>	means Emergency Department approved for Trauma
<u>EMS</u>	means Emergency Medical Services
<u>EMSTS/OEMSTS</u>	means Southern Nevada Health District Office of Emergency Medical Services & Trauma System
<u>EMTALA</u>	means Emergency Medical Treatment and Active Labor Act
<u>FARS</u>	means Fatality Analysis Reporting System
<u>FEMA</u>	means Federal Emergency Management Agency
<u>GCS</u>	means Glasgow Coma Scale
<u>Health Officer</u>	means Chief Health Officer of the Southern Nevada Health District or the Chief Health Officer's designee
<u>HRSA</u>	means U.S. Department of Health and Human Services Health Resources and Services Administration
<u>ICU</u>	means Intensive Care Unit
<u>ID</u>	means Internal Disaster
<u>ISS</u>	means Injury Severity Score
<u>MAB</u>	means Medical Advisory Board
<u>MIS</u>	means Management Information System
<u>NAC</u>	means Nevada Administrative Code

**TERMS AND ACRONYMS (Cont.)**

<b><u>NRS</u></b>	<b><u>means Nevada Revised Statutes</u></b>
<b><u>NTDB</u></b>	<b><u>means National Trauma Data Bank</u></b>
<b><u>NTDS</u></b>	<b><u>means National Trauma Data Standard</u></b>
<b><u>OPHP</u></b>	<b><u>means the Southern Nevada Health District Office of Public Health Preparedness</u></b>
<b><u>OR</u></b>	<b><u>means Operating Room</u></b>
<b><u>PAIS</u></b>	<b><u>means Bureau of Preparedness Assurance Inspection and Statistics</u></b>
<b><u>PCR</u></b>	<b><u>means Patient Care Record</u></b>
<b><u>PHP</u></b>	<b><u>means Public Health Preparedness</u></b>
<b><u>PIPS</u></b>	<b><u>means Performance Improvement and Patient Safety</u></b>
<b><u>PSAP</u></b>	<b><u>means Public Safety Answering Point</u></b>
<b><u>QPS</u></b>	<b><u>means Quality Improvement</u></b>
<b><u>RTAB</u></b>	<b><u>means Regional Trauma Advisory Board</u></b>
<b><u>RTAC</u></b>	<b><u>means Regional Trauma Advisory Committee</u></b>
<b><u>SNHD</u></b>	<b><u>means Southern Nevada Health District</u></b>
<b><u>SNHPC</u></b>	<b><u>means Southern Nevada Healthcare Preparedness Coalition</u></b>
<b><u>SNIPP</u></b>	<b><u>means Southern Nevada Injury Prevention Partnership</u></b>
<b><u>TBP</u></b>	<b><u>means Trauma Bypass</u></b>
<b><u>TFTC</u></b>	<b><u>means Trauma Field Triage Criteria</u></b>
<b><u>TIIDE</u></b>	<b><u>means the CDC-sponsored Terrorism Injuries: Information, Dissemination, and Exchange Project</u></b>
<b><u>TMAC</u></b>	<b><u>means Trauma Medical Audit Committee</u></b>
<b><u>TRUG</u></b>	<b><u>means the Trauma Registry User Group</u></b>

## TABLE OF CONTENTS

Comment [ME3]: The "Table of Contents" was updated.

<b><u>TERMS AND ACRONYMS</u></b> .....	2
<b>EXECUTIVE SUMMARY</b> .....	6
OVERVIEW .....	6
<u>HISTORY AND BACKGROUND</u> .....	7
[TRAUMA PROGRAM HISTORY] .....	8
[AUTHORITY] .....	10
KEY TRAUMA PLAN RECOMMENDATIONS .....	12
<b>TRAUMA SYSTEM PLAN SUMMARY</b> .....	13
<b>PLAN OBJECTIVES</b> .....	14
<b>COMPLIANCE WITH STATE <u>STATUTES AND REGULATIONS</u></b> .....	15
[TRAUMA CENTER DESIGNATION PROCESS] <u>AUTHORITY</u> .....	15
DATA COLLECTION REGULATIONS .....	16
<b>ORGANIZATIONAL AND ADMINISTRATIVE STRUCTURE</b> .....	17
MISSION STATEMENT .....	17
AUTHORITY .....	17
[CCHD] ORGANIZATIONAL STRUCTURE .....	17
TRAUMA SYSTEM STRUCTURE .....	19
TRAUMA SYSTEM CHALLENGES .....	20
<b>NEEDS ASSESSMENT</b> .....	21
[BACKGROUND] .....	6
<b>TRAUMA SYSTEM DESIGN</b> .....	33
SYSTEM MANAGEMENT .....	33
SYSTEM DESIGN AND OPERATIONS .....	34
[Introduction] .....	6
[Overall System] .....	6
[Prehospital Phase] .....	6
[Service Delivery] .....	6
[First Responders] .....	6
[ALS Air Transport Providers] .....	6
[Base Hospital] .....	6
[Trauma Centers] .....	6
[Inclusive Trauma Program] .....	6
<b>CATCHMENT [ZONES] <u>AREAS</u></b> .....	40
OVERVIEW .....	40
FLEXIBILITY .....	40
TRAUMA BYPASS .....	40
<b>[IMPLEMENTATION SCHEDULE]</b> .....	15
[OVERVIEW] .....	6

## TABLE OF CONTENTS (Cont.)

Comment [ME4]: The "Table of Contents" was updated.

<b>POLICY DEVELOPMENT</b>	<b>43</b>
TRAUMA CARE COORDINATING WITH NEIGHBORING JURISDICTIONS	43
TRAUMA CENTER FEES	44
TRAUMA CENTER AGREEMENTS	44
INTERFACILITY TRANSFER OF THE TRAUMA PATIENT	44
TRAUMA BYPASS PLAN	45
<b>DATA COLLECTION</b>	<b>47</b>
DATA SOURCES	47
REPORTING	48
<b>TRAUMA SYSTEM PERFORMANCE IMPROVEMENT AND PATIENT SAFETY</b>	<b>49</b>
[OVERVIEW]	6
[TMAC PROCESS]	6
<b>APPENDICES:</b>	
APPENDIX A: <del>[CCHD-EMS]</del> <u>SNHD TRAUMA SYSTEM REGULATIONS [4700]</u>	
<u>SECTION 400: REGIONAL TRAUMA ADVISORY BOARD</u>	<u>54</u>
APPENDIX B: <u>SOUTHERN NEVADA TRAUMA SYSTEM COMMITTEE DESCRIPTIONS</u>	<u>56</u>
APPENDIX C: <u>SNHD TRAUMA FIELD CRITERIA [CATCHMENT-ZONE] PROTOCOL</u>	<u>60</u>
APPENDIX D: <del>SNHD [POLICIES AND PROCEDURES]</del> <u>REGULATIONS, PLANS, PROTOCOLS</u>	<u>66</u>
APPENDIX E: <u>DISTRICT PROCEDURE FOR AUTHORIZATION AS A CENTER FOR THE TRAUMA</u>	
<u>OR PEDIATRIC CENTER FOR THE TREATMENT OF TRAUMA</u>	<u>67</u>
APPENDIX F: <u>DISTRICT PROCEDURE FOR RENEWAL OF AUTHORIZATION AS A CENTER FOR</u>	
<u>THE TREATMENT OF TRAUMA OR PEDIATRIC CENTER FOR THE TREATMENT</u>	
<u>OF TRAUMA</u>	<u>69</u>
APPENDIX G: <del>[CLARK COUNTY TRAUMA SYSTEM MAP]</del> <u>DISTRICT PROCEDURE FOR</u>	
<u>TRAUMA BYPASS/INTERNAL DISASTER</u>	<u>71</u>
APPENDIX H: <del>[CLARK COUNTY TRAUMA SYSTEM]</del> <u>MAP OF SOUTHERN NEVADA</u>	
<u>TRAUMA CATCHMENT AREAS</u>	<u>79</u>
APPENDIX I: <u>SOUTHERN NEVADA TRAUMA SYSTEM SUMMARY OF KEY EVENTS</u>	<u>81</u>
APPENDIX J: <u>SOUTHERN NEVADA TRAUMA SYSTEM NEEDS ASSESSMENT</u>	<u>84</u>

## EXECUTIVE SUMMARY

### Overview

Intentional and unintentional injuries are the leading causes of death and disability for those between the ages of 1 and 44 in the United States each year and generate significant social and economic expenses for medical treatment and lost productivity of victims. Further, natural and man-made disasters are capable of producing large numbers of injured patients. The recognition of the significant impact that traumatic injury has on the individual and society has led to a greater emphasis on the development of trauma systems of care. Trauma systems conduct daily operations to optimize patient outcome and can readily adapt to manage an influx of injured patients resulting from a mass casualty incident.

### What is Trauma?

Trauma is a disease process that has identifiable causes, established treatment procedures, and defined methods of prevention. The trauma patient is a person who requires timely diagnosis and treatment of their injuries by a multidisciplinary team of health care professionals, supported by the necessary resources, to reduce or eliminate the risk of death or permanent disability.<sup>1</sup>

### What is a Trauma System?

A trauma system is an organized, coordinated, comprehensive injury response network of essential resources that promotes injury prevention and control initiatives and provides specialized care for those who are injured. The system facilitates appropriate triage and transportation of trauma patients through the emergency medical services system to designated health care facilities that possess the capability, competence, and commitment to provide optimum care for the victims of trauma. It also promotes rehabilitation services to decrease the likelihood of long-term disability and maximize the potential for injured patients to return to their prior level of functional capacity and reintegration into the community.

### The goals of a trauma care delivery system are to:

- reduce the incidence and severity of injuries;
- improve the health outcome of those who are injured by ensuring equitable access to the most appropriate health care resources in a timely manner;
- promote efficient, cost-effective delivery of care;
- implement performance improvement activities to ensure quality care throughout the system; and
- advocate for sufficient resources to meet the needs of the injured in the community.

During the past few decades there has been mounting evidence to support the fact that seriously injured persons are best served by a well-organized and integrated system of care that activates specialized resources on a moment's notice. The "golden-hour" rule that makes definitive care a critical component in reducing preventable deaths and disabilities has resulted in a need for highly trained prehospital and trauma teams ready to receive seriously injured patients. It is now recognized that a trauma system must have more than just definitive care. A sample of important other components include prehospital care, prevention programs, rehabilitation services, and performance improvement initiatives. Further studies have concluded that consistent demonstrated improvements in the survival of hospitalized patients takes place when a coordinated trauma care system is invoked provided for these patients. Clark County has taken on the challenge of building a framework for ensuring the priority for creating a coordinated system to provide consistent, high-quality trauma care to injured patients throughout the region.

**Comment [ME5]:** Workgroup recommended providing additional information about trauma systems in the "Overview" section.

**Comment [ME6]:** Rehabilitation services added as an important component of the trauma system.

**Comment [ME7]:** Housekeeping

<sup>1</sup> 2002 Trauma System Agenda for the Future. U.S. Department of Transportation, National Highway Traffic Safety Administration

### History and Background

Clark County's trauma program began with the [initiation] initial designation of University Medical Center [2s] (UMC) as a Level II trauma center in 1988. [which] In January 1999, UMC was designated as a Level I and is now one of only five dedicated and free-standing Level I trauma centers in the United States. [In the fall of 2003, two hospitals in Southern Nevada notified the Nevada State Health Division that they wished to be considered for designation. Sunrise Hospital and Medical Center was granted provisional status as a Level II Trauma Center in February 2005 and St. Rose Dominican Hospital – Siena Campus was granted a Level III Trauma Center designation in August 2005.]

**Comment [ME8]:** Revised and updated UMC's historical information.

[Clark County underwent two consulting studies concluding in June of 2004. The first was through the American College of Surgeons (ACS) Trauma System Consultation service and the second was an independent needs assessment conducted by The Abaris Group, a trauma consulting firm. Both entities recommended the creation of a trauma plan and the establishment of a comprehensive trauma system.]

In October 2003, Sunrise Hospital and Medical Center and St. Rose Dominican Hospital – Siena Campus notified the State Health Division of their intent to seek designation as a Level II and Level III trauma center, respectively. The State Health Division requested input from the Clark County Health District (CCHD), now known as the Southern Nevada Health District (SNHD), regarding the expansion of the trauma system in the county. The District Board of Health established a Trauma System Development Committee to explore the issue. The Committee directed staff to contract with The Abaris Group, a private consulting firm that specializes in evaluating trauma systems, and the American College of Surgeons, Committee on Trauma (ACS-COT) to assist in the process. The Abaris Group performed an assessment of the county's population, existing resources, and projected trauma care needs. The ACS-COT conducted a trauma system consultation.

To promote an objective and transparent approach to system assessment, CCHD created a Citizen's Trauma Task Force of experienced community stakeholders to receive information from The Abaris Group and ACS-COT and to make recommendations to the Trauma System Development Committee and, in turn, to the Board of Health for its consideration. The Citizen's Trauma Task Force met for seven months, beginning in January 2004. During that time, The Abaris Group and ACS-COT completed their work and reported their findings. At the June 2004 Board of Health meeting, the Trauma System Development Committee recommended that the Board direct CCHD staff to pursue creating an interlocal agreement with the State Health Division to delegate authority to plan, develop, and implement a comprehensive trauma system in Clark County. Specifically, the Citizen's Trauma Task Force prepared the following recommendations as noted in the July 22, 2004 Board of Health minutes:

1. That the State Board of Health delegate to the CCHD the designation process for trauma centers as well as the development of patient catchment areas and that the CCHD establish fees for trauma system participation.
2. That there be adequate resources to develop and implement the system plan in Southern Nevada and that those funds be collected from participants, as well as exploring other funding opportunities.
3. That the recommendations from the ACS-COT regarding a durable commitment from a health care facility, measured in several years, to be determined by a regional oversight committee, be adopted and that substantive analysis of financial, medical, and operational issues consistent with designation be undertaken to include the past performance of any entity seeking designation.
4. That the State Board of Health make appropriate changes to the administrative code to allow a trauma center applicant's access to trauma patients based on recommendations to be made by the CCHD.
5. That the ACS-COT and Abaris reports be carefully considered by the District Board of Health in its deliberations.

The District Board of Health accepted the recommendations of the Trauma System Development Committee and Citizen's Trauma Task Force and voted to send the final recommendations and copies of The Abaris Group's Southern Nevada Trauma System Needs Assessment 2004 Report (<http://www.southernnevadahealthdistrict.org/download/trauma/ABARISassessment05-21-04.pdf>) and the 2004 ACS-COT Clark County Trauma System Consultation Report (<http://www.southernnevadahealthdistrict.org/download/trauma/ACSfinal.pdf>) to the State Health Division.

During this same period, Sunrise Hospital and Medical Center informed the State Health Division that during their ACS-COT trauma center consultation visit it was advised that in order to obtain final verification by the ACS-COT, the site review team would need to evaluate actual trauma cases. Sunrise Hospital and Medical Center requested a decision on its request for provisional trauma center designation. A letter was issued by the State Health Division granting provisional licensure for Sunrise Hospital and Medical Center to provide trauma services beginning no sooner than January 2005 provided certain conditions were met. This occurred just prior to the District Board of Health finalizing its recommendations and submitting them to the State Health Division. The District Board of Health requested clarification from the Health Division regarding the decision. The response from the Health Division included an explanation of the State Board of Health's responsibility to act on the application for provisional licensure submitted by Sunrise Hospital. During this time, St. Rose Dominican Hospital – Siena Campus initiated the application process with the State Health Division to become designated as a Level III trauma center.

In August 2004, the District Board of Health committed to the planning, development, and implementation of the Clark County trauma system which included addressing the recommendations of The Abaris Group and ACS-COT to develop an inclusive system to serve the needs of residents and visitors in Southern Nevada and surrounding areas. The planning process was to assure evidence-based development of regulations, protocols, and procedures to minimize adverse effects on the existing Level I trauma center, as well as to allow sufficient volume to the new Level II and Level III centers to meet the ACS-COT verification criteria. CCHD contracted with The Abaris Group to seek input from community stakeholders and develop a comprehensive trauma plan which was completed and endorsed by the District Board of Health in February 2006.

In August 2005, Sunrise Hospital and Medical Center was granted full designation as a Level II trauma center and St. Rose Dominican Hospital – Siena Campus was designated as a Level III center. In March 2008, UMC was granted designation as a Pediatric Level II trauma center, in addition to their Level I status.

A summary of these and other key events related to the development of the Southern Nevada Trauma System can be found in Appendix I.

#### Trauma Program History Summary of Key Events

The following is a historical summary of key events in trauma program development in the region:

- ~~January 1988, UMC underwent [its] first ACS-COT consultation review for Level II trauma center designation [in January 1988].~~
- ~~September 1988, UMC designated as a Level II trauma center.~~
- ~~October 1989, Sunrise Hospital and Medical Center [received] designated as a Level III trauma center [designation in October 1989].~~
- ~~December 1989, UMC [was] verified as a Level II trauma center [in December 1989].~~
- ~~December 1991, Sunrise Hospital and Medical Center Level III designation renewed for one year.~~
- ~~April 1992, Sunrise Hospital and Medical Center designated as Level III trauma center.~~
- ~~[In] January 1993, UMC extended [its] Level II [status] trauma center verification on a provisional basis.~~
- ~~May 1993, UMC [was] re-verified as a Level II trauma center [in May 1993].~~
- ~~June 1993, UMC designated as a Level II trauma center.~~

**Comment [ME9]:** Workgroup recommended providing greater detail in describing the history of Southern Nevada Trauma System development.

[Clark County] Southern Nevada  
Trauma System Plan

- ~~January 1995, Sunrise Hospital and Medical Center's health facility certificate [was] issued without notation of designation as a Level III trauma center [in January 1995].~~
- ~~April 1996, UMC received nine-month extension of Level II trauma center designation.~~
- ~~February 1997, UMC re-verified as a Level II trauma center.~~
- ~~[In] January 1999, UMC received Level I [T]rauma [C]enter designation.~~
- ~~January 2002, UMC re-verified as a Level I trauma center.~~
- ~~July 2002, UMC trauma center closed for a 10-day period [in July 2002 due to issues with medical staff malpractice insurance concerns] during the medical liability insurance crisis.~~
- ~~[In] October 2003, Sunrise Hospital and Medical Center and St. Rose Dominican Hospital—Siena Campus notified the Nevada State Health Division of their interest in becoming trauma centers (Level II and Level III, respectively).~~
- ~~October 2003, [T]he Nevada State Health Division asked the [Clark County Health District] [CCHDD] [in November 2003] to facilitate a trauma system needs assessment, leading to the engagement of The Abaris Group to assist with the study and ACS-COT to conduct a trauma system consultation visit.~~
- ~~[In December] November 2003, the Clark County [Health] District Board of Health recommended the [created] creation of a Citizen's Task Force on Trauma System Development in Clark County, [to make recommendations regarding trauma in Southern Nevada.]~~
- ~~January 2004, Citizen's Trauma Task Force established.~~
- ~~March 2004, ACS-COT conducted a trauma center consultation review at Sunrise Hospital and Medical Center.~~
- ~~April 2004, Sunrise Hospital and Medical Center requested provisional trauma center designation from the State Health Division in order to receive trauma patients before ACS-COT verification visit. Advised by ACS-COT that they would need to review actual trauma cases during the verification process.~~
- ~~[In] June 2004, the ACS-COT and The Abaris Group's consultation reports were completed and the Citizen's Trauma Task Force made recommendations to the Clark County [Health] District Board of Health and to the State Health Division.~~
- ~~[In] June 2004, the State [of Nevada] Health Division agreed to permit Sunrise Hospital and Medical Center to operate as a trauma center with some conditions.~~
- ~~[In] October 2004, first Regional Trauma Advisory Committee (RTAC) meeting held. CCHD [begins] began the process of developing a comprehensive trauma system for the region through the preparation of [this] a trauma system plan.~~
- ~~November 2004, UMC re-designated as Level I trauma center.~~
- ~~January 2005, RTAC formally established in the Clark County EMS Regulations.~~
- ~~[On] February [9,] 2005, Sunrise Hospital and Medical Center was granted access to EMS-transported trauma patients when they opened as a provisional Level II [T]rauma [C]enter.~~
- ~~[In] February 2005, the [Regional Trauma Advisory Board] RTAC was convened to formalize the process of developing a comprehensive trauma system for the region.~~
- ~~[In] June 2005, the 73<sup>rd</sup> Session of the Nevada Legislature passed SB120, effective July 1, 2005, amending NRS 450B.237 to prohibit the Administrator of the Health Division from approving a proposal to designate a hospital as a center for the treatment of trauma (in counties with a population[s >] of 400,000 or more) unless approved by the county or [d]District [b]Board of [h]Health where it is located. The proposal may not be approved unless the county or [d]District [b]Board of [h]Health has established and adopted a comprehensive trauma system plan which includes consideration of and plans for the development and designation of new centers for the treatment of trauma in the county based on the demographics of the county and the manner in which the county may most effectively provide trauma services.~~
- ~~[In] June 2005, the 73<sup>rd</sup> Session of the Nevada Legislature passed AB555, effective October 1, 2005, amending NRS 49.117 to 49.123 to include a medical review committee of a county or [d]District [b]Board of [h]Health that certifies, licenses or regulates providers of emergency medical services, when functioning as a peer review committee, to be protected from discovery procedures.~~

[Clark County] Southern Nevada  
Trauma System Plan

- ~~July 2005, first official meeting of RTAC held.~~
- ~~August 2005, Sunrise Hospital and Medical Center granted designation as a Level II trauma center.~~
- ~~August 2005, St. Rose Dominican Hospital—Siena Campus granted designation as a Level III trauma center.~~
- ~~October 2005, Clark County District Board of Health approves RTAC name change to Regional Trauma Advisory Board (RTAB).~~
- ~~February 2006, Clark County District Board of Health name changed to Southern Nevada District Board of Health.~~
- ~~February 2006, the first Clark County Trauma System Plan adopted by the Southern Nevada District Board of Health.~~
- ~~October 2006, the first Clark County Trauma System Regulations adopted by the Southern Nevada District Board of Health.~~
- ~~December 2006, the first Trauma Performance Improvement Plan adopted by the Southern Nevada District Board of Health.~~
- ~~January 2007, first Trauma Medical Audit Committee (TMAC) meeting held.~~
- ~~February 2007, SB58 introduced during the 74<sup>th</sup> Session of the Nevada Legislature to provide for the imposition of administrative assessments for certain traffic violations to be used to support emergency medical services and services for the treatment of trauma. The bill did not pass.~~
- ~~October 2007, UMC re-designated as a Level I and initially designated as a Pediatric Level II trauma center.~~
- ~~June 2008, St. Rose Dominican—Siena Campus re-designated as a Level III trauma center.~~
- ~~August 2008, Sunrise Hospital and Medical Center re-designated as a Level II trauma center.~~
- ~~October 2008, first Clark County Trauma System Report published (<http://www.southernnevadahealthdistrict.org/ems/documents/ems/2008-cts-report.pdf>).~~
- ~~May 2010, Clark County Trauma System Status Report published (<http://www.southernnevadahealthdistrict.org/ems/documents/ems/2010-trauma-system-review.pdf>).~~
- ~~October 2010, UMC re-designated as a Level I and Pediatric Level II trauma center.~~
- ~~June 2011, St. Rose Dominican—Siena re-designated as a Level III trauma center.~~
- ~~July 2011, Sunrise Hospital and Medical Center re-designated as a Level II trauma center.~~
- ~~July 2011, ACS COT Trauma System Consultation conducted and report published (<http://www.southernnevadahealthdistrict.org/download/trauma/acs-report-2011.pdf>).~~
- ~~March 2013, SB205 introduced during the 77<sup>th</sup> Session of the Nevada Legislature to create a fund for the State Trauma Registry and support the State Health Division in developing and managing a standardized system for the collection of data related to the treatment of traumatic injuries before and after admission to a hospital. The bill did not pass.~~
- ~~April 2013, Self Assessment for Clark County Trauma System Planning, Development, and Evaluation conducted and report published (<http://www.southernnevadahealthdistrict.org/ems/documents/ems/clark-county-trauma-system-self-assessment-2013.pdf>).~~
- ~~October 2013, UMC re-designated as a Level I and Pediatric Level II trauma center.~~
- ~~April 2014, St. Rose Dominican—Siena Campus re-designated as a Level III trauma center.~~
- ~~May 2014, Sunrise Hospital and Medical Center re-designated as a Level II trauma center.~~
- ~~May 2014, Southern Nevada Trauma System “Serious Injuries • Superior Care • Trauma Systems Matter” slogan/logo introduced during press conference to kick off public information campaign.~~

Authority

The Division of Public and Behavioral Health (DPBH) of the Nevada Department of Health and Human Services, formerly known as the Nevada State Health Division, is designated by [state] Nevada Revised [s]tatutes (NRS 450B.077) as having primary authority over emergency medical services (EMS) in counties whose populations are less than 700,000, [and trauma centers throughout the state] The Southern Nevada District Board of Health is the health authority for EMS in Clark County. (NRS 450B.060,

**Comment [ME10]:** A recommendation was made to move the “Summary of Key Events” into the “Appendix” so that it would not disrupt the flow of the narrative portion of the document, but would still be available for reference. The list of activities was updated and housekeeping changes were made throughout the section.

[Clark County] Southern Nevada  
Trauma System Plan

~~450B.077, 450B.082, 450B.120, 450B.130) Prior to 2005, the statutes identified the State Board of Health as the regulatory authority responsible for establishing a trauma program and for designating centers for the treatment of trauma throughout the state (NRS 450B.237). The oversight of the trauma center application and designation process and ongoing monitoring of the trauma program were performed by the State Health Division (Nevada Administrative Code (NAC) 450B.817-450B.875). An important component of designation is the verification process conducted by the ACS-COT (NAC 450B.820). The Health Division is also responsible for maintaining a statewide trauma registry for patients requiring trauma care in a hospital (NRS 450B.238, NAC 450B.764).~~

[The State's authority includes trauma center designation, which is based on the American College of Surgeons (ACS) verification process, as well as the development and monitoring of the State's trauma registry. Authority for Southern Nevada EMS services has been delegated to the Clark County Health District (CCHD), by statutes, and, more recently, trauma triage criteria has also been delegated to CCHD through regulation in December 2004.]

During the 2005 legislative session, [changes were made to] ~~NRS 450B.237 was amended to require [CCHD to develop a trauma system, and to establish regulations for designation of trauma hospitals in Clark County.] both the administrator of the Health Division and the District Board of Health, in a county whose population is 400,000 or more, to approve a proposal to designate a hospital as a trauma center in the county. The population level was increased to 700,000 during the 2011 legislative session. The proposal may not be approved unless the county's District Board of Health has established and adopted a comprehensive trauma system plan and regulations which include consideration of and plans for the development and designation of new trauma centers in the county, based on the demographics of the county, and the manner in which the county may most effectively provide trauma services. [However, it is important to note that] Prior to this time, neither the State of Nevada nor Clark County [have previously] had developed a formal trauma system or trauma plan. The [future] designation of trauma centers [will be] is now a collaborative process with the [State Health Division] DPBH and [CCHD] SNHD. Applicants for trauma center designation or renewal of designation in Clark County must now be given authorization from the Southern Nevada District Board of Health to seek designation as a trauma center by the DPBH (NAC 450B.819).~~

[CCHD] SNHD is governed by a [13] 14-member policy-making board composed of representatives from each of the region's six governmental entities, as well as two physicians, a registered nurse, an environmental health specialist, [and] a nongaming business or industry representative who is subject to regulation by the Health District, and a representative of the association of gaming establishments. As such, it represents a unique consolidation of the public health needs of Boulder City, Henderson, Las Vegas, Mesquite, North Las Vegas, [Mesquite, Henderson,] and Clark County into one regulating body. The [Clark County] Southern Nevada District Board of Health, through policy development and direction to staff, identifies public health needs and, as mandated by County Ordinance 163, establishes priorities on behalf of local taxpayers, residents, tourists/visitors, and the commercial service industry, ["] to establish and conduct a comprehensive program of health to prolong life and promote the well-being of the people of Clark County. ["]

Since the initial draft of this trauma plan was published, many community stakeholders have contributed to the development of the Southern Nevada Trauma System, including the creation of the following documents:

SNHD Emergency Medical Services Regulations:

<http://www.southernnevadahealthdistrict.org/ems/documents/ems/ems-regs.pdf>

SNHD Trauma System Regulations:

<http://www.southernnevadahealthdistrict.org/ems/documents/ems/cc-trma-sys-regs.pdf>

Comment [ME11]: SNHD legal counsel recommended moving this section into "Compliance with State Statutes and Regulations" to reduce redundancy and address SNHD's authority in a more appropriate section.

**SNHD Trauma Performance Improvement Plan:**

**<http://www.southernnevadahealthdistrict.org/ems/documents/ems/trauma-performance-imprv-plan.pdf>**

**Clark County Emergency Medical Care Protocols:**

**<http://www.southernnevadahealthdistrict.org/ems/documents/ems/bls-ils-als-protocol-manual.pdf>**

**Comment [ME12]:** Workgroup recommended adding this information here, in addition to listing the documents in Appendix D.

**Key Trauma Plan Recommendations**

The key recommendations [in] *that started the formation of* this plan are:

- 1) [~~Clark County Health District (CCHD)~~] SNHD and the trauma system stakeholders should adopt as their mission:  
    *"To promote public awareness and information regarding trauma services and advocate for optimal injury prevention, acute care, and rehabilitation for trauma patients of all ages."*
- 2) [~~CCHD~~] SNHD must collaborate with stakeholders to define and establish support processes and mechanisms in order to fulfill its mandate to develop an inclusive and comprehensive trauma system.
- 3) The trauma system should promote patient safety and quality outcomes as its highest priority through accountable and objective performance improvement activities including a peer review process, an integrated trauma data collection process, and data analysis.
- 4) The trauma system plan should promote the development of an inclusive trauma system to assure delivery of quality trauma care for all patients who present to area emergency departments (ED) and to encourage development of interfacility transfer guidelines between trauma centers and other facilities.
- 5) The trauma system should promote public awareness and information regarding trauma services and targeted injury prevention initiatives.
- 6) The trauma system plan should promote integration of rehabilitation services into the trauma care system through improved interaction between trauma centers and rehabilitation service providers.
- 7) [~~CCHD~~] SNHD should promote system cost-effectiveness, economic viability, institutional collaboration, and continue to pursue funding sources to support the trauma system.
- 8) The trauma system plan should promote further studies that should be undertaken regarding optimal care of [the] pediatric and geriatric patients.

**Comment [ME13]:** Housekeeping changes in this section.

## TRAUMA SYSTEM PLAN SUMMARY

### Plan Objectives

This section defines the objectives of the [Clark County] Southern Nevada Trauma System, the proposed action to measure the objective, and implementation of system changes where appropriate.

Comment [ME14]: Housekeeping

### Compliance with State Regulations

This section provides an overview of the organizations and state statutes concerning trauma care and monitoring in Nevada.

### Organizational and Administrative Structure

This section describes the administrative structure of the trauma system in relation to the overall EMS and trauma [S]system.

Comment [ME15]: Housekeeping

### Needs Assessment

[This section describes the unique needs of the [Clark County] Southern Nevada [t]Trauma [s]System. The findings of the initial needs assessments completed by The Abaris Group and the [American College of Surgeons] ACS-COT are reviewed and compared to the findings in subsequent needs assessments performed. Necessary system changes to meet these needs are also addressed.]

Comment [ME16]: Workgroup recommended comparing the results of system assessments over time.

### Trauma System Design

This section provides a summary of the trauma care system design and the various required system components. It [also] identifies the facilities involved in the care of the acutely injured patients and how the system interfaces with neighboring agencies. Catchment zone maps are provided to serve as guidelines for EMS trauma transports.

Comment [ME17]: Housekeeping

### Catchment Areas

This section provides an explanation about how the trauma center catchment areas were designed and will be monitored.

Comment [ME18]: This section was not described in the original document.

### Implementation Schedule

This section presents an overview of the plan implementation and a work plan to complete the plan objectives.

Comment [ME19]: Workgroup recommended deleting this section.

### Policy Development

This section identifies the policies that define the structure of the trauma system plan. Policies are listed in this section and [actual policies are included] additional system documents are referenced in Appendix D.

Comment [p20]: Housekeeping

### Data Collection

This section describes [the] data management instruments and the implementation of the data management system for trauma care.

Comment [ME21]: Housekeeping

### Trauma System Performance Improvement and Patient Safety

This section defines the evaluation process used to monitor system effectiveness.

Comment [p22]: Housekeeping

## PLAN OBJECTIVES

The trauma system is an integral part of the existing Clark County EMS delivery system. A continuing goal of the [Clark County] Southern Nevada [T]rauma [C]are [S]ystem is to assure a well-prepared, coordinated, and appropriate response to persons who incur traumatic injuries in Clark County and the surrounding areas. System objectives have been developed to provide a means to measure the effectiveness of the trauma system plan.

The following guiding principles are proposed in this plan and their associated performance measures will be monitored as a measure of system effectiveness:

- 1) [CCHD] SNHD is the agency responsible for developing the [Clark County] Southern Nevada Trauma [s]System, and ensuring the provision of comprehensive and inclusive trauma services for the residents and visitors of Clark County and the surrounding areas. The highest priority of the trauma system will be patient safety and quality outcomes.
- 2) Impartial and objective administration of the EMS and [t]Trauma [s]System will be provided through [CCHD] SNHD. [CCHD] SNHD will monitor the system by review based upon compliance with established policies and system standards.
- 3) Trauma centers will collaborate with [CCHD] SNHD to define their respective relationships, to ensure support services are available from [CCHD] SNHD for the trauma system, and act as a vehicle for funding sources to the monitoring process. [CCHD] SNHD will also seek all other appropriate funding sources.
- 4) A high quality system that is concerned with cost-effectiveness, economic viability, and institutional collaboration will be accomplished at the facility level by continuous review for cost effective care delivery practices. Issues of concern will then be shared through the [Trauma Medical Audit Committee (TMAC)] Regional Trauma Advisory Board (RTAB).
- 5) Accountability and objective evaluation of the trauma care system will be provided through the performance improvement and patient safety (PIPS) [QI] process supported by data analysis utilizing the trauma registry and other mutually agreed upon data sources. This will be accomplished through audit by the Trauma Medical Audit Committee (TMAC) and the designation and re-designation review process at the trauma facility.
- 6) Improving the integration of and support for quality rehabilitation services and care along with meeting the long-term care needs of major trauma patients are also goals of this plan. These will be accomplished through monitoring audit filters for length of stay, discharge dispositions, and by using discharge planners to follow-up on patients. Access to rehabilitation services will be monitored through the comprehensive trauma [~~Performance Improvement—patient safety~~] PIPS process registry data.
- 7) Public awareness and information regarding trauma services and injury prevention will be promoted. This will be accomplished through brochures, trauma program personnel presentations, development of a trauma system annual report, injury prevention outreach programs, and coordinated public education and media campaigns.
- 8) The community desires a trauma system that provides for trauma coverage but does not saturate and thus risk destabilizing the trauma center system. Periodic study of the number and location of needed trauma centers should occur.
- 9) Pediatric trauma needs will be further evaluated as part of this plan to define pediatric needs.
- 10) Trauma center interfacility specific guidelines will be developed as part of this plan's objectives to address the relationship with non-trauma center hospitals. This will be evaluated through monitoring of interfacility transfer by EMS and the [~~Trauma Medical Audit Committee (TMAC)]~~.

Specific interfacility guidelines will be drafted [by the EMS Agency staff and reviewed for] and approv[~~ed~~] by the RTAB.

Comment [ME23]: Housekeeping changes in this section.

## COMPLIANCE WITH STATE STATUTES AND REGULATIONS

Comment [ME24]: Housekeeping

### [Trauma Center Designation Process]

Pursuant to [Nevada Revised Statutes (] NRS 450B[, et seq] ~~236-450B.239~~), the State Board of Health and the [Clark County] Southern Nevada District Board of Health [through CCHD] are responsible for trauma center ~~authorization, designation, [approval,] monitoring, and patient destination policies. The DPBH is responsible for~~ [and] maintaining a statewide trauma registry. [State Statute] NRS 450B.060, NRS 450B.077, 450B.092, 450B.120, and 450B.130 give[s] Clark County Health District] SNHD and its Board of Health authority to administer [its] the EMS and trauma system in Clark County in accordance with the applicable statutes.

Prior to [this trauma plan] ~~2005~~, the State maintained control over the development of trauma centers, [and] trauma triage criteria, and the trauma registry. In December [of] 2004, the State granted Clark County a variance that allowed the Health District to develop its own trauma triage system. [and d] During the 2005 legislative session, [adopted legislation] NRS 450B.237 was amended to include the County in trauma center designations and system development. Since that time, the Southern Nevada District Board of Health has adopted this plan, a trauma performance improvement plan (Appendix D), trauma system regulations (Appendix D), and trauma system procedures (Appendix E-G). There is no specific statewide trauma plan or planning process.

Some of the organizations involved in trauma systems in Nevada and Clark County are:

- ~~State Department of Health and Human Services~~
  - State Board of Health, Nevada Department of Health and Human Services, State Health Division
    - ~~Bureau of Licensing and Certification~~
      - ~~EMS Program~~
    - ~~Bureau of Health Planning and Statistics~~
    - ~~Bureau of Family Services~~
- ~~University of Nevada School of Medicine Trauma Institute~~
- ~~Clark County Health District~~
  - ~~Medical Advisory Board~~
  - ~~Performance improvement Committee~~
  - ~~Regional Trauma Advisory Board]~~

Comment [ME25]: This section was deleted and replaced with the language below previously found in the "Executive Summary."

### Authority

[CCHD] SNHD is governed by a [13] 14-member policy-making board composed of representatives from each of the region's six governmental entities, as well as two physicians, a registered nurse, an environmental health specialist, [and] a nongaming business or industry representative who is subject to regulation by the Health District, and a representative of the association of gaming establishments. As such, it represents a unique consolidation of the public health needs of Boulder City, Henderson, Las Vegas, Mesquite, North Las Vegas, [Mesquite, Henderson,] and Clark County into one regulating body. The [Clark County] District Board of Health, through policy development and direction to staff, identifies public health needs and, as mandated by County Ordinance 163, establishes priorities on behalf of local taxpayers, residents, tourists/visitors, and the commercial service industry, [2] to establish and conduct a comprehensive program of health to prolong life and promote the well-being of the people of Clark County. [2]

Comment [ME26]: Housekeeping changes in this section.

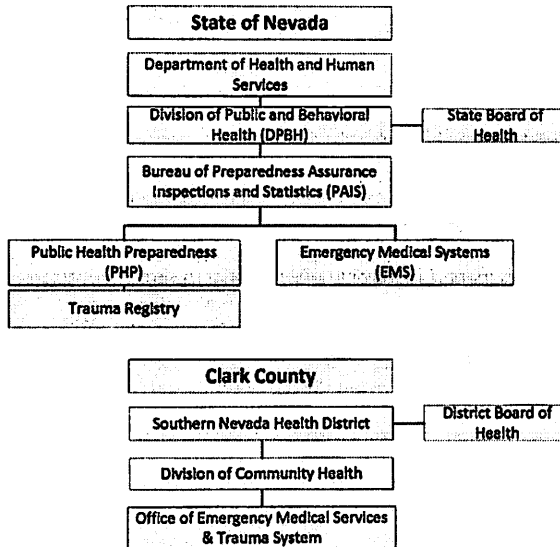
The Division of Public and Behavioral Health (DPBH) of the Nevada Department of Health and Human Services, formerly known as the Nevada State Health Division, is designated by [state] Nevada Revised [s]tatutes (NRS 450B.077) as having primary authority over emergency medical services (EMS) in counties whose populations are less than 700,000. [and trauma centers throughout the state] The District Board of Health is the health authority for EMS in Clark County. (NRS 450B.060, 450B.077, 450B.082, 450B.120, 450B.130) Prior to 2005, the statutes identified the State Board of Health as the regulatory authority responsible for establishing a trauma program and for designating centers for the treatment of trauma throughout the state (NRS 450B.237). The oversight of the trauma center application and designation process and ongoing monitoring of the trauma program were performed by the State Health Division (Nevada Administrative Code (NAC) 450B.817-450B.875). An important component of designation is the verification process conducted by the ACS-COT (NAC 450B.820). The Health Division is also responsible for maintaining a statewide trauma registry for patients requiring trauma care in a hospital (NRS 450B.238, NAC 450B.764).

[The State's authority includes trauma center designation, which is based on the American College of Surgeons (ACS) verification process, as well as the development and monitoring of the State's trauma registry. Authority for Southern Nevada EMS services has been delegated to the Clark County Health District (CCHD), by statutes, and, more recently, trauma triage criteria has also been delegated to CCHD through regulation in December 2004.]

During the 2005 legislative session, [changes were made to] NRS 450B.237 was amended to require [CCHD to develop a trauma system, and to establish regulations for designation of trauma hospitals in Clark County.] both the administrator of the Health Division and the District Board of Health, in a county whose population is 400,000 or more, to approve a proposal to designate a hospital as a trauma center in the county. The population level was increased to 700,000 during the 2011 legislative session. The proposal may not be approved unless the county's District Board of Health has established and adopted a comprehensive trauma system plan and regulations which include consideration of and plans for the development and designation of new trauma centers in the county, based on the demographics of the county, and the manner in which the county may most effectively provide trauma services. [However, it is important to note that] Prior to this time, neither the State of Nevada nor Clark County [have previously] had developed a formal trauma system or trauma plan. The [future] designation of trauma centers [will be] is now a collaborative process with the [State Health Division] DPBH and [CCHD] SNHD. Applicants for trauma center designation or renewal of designation in Clark County must now be given authorization from the District Board of Health to seek designation as a trauma center by the DPBH (NAC 450B.819). Since 2005, the District Board of Health has adopted this plan, a trauma performance improvement plan (Appendix D), trauma system regulations (Appendix D), and trauma system procedures (Appendix E-G).

**Comment [ME27]:** Workgroup recommended expanding the description of the State and SNHD responsibilities. NRS and NAC citations were added. As recommended by SNHD legal counsel, this section was moved from the "Executive Summary" to this section to reduce redundancy and to address our authority in a more appropriate place in the document.

The following entities collaborate in regulating the Southern Nevada Trauma System:



**Comment [b28]:** Workgroup members recommended creating org charts to depict the regulatory agencies.

#### Data Collection Regulations

The State requires all hospitals to record and maintain, on a system or format as approved by the [RTAB] DPBH, certain trauma information. ~~[While the state's trauma centers have been compliant with this requirement, compliance by other non-trauma centers has been variable.]~~

**Comment [ME29]:** This language does not reflect current status of the trauma registry.

#### NRS 450B.238

Regulations requir[~~e~~ling] [a] hospital[s] to record and maintain [trauma-patient] information. The State Board of Health shall adopt regulations which require each hospital to record and maintain information concerning the treatment of trauma in the hospital. The Board shall consider the guidelines adopted by the American College of Surgeons which concern the information which must be recorded. (Added to NRS by 1987, 1043; A 1993, 2836)

**Comment [ME30]:** Housekeeping in this section.

NAC 450B.764-450B.768 requires the DPBH to develop a standardized system for the collection of information concerning the treatment of trauma and to carry out a system for the management of that information. Hospitals are required to submit to the DPBH quarterly reports which comply with the criteria prescribed by the Health Division.

Trauma System Regulation 200.100 requires the Office of Emergency Medical Services & Trauma System (OEMSTS) to develop a trauma performance improvement plan to provide continuous assessment of the structure, function, and effectiveness of the system. The plan must include the adoption and implementation of a standardized system to collect and manage data, specific to trauma system evaluation and planning, from permitted EMS agencies, trauma centers, hospitals, and other health care organizations. All EMS agencies, trauma centers, and hospitals that receive trauma patients are required to provide data when requested.

**Comment [ME31]:** New language clarifies DPBH and SNHD responsibilities as outlined in the NAC and SNHD regulations.

A key component to the success of the trauma system is the ability to maintain an accurate and up-to-date trauma registry. With assistance from the registry, system evaluation, planning, and improvements can be made with reliable data.

## ORGANIZATIONAL AND ADMINISTRATIVE STRUCTURE

### Mission Statement

~~[The Clark County Health District's mission statement is to protect and promote the health, the environment, and the well-being of Clark County residents and visitors.]~~ *[The mission of the Southern Nevada Health District (SNHD) is to protect and promote the health and well-being of the residents and visitors of Clark County, Nevada. SNHD is one of the largest local public health organizations in the United States, serving more than 2 million residents which represent 70 percent of the state's total population. SNHD is also responsible for safeguarding the public health of more than 43 million visitors to Las Vegas each year. One of SNHD's primary responsibilities is providing regulatory oversight of the EMS and Trauma System in Clark County.]*

Comment [ME32]: Description expanded to better define SNHD's role.

### Authority

~~[The Clark County Health District (CCHD)]~~ *SNHD* has the legal authority to manage and supervise the EMS delivery system in Clark County. The State of Nevada and ~~[CCHD]~~ *SNHD* have the authority to designate trauma centers, establish a comprehensive trauma system, and to develop and monitor a trauma registry. The following information defines the organization and administration of ~~[CCHD]~~ *SNHD*; of which EMS and trauma system monitoring is a component.

Comment [ME33]: Housekeeping changes in this section.

~~[The following committees currently provide input and oversight to the EMS and trauma system:~~

- ~~Medical Advisory Board (MAB)~~
- ~~Regional Trauma Advisory Board (RTAB)~~
- ~~[Trauma Medical Audit Committee (TMAC)]~~

### Organizational Structure

~~[CCHD is administered by a 13-member Board of Health]~~ The ~~[Office of Emergency Medical Services]~~ *OEMSTS* is ~~[located in] a part of~~ the Division of Community Health and is overseen by the EMSTS Manager who reports to the Division Director. The Community Health Director reports to the Chief Health Officer.

Comment [ME34]: Housekeeping changes in this section

~~[The EMS Office oversees medical and operational components of the EMS System. This includes protocol development, policies, equipment approval, medical dispatch, base station standing order protocols and continuous performance improvement.]~~ *[The OEMSTS is responsible for establishing and enforcing regulations related to the structure and operation of the EMS and trauma system, including creation of a program for planning, developing, monitoring, and improving the system. This includes setting minimum standards for permitting the operation of ambulances, air ambulances, and fire-fighting agency vehicles; certifying and licensing emergency medical personnel; defining educational requirements; promulgating treatment protocols for individuals in need of emergency care; establishing peer review committees to review, monitor, and evaluate system performance; and developing and implementing a process for authorizing hospitals to seek trauma center designation from the DPBH.]*

Comment [ME35]: Description expanded to more accurately describe OEMSTS responsibilities.

~~[The recently formed Regional Trauma Advisory Board (RTAB) consists of trauma surgeons, trauma program managers, ED physicians, fire department and transport services, and other community members. The RTAB is expected to provide input on the trauma planning process and recommendations to CCHD for improvements in care and enhancement of the overall trauma system.]~~

Comment [ME36]: Deleted redundant language.

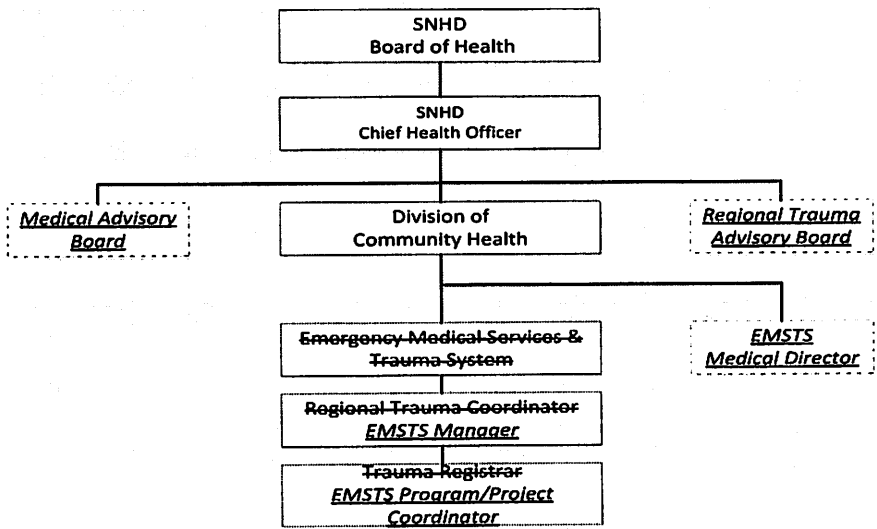
By regulation, SNHD created the EMS Medical Advisory Board (MAB) and Regional Trauma Advisory Board (RTAB) to support the Chief Health Officer's role to ensure a high quality system of patient care within the Clark County EMS and Trauma System. The boards make recommendations and assist in the ongoing design, operation, evaluation, and improvement of the system from initial patient access to definitive patient care.

The MAB and RTAB established the EMS Quality Improvement Directors Committee and the Trauma Medical Audit Committee (TMAC), respectively, as medical peer review committees to review, monitor, and evaluate EMS and trauma system performance and to make recommendations for system improvements. When functioning as a peer review committee, the committees derive their authority and privilege from NRS 49.117 - 49.123 and NRS 49.265.

Both boards have created subcommittees to review and provide recommendations on specific matters falling within their areas of authority. A complete description of the functions, authority, and responsibilities of the trauma committees may be found in Appendix B [and on the Clark County website, [www.cchd.org/ems/ems.htm](http://www.cchd.org/ems/ems.htm)].

**Comment [ME37]:** Description of boards and performance improvement committee's expanded.

[A-proposed] The organizational chart for the EMS & Trauma System Program is provided below:



**Comment [p38]:** Housekeeping changes, including addition of medical director position. 1-8-15.

By [CCHD] SNHD Trauma [F] Regulation 400.000, membership on the RTAB includes:

**Comment [ME39]:** Added specific regulation as recommended by legal counsel.

Members	How Appointed
Trauma <del>medical</del> [D] <del>directors</del> [(3)]	One from each trauma center
Trauma [Administrator] <del>program managers</del> [(3)]	One from each trauma center
[Member of the] Medical Advisory Board <del>chair</del> [(1)]	Appointed by MAB
[An-a] Administrator from a non-trauma hospital <del>system</del> [(1)]	Appointed by [CCHD] <u>SNHD</u>
Public EMS transport representative [(1)]	Appointed by [CCHD] <u>SNHD</u>
Private EMS transport representative [(1)]	Appointed by [CCHD] <u>SNHD</u>
Injury prevention/education representative [(1)]	Appointed by [CCHD] <u>SNHD</u>

[Clark County] Southern Nevada  
Trauma System Plan

Payor representative [(1)]	Appointed by [CCHD] SNHD
Public member [(1)]	Appointed by [CCHD] SNHD
<u>Rehabilitation representative</u>	<u>Appointed by [CCHD] SNHD</u>
<u>Legislative/Advocacy representative</u>	<u>Appointed by [CCHD] SNHD</u>
<u>Public Relations/Media representative</u>	<u>Appointed by [CCHD] SNHD</u>
<u>Funding/Financing representative</u>	<u>Appointed by [CCHD] SNHD</u>
<u>EMSTS Manager or designee (Ex officio)</u>	<u>Appointed by [CCHD] SNHD</u>

Comment [ME40]: Added new members as defined in SNHD regulations and made housekeeping changes in this section.

[In addition to the RTAB, a Trauma Medical Audit Committee (TMAC) will be established to conduct case reviews, implement performance improvement initiatives, and provide clinical advice to CCHD on trauma policies.] By SNHD regulation [M]membership [is expected to] on the TMAC includes:

- [Trauma surgeons from each trauma center
- Trauma coordinator/manager from each trauma center
- Prehospital representative, as needed
- General surgeon from a non-trauma center who cares for injured patients
- Medical Examiner from the County Coroner's Office
- CCHD Trauma Coordinator
- Other trauma, EMS personnel invited to participate, as needed]

Comment [p41]: Deleted outdated and redundant language in this section.

<u>Members</u>	<u>How Appointed</u>
<u>Trauma medical directors</u>	<u>One from each trauma center</u>
<u>Trauma program managers</u>	<u>One from each trauma center</u>
<u>County medical examiner or designee</u>	<u>Appointed by SNHD</u>
<u>Neurosurgeon</u>	<u>Appointed by SNHD</u>
<u>Anesthesiologist</u>	<u>Appointed by SNHD</u>
<u>Orthopedic surgeon</u>	<u>Appointed by SNHD</u>
<u>ED physician from a non-trauma center hospital</u>	<u>Appointed by SNHD</u>
<u>EMS OI Directors Committee representative</u>	<u>Selected by committee chair</u>
<u>EMSTS Manager or designee</u>	<u>Appointed by SNHD</u>

Comment [p42]: Updated membership.

### Trauma System Structure

There are three state designated and ACS-COT verified trauma centers in Clark County. Two hospitals, the existing Level I and Pediatric Level II trauma center (University Medical Center) and [a-new] the Level II trauma center (Sunrise Hospital and Medical Center), are located in the metropolitan area of Las Vegas. These two facilities receive the majority of trauma patients as well as any transfers from other counties. Sunrise Hospital and Medical Center began service as a Level II trauma center in February 2005[;]. St. Rose Dominican Hospital - Siena Campus, located in Henderson, began service as a Level III trauma center [located in Henderson] in August of 2005. St. Rose Dominican Hospital - Siena Campus has [also] indicated that they desire to upgrade to a Level II status at some point in the future.

Designated trauma centers have a trauma medical director and a program manager to oversee the function of their respective trauma services. The trauma director must be a Board-certified surgeon with experience in trauma care and trained in Advanced Trauma Life Support (ATLS). The trauma program manager [will be] is a registered nurse who has emergency and trauma experience and [specialized] additional trauma/critical care training. These individuals [will] provide the administrative and clinical support for their trauma center. The trauma medical director and program manager [will] serve as liaisons between the trauma center, [and CCHD] SNHD and the other trauma stakeholders.

~~[There are no free-standing pediatric trauma facilities in the region.] With the addition of two new trauma centers in 2005, [M]major pediatric trauma victims [are] were triaged and transported to the designated adult trauma centers that also [have] had pediatric and critical care units. [University Medical Center] UMC, Sunrise Hospital and Medical Center, and St. Rose Dominican Hospital - Siena Campus all have pediatric intensive care capability. In October 2007, UMC became designated as a Pediatric Level II trauma center. In November 2012, following the recommendations of the 2011 ACS-COT Clark County trauma system consultation team and the 2011 CDC Guidelines for the Field Triage of Injured Patients, the SNHD EMS "Trauma Field Triage Criteria Protocol" was revised to require pediatric patients who meet physiological and anatomical criteria to be transported to a designated pediatric trauma center.~~

Comment [ME43]: Language updated to reflect changes in system to date.

#### Trauma System Challenges

- With the addition of Sunrise Hospital and Medical Center (February 2005) and St. Rose Dominican Hospital - Siena Campus (August 2005) as trauma centers, it was necessary to create a more comprehensive and inclusive trauma system plan [is-needed].
- Clear leadership roles are [also] needed for the trauma system to be successful. The various individuals and committees formed to evaluate and make recommendations for the [new] trauma system plan must [address the lack of] promote clear administrative roles and boundaries. Trauma leadership should be designed to assure significant stakeholder input and buy in.
- ~~[Another issue is]~~ Determining the appropriate number of trauma centers ~~[This plan calls for]~~ requires periodic study and analysis ~~[on] of~~ trauma center designation and ~~[on] of~~ the number and location of new or potential trauma centers. ~~[The p] Previous needs assessment document[ed]~~ that the community desire[d] trauma coverage but does not want to be saturated with trauma centers or to have too many trauma centers so as to destabilize the existing centers. Periodic study of the number and location of trauma centers is needed. f
- ~~[Another desire]~~ It is important to receive more involvement from the non-trauma centers. Conceptually, it is possible that the non-trauma centers could voluntarily participate in system performance improvement, prevention, data collection or even receive a voluntary designation of minor injury care (e.g. Emergency Department approved for Trauma – EDAT).

~~[Another opportunity is to commit to and study pediatric trauma care needs. Sunrise Hospital and Medical Center and UMC have pediatric EDs and critical care units and St. Rose Medical Center also has pediatric critical care capability but there are no separate pediatric trauma facilities in Clark County. Major pediatric trauma victims will be triaged and transported to the designated adult trauma centers that also have pediatric commitment (UMC, Sunrise and St. Rose).]~~

Comment [ME44]: Language updated to reflect changes in system to date.

## NEEDS ASSESSMENT

### Background

The most complete summary of the background leading to the development of [this] the Southern Nevada Trauma System [p]Plan can be found in the [American College of Surgeons] ACS-COT Trauma System Consultation report of May 2004 (<http://www.southernnevadahealthdistrict.org/download/trauma/ACSfinal.pdf>) and Abaris Group's Southern Nevada Current Trauma System Needs Assessment report of April 2004 (<http://www.southernnevadahealthdistrict.org/download/trauma/ABARISassessment05-21-04.pdf>).

Comment [ME45]: Housekeeping

A second ACS-COT Clark County Trauma System consultation was performed in July 2011. The final report summarizes the status of the system at the time; including the advantages and assets, challenges and vulnerabilities, and priority recommendations for system improvements. (<http://www.southernnevadahealthdistrict.org/download/trauma/acs-report-2011.pdf>)

In April 2013, SNHD conducted a U.S. Department of Health and Human Services, Health Resources and Services Administration, "Self-Assessment for Trauma System Planning, Development, and Evaluation." The process involved assessing the status of the Clark County Trauma System based on a set of selected indicators considered to be representative measures of the core functions of assessment, policy development, and assurance within the system. The goal was to examine the current strengths and opportunities for improvement in the system using the same benchmarks, indicators, and scoring methodology employed in the 2007 and 2011 trauma system assessments conducted by SNHD. (<http://www.southernnevadahealthdistrict.org/ems/documents/ems/clark-county-trauma-system-self-assessment-2013.pdf>)

The ACS-COT trauma system consultation experts recommend that trauma systems perform a BIS needs assessment at least every three years. The details of the Southern Nevada Trauma System assessments conducted in 2007, 2011 and 2013 can be found in Appendix J.

Comment [b46]: Workgroup recommended adding the proposed timeline for system assessments.

The following definitions found in the 2006 HRSA Model Trauma System Planning and Evaluation document provide a common framework for understanding each component of the evaluation tool:

- Benchmarks are global overarching goals, expectations, or outcomes. In the context of the trauma system, a benchmark identifies a broad system attribute.
- Indicators are those tasks or outputs that characterize the benchmark. Indicators identify actions or capabilities within the benchmark. Indicators are the measurable components of a benchmark.
- Scoring breaks down the indicator into completion steps. Scoring provides an assessment of the current status and marks progress over time to reach a certain milestone.

Although each indicator has different details for scoring, the scoring follows this common theme:

<u>Score</u>	<u>Progress on Achieving Indicator</u>
<u>1</u>	<u>No</u>
<u>2</u>	<u>Minimal</u>
<u>3</u>	<u>Limited</u>
<u>4</u>	<u>Substantial</u>
<u>5</u>	<u>Full</u>
<u>0</u>	<u>Not Known</u>

Below are the 16 core functions, benchmarks, and indicators, selected from the complete BIS assessment instrument, that were assessed in 2007, 2011 and 2013.

**Core Function 100:**

**Assessment: Regular systematic collection, assembly, analysis, and dissemination of information on the health of the community.**

**BENCHMARK 101: There is a thorough description of the epidemiology of injury in the system jurisdiction using both population-based data and clinical databases.**

**Essential Services: Monitor Health**

**Indicator 101.2 There is a description of injuries within the trauma system jurisdiction including the distribution by geographic area, high risk populations (pediatric, elder, distinct cultural/ethnic, rural, and others), incidence, prevalence, mechanism, manner, intent, mortality, contributing factors, determinants, morbidity, injury severity (including death), and patient distribution using any or all the following: vital statistics, emergency department (ED) data, EMS data, hospital discharge data, state police data (those from law enforcement agencies), medical examiner data, trauma registry, and other data sources. The description is updated at regular intervals.**

**NOTE: Injury severity should be determined through the consistent and system-wide application of one of the existing injury scoring methods, for example, Injury Severity Score (ISS).**

- 1. There is no written description of injuries within the trauma system jurisdiction.**
- 2. One or more population-based data sources (e.g., vital statistics and medical examiner data) describe injury within the jurisdiction, but clinical data sources are not used.**
- 3. One or more population-based data sources and one or more clinical data sources are used to describe injury within the jurisdiction.**
- 4. Multiple population-based and clinical data sources are used to describe injury within the jurisdiction, and the description is systematically updated at regular intervals.**
- 5. Multiple population-based and clinical data sources (e.g., trauma registry, ED data, and others) are electronically linked and used to describe injury within the jurisdiction.**
- 0. Not known**

**Indicator 101.2 Results**

<b><u>2007 BIS SCORE</u></b>	<b><u>2011 BIS SCORE</u></b>	<b><u>2013 BIS SCORE</u></b>
<b><u>3.0</u></b>	<b><u>3.0</u></b>	<b><u>3.3</u></b>

**BENCHMARK 102: There is an established trauma management information system (MIS) for ongoing injury surveillance and system performance assessment.**

**Essential Services: Monitor Health**

**Indicator 102.2 Injury surveillance is coordinated with statewide and local community health surveillance.**

- 1. Injury surveillance does not occur within the system.**
- 2. Injury surveillance occurs in isolation from other health risk surveillance and is reported separately.**

~~3. Injury surveillance occurs in isolation but is combined and reported with other health risk surveillance processes.~~

~~4. Injury surveillance occurs as part of broader health risk assessments.~~

~~5. Processes of sharing and linkage of data exist between EMS systems, public health systems, and trauma systems, and the data are used to monitor, investigate, and diagnose community health risks.~~

~~0. Not known~~

#### Indicator 102.2 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>2.0</u>	<u>2.0</u>	<u>2.0</u>

#### Indicator 102.3 Trauma data are electronically linked from a variety of sources.

~~Note: Deterministically means with such patient identifiers as name and date of birth. Probabilistically means computer software is used to match likely records through such less certain identifiers as date of incident, patient age, gender, and others.~~

~~1. Trauma registry data exist but are not deterministically or probabilistically linked to other databases.~~

~~2. Trauma registry data exist and can be deterministically linked through hand sorting processes.~~

~~3. Trauma registry data exist and can be deterministically linked through computer matching processes.~~

~~4. Trauma registry data exist and can be deterministically and probabilistically linked to at least one other injury database including: EMS data systems (i.e., patient care records, dispatch data, and others), ED data systems, hospital discharge data, and others.~~

~~5. All data stakeholders (insurance carriers, FARS, and rehabilitation, in addition to typical trauma system resources) have been identified, data access agreements executed, hardware and software resources secured, and the "manpower" designated to deterministically and probabilistically link, analyze, and report a variety of data sources in a timely manner.~~

~~0. Not known~~

#### Indicator 102.3 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>3.0</u>	<u>1.0</u>	<u>1.0</u>

#### Core Function 200:

~~Policy Development: Promoting the use of scientific knowledge in decision making that includes building constituencies; identifying needs and setting priorities; legislative authority and funding to develop plans and policies to address needs; and ensuring the public's health and safety.~~

~~BENCHMARK 201: Comprehensive state statutory authority and administrative rules support trauma system leaders and maintain trauma system infrastructure, planning, oversight, and future development.~~

~~Essential Services: Develop Policies~~

~~Indicator 201.4 The lead agency has adopted clearly defined trauma system standards (e.g., facility standards, triage and transfer guidelines, and data collection standards) and has sufficient legal authority to ensure and enforce compliance.~~

- ~~1. The lead agency does not have sufficient legal authority and has not adopted or defined trauma system performance and operating standards, nor is there sufficient legal authority to do so.~~
- ~~2. Sufficient authority exists to define and adopt standards for trauma system performance and operations, but the lead agency has not yet completed this process.~~
- ~~3. There is sufficient legal authority to adopt and implement operation and performance standards including enforcement. Draft process procedures have been developed.~~
- ~~4. The authority exists to fully develop all operational guidelines and standards; the stakeholders are reviewing draft policies and procedures; and adoption by the lead agency, including implementation and enforcement, is pending.~~
- ~~5. The authority exists; operational policies and procedures and trauma system performance standards are in place; and compliance is being actively monitored~~
- ~~0. Not known~~

~~Indicator 201.4 Results~~

<u><del>2007 BIS SCORE</del></u>	<u><del>2011 BIS SCORE</del></u>	<u><del>2013 BIS SCORE</del></u>
<u><del>4.0</del></u>	<u><del>3.0</del></u>	<u><del>3.7</del></u>

~~BENCHMARK 203: The state lead agency has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is~~

~~Essential Services: Inform, Educate, Empower~~

~~Indicator 203.1 The lead agency, in concert with a trauma specific multidisciplinary, multi-agency advisory committee, has adopted a trauma system plan.~~

- ~~1. There is no trauma system plan, and one is not in progress.~~
- ~~2. There is no trauma system plan, although some groups have begun meeting to discuss the development of a trauma system plan.~~
- ~~3. A trauma system plan was developed and adopted by the lead agency. The plan, however, has not been endorsed by trauma stakeholders.~~

[Clark County] Southern Nevada  
Trauma System Plan

- ~~4. A trauma system plan has been adopted, developed with multi-agency groups, and endorsed by those agencies.~~
- ~~5. A comprehensive trauma system plan has been developed, adopted in conjunction with trauma stakeholders, and includes the integration of other systems (e.g., EMS, public health, and emergency preparedness).~~
- ~~0. Not known~~

Indicator 203.1 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>4.0</u>	<u>4.0</u>	<u>4.4</u>

~~Indicator 203.4 The trauma system plan clearly describes the system design (including the components necessary to have an integrated and inclusive trauma system) and is used to guide system implementation and management. For example, the plan includes references to regulatory standards and documents, and includes methods of data collection and analysis.~~

- ~~1. There is no trauma system plan.~~
- ~~2. The trauma system plan does not address or incorporate the trauma system components (prehospital, communication, transportation, acute care, rehabilitation, and others), nor is it inclusive of all hazards preparedness, EMS, or public health integration.~~
- ~~3. The trauma system plan provides general information about all the components including all hazards preparedness, EMS, and public health integration; however, it is difficult to determine who is responsible and accountable for system performance and implementation.~~
- ~~4. The trauma system plan addresses every component of a well organized and functioning trauma system including all hazards preparedness and public health integration. Specific information on each component is provided, and trauma system design is inclusive of providing for specific goals and objectives for system performance.~~
- ~~5. The trauma system plan is used to guide system implementation and management. Stakeholders and policy leaders are familiar with the plan and its components and use the plan to monitor system progress and to measure results.~~
- ~~0. Not known~~

Indicator 203.4 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>3.0</u>	<u>3.0</u>	<u>3.4</u>

~~**BENCHMARK 204: Sufficient resources, including those both financial and infrastructure related, support system planning, implementation, and maintenance.**~~

~~Essential Services: Develop Policies~~

~~Indicator 204.2 Financial resources exist that support the planning, implementation, and ongoing management of the administrative and clinical care components of the trauma system.~~

- ~~1. There is no funding to support the trauma system planning, implementation, or ongoing management and operations for either trauma system administration or trauma clinical care.~~

[Clark County] Southern Nevada  
Trauma System Plan

- ~~2. Some funding for trauma care within the third party reimbursement structure has been identified, but ongoing support for administration and clinical care outside the third party reimbursement structure is not available.~~
- ~~3. There is current funding for the development of the trauma system within the lead agency organization consistent with the trauma system plan, but costs to support clinical care support services have not been identified (transportation, communication, uncompensated care, standby fees, and others). No ongoing commitment of funding has been secured.~~
- ~~4. There is funding available for both administrative and clinical components of the trauma system plan. A mechanism to assess needs among various providers has begun. Implementation costs and ongoing support costs of the lead agency have been addressed within the plan.~~
- ~~5. A stable (consistent) source of reliable funding for the development, operations, and management of the trauma program (clinical care and lead agency administration) has been identified and is being used to support trauma planning, implementation, maintenance, and ongoing program enhancements.~~
- ~~0. Not known~~

Indicator 204.2 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>2.0</u>	<u>3.0</u>	<u>2.0</u>

Indicator 204.3 Designated funding for trauma system infrastructure support (lead agency) is legislatively appropriated.

Note: Although nomenclature concerning designated, appropriated, and general funds varies between jurisdictions, the intent of this indicator is to demonstrate long term, stable funding for trauma system development, management, evaluation, and improvement.

- ~~1. There is no designated funding to support the trauma system infrastructure.~~
- ~~2. One time funding has been designated for trauma system infrastructure support, and appropriations have been made to the lead agency budget.~~
- ~~3. Limited funds for trauma system development have been identified, but the funds have not been appropriated for trauma system infrastructure support.~~
- ~~4. Consistent, though limited, infrastructure funding has been designated and appropriated to the lead agency budget.~~
- ~~5. The legislature has identified, designated, and appropriated sufficient infrastructure funding for the lead agency consistent with the trauma system plan and priorities for funding administration and operations.~~
- ~~0. Not known~~

Indicator 204.3 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>1.0</u>	<u>1.0</u>	<u>1.0</u>

**BENCHMARK 208: The trauma, public health, and emergency preparedness systems are closely linked.**

**Essential Service: Mobilize Community Partnership**

**Indicator 208.1 The trauma system and the public health system have established linkages including programs with an emphasis on population-based public health surveillance, and evaluation, for acute and chronic traumatic injury and injury prevention.**

- 1. There is no evidence that demonstrates program linkages, a working relationship, or the sharing of data between public health and the trauma system. Population-based public health surveillance, and evaluation, for acute or chronic traumatic injury and injury prevention has not been integrated with the trauma system.**
- 2. There is little population-based public health surveillance shared with the trauma system, and program linkages are rare. Routine public health status reports are available for review by the trauma system lead agency and constituents.**
- 3. The trauma system and the public health system have begun sharing public health surveillance data for acute and chronic traumatic injury. Program linkages are in the discussion stage.**
- 4. The trauma system has begun to link with the public health system, and the process of sharing public health surveillance data is evolving. Routine dialogue is occurring between programs.**
- 5. The trauma system and the public health system are integrated. Routine reporting, program participation, and system plans are fully vested. Operational integration is routine, and measurable progress can be demonstrated. (Demonstrated integration and linkage could include such activities as rapid response to and notification of incidents, integrated data systems, communication cross-operability, and regular epidemiology report generation.)**
- 0. Not known**

**Indicator 208.1 Results**

<b><u>2007 BIS SCORE</u></b>	<b><u>2011 BIS SCORE</u></b>	<b><u>2013 BIS SCORE</u></b>
<b><u>3.0</u></b>	<b><u>2.0</u></b>	<b><u>2.7</u></b>

**Core Function 300:**

**Assurance: Assurance to constituents that services necessary to achieve agreed-on goals are provided by encouraging actions of others (public or private), requiring action through regulation, or providing services directly.**

**BENCHMARK 301: The trauma management information system (MIS) is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the trauma system, including a cost-benefit analysis.**

**Essential Service: Evaluation**

**Indicator 301.1 The lead trauma authority ensures that each member hospital of the trauma system collects and uses patient data as well as provider data to assess system performance and to improve quality of care. Assessment data are routinely submitted to the lead trauma authority.**

[Clark County] Southern Nevada  
Trauma System Plan

- ~~1. There is no system-wide management information data collection system that the trauma centers and other community hospitals regularly contribute to or use to evaluate the system.~~
- ~~2. There is a trauma registry system in place in the trauma centers, but it is used by neither all facilities within the system nor the lead trauma authority to assess system performance.~~
- ~~3. The trauma management information system contains information from all facilities within a geographic area.~~
- ~~4. The trauma management information system is used by the trauma centers to assess provider and system performance issues.~~
- ~~5. Hospital trauma registry data are routinely submitted to the lead trauma authority, are aggregated, and are used to evaluate overall system performance.~~
- ~~0. Not known~~

Indicator 301.1 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>4.0</u>	<u>3.0</u>	<u>2.5</u>

~~**BENCHMARK 302:** The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.~~

Essential Services: Link To Provide Care

~~**Indicator 302.1** There is well-defined trauma system medical oversight integrating the specialty needs of the trauma system with the medical oversight for the overall EMS system.~~

~~**Note:** The EMS system medical director and the trauma medical director may, in fact, be the same person.~~

- ~~1. There is no medical oversight for EMS providers within the trauma system.~~
- ~~2. EMS medical oversight for all levels of prehospital providers caring for the trauma patient is provided, but such oversight is provided outside of the purview of the trauma system.~~
- ~~3. The EMS and trauma medical directors have integrated prehospital medical oversight for prehospital personnel caring for trauma patients.~~
- ~~4. Medical oversight is routinely given to EMS providers caring for trauma patients. The trauma system has integrated medical oversight for prehospital providers and routinely evaluates the effectiveness of both online and offline medical oversight.~~
- ~~5. The EMS and trauma system fully integrate the most up-to-date medical oversight and regularly evaluate program effectiveness. System providers are included in the development of medical oversight policies.~~
- ~~0. Not known~~

Indicator 302.1 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>3.0</u>	<u>2.0</u>	<u>3.0</u>

Indicator 302.6 There are mandatory system-wide prehospital triage criteria to ensure that trauma patients are transported to an appropriate facility based on their injuries. These triage criteria are regularly evaluated and updated to ensure acceptable and system defined rates of sensitivity and specificity for appropriately identifying the major trauma patient.

1. There are no mandatory universal triage criteria to ensure trauma patients are transported to the most appropriate hospital.
2. There are differing triage criteria guidelines used by different providers. Appropriateness of triage criteria and subsequent transportation are not evaluated for sensitivity or specificity.
3. Universal triage criteria are in the process of being linked to the management information system for future evaluation.
4. The triage criteria are used by all prehospital providers. There is system-wide evaluation of the effectiveness of the triage tools in identifying trauma patients and in ensuring that they are transported to the appropriate facility.
5. System participants routinely evaluate the triage criteria for effectiveness. There is linkage with the trauma system, and sensitivity and specificity (over and under triage rates) of the tools used are regularly reported through the trauma lead authority. Updates to the triage criteria are made as necessary to improve system performance.
0. Not known

Indicator 302.6 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>4.0</u>	<u>4.0</u>	<u>3.0</u>

BENCHMARK 303: Acute care facilities are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all injured patients.

Essential Services: Link To Provide Care

Indicator 303.1 The trauma system plan has clearly defined the roles and responsibilities of all acute care facilities treating trauma and of facilities that provide care to specialty populations (e.g., burn, pediatric, spinal cord injury, and others).

1. There is no trauma system plan that outlines roles and responsibilities of all acute care facilities treating trauma and of facilities that provide care to special populations.
2. There is a trauma system plan, but it does not address the roles and responsibilities of licensed acute care and specialty care facilities.
3. The trauma system plan addresses the roles and responsibilities of licensed acute care facilities or specialty care facilities, but not both.
4. The trauma system plan addresses the roles and responsibilities of licensed acute care facilities and specialty care facilities.

[Clark County] Southern Nevada  
Trauma System Plan

~~5. The trauma system plan clearly defines the roles and responsibilities of all acute care facilities treating trauma within the system jurisdiction. Specialty care services are addressed within the plan, and appropriate policies and procedures are implemented and tracked.~~

~~0. Not known~~

Indicator 303.1 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>3.0</u>	<u>3.0</u>	<u>3.8</u>

~~**BENCHMARK 307:** To maintain its state, regional, or local designation, each hospital will continually work to improve the trauma care as measured by patient outcomes.~~

Essential Service: Evaluation

~~Indicator 307.1 The trauma system engages in regular evaluation of all licensed acute care facilities that provide trauma care to trauma patients and designated trauma hospitals. Such evaluation involves independent external reviews.~~

- ~~1. There is no ongoing mechanism for the trauma system to assess or evaluate the quality of trauma care delivered by all licensed acute care facilities that provide trauma care to trauma patients and designated trauma hospitals.~~
- ~~2. There is a mechanism for the trauma system to evaluate trauma care services in designated trauma hospitals through internal performance improvement processes.~~
- ~~3. There is a mechanism to evaluate trauma care services across the entire trauma care system through performance improvement processes.~~
- ~~4. Review of trauma care quality is both internal (through routine monitoring and evaluation) and external (through independent review during re-designation or re-verification of trauma centers).~~
- ~~5. Quality of trauma care is ensured through both internal and external methods. Internal review is regular, and participation is routine for trauma stakeholders. External independent review teams provide further assurance of quality trauma care within all licensed acute care and trauma facilities treating trauma patients.~~

~~0. Not known~~

Indicator 307.1 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>4.0</u>	<u>4.0</u>	<u>3.2</u>

~~**BENCHMARK 308:** The lead agency ensures that adequate rehabilitation facilities have been integrated into the trauma system and that these resources are made available to all populations requiring them.~~

Essential Service: Link To Provide Care

~~Indicator 308.1 The lead agency has incorporated, within the trauma system plan and the trauma center standards, requirements for rehabilitation services including interfacility transfer of trauma patients to rehabilitation centers.~~

[Clark County] Southern Nevada  
Trauma System Plan

- ~~1. There are no written standards or plans for the integration of rehabilitation services with the trauma system or with trauma centers.~~
- ~~2. The trauma system plan has incorporated the use of rehabilitation services, but the use of those facilities for trauma patients has not been fully realized.~~
- ~~3. The trauma system plan has incorporated requirements for rehabilitation services. The trauma centers routinely use the rehabilitation expertise although written agreements do not exist.~~
- ~~4. The trauma system plan incorporates rehabilitation services throughout the continuum of care. Trauma centers have actively included rehabilitation services and their programs in trauma patient care plans.~~
- ~~5. There is evidence to show a well integrated program of rehabilitation is available for all trauma patients. Rehabilitation programs are included in the trauma system plan, and the trauma centers work closely with rehabilitation centers and services to ensure quality outcomes for trauma patients.~~
- ~~0. Not known~~

Indicator 308.1 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>2.0</u>	<u>1.0</u>	<u>2.0</u>

~~**BENCHMARK 311:** The lead agency acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the trauma system.~~

Essential Services: Enforce Laws

~~**Indicator 311.4** Laws, rules, and regulations are routinely reviewed and revised to continually strengthen and improve the trauma system.~~

- ~~1. There is no process for examining laws, rules, or regulations.~~
- ~~2. Laws, rules, and regulations are reviewed and revised only in response to a "crisis" (e.g., malpractice insurance costs).~~
- ~~3. Laws, rules, and regulations are reviewed and revised on a periodic schedule (e.g., every 5 years).~~
- ~~4. Laws, rules, and regulations are reviewed by agency personnel on a continuous basis and are revised as needed.~~
- ~~5. Laws, rules, and regulations are reviewed as part of the performance improvement process involving representatives of all system components and are revised as they negatively impact system performance.~~
- ~~0. Not known~~

[Clark County] Southern Nevada  
Trauma System Plan

Indicator 311.4 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>4.0</u>	<u>4.0</u>	<u>3.6</u>

A more detailed description of the consensus scores can be found in the 2013 Self Assessment for Clark County Trauma System Planning, Development, and Evaluation Report

(<http://www.southernnevadahealthdistrict.org/ems/documents/ems/clark-county-trauma-system-self-assessment-2013.pdf>). The ACS-COT trauma system consultation experts recommend that trauma systems perform a BIS needs assessment at least every three years.

**Comment [ME47]:** This new section was added as recommended by workgroup members to provide details about the trauma system assessment tool and results to allow comparison of the status of system development over time. It was later recommended that the results of the assessments be moved to the "Appendix."

## TRAUMA SYSTEM DESIGN

### System Management

By adoption of this plan and with the concurrence of the trauma system stakeholders, [CCHD] SNHD will have the responsibility for planning, implementing and monitoring the trauma care system.

Comment [p48]: Housekeeping

[CCHD] SNHD responsibilities will include but not be limited to:

Comment [p49]: Housekeeping

- Establishing regulations for the designation of future trauma centers including a needs assessment of the community prior to designation
- Establishing policies, procedures, and protocols for trauma system operations
- Developing, [and] implementing and maintaining a trauma system plan
- [Contracting] Collaborating with prehospital providers and the trauma centers for support services (e.g. system oversight, meeting preparation, special studies, etc.)
- Developing guidelines, standards, and protocols for the triage, prehospital treatment, and transfer of trauma patients
- Working with designated trauma centers to assure coordination, outreach, and mutual aid
- Working with the non-trauma centers to create a more "inclusive" system
- Maintaining a multidisciplinary performance improvement monitoring system that assures trauma service quality outcomes and patient safety

Comment [p50]: Housekeeping

Comment [p51]: Housekeeping

[To fulfill these responsibilities, CCHD will establish within its EMS Office the following new positions:

- ~~Trauma Coordinator (1.0 FTE)~~
- ~~Trauma Executive Assistant (.5 FTE)~~

[The costs for these positions are expected to be recovered through support from the three trauma-center hospitals and securing funding from other sources, including grants and/or future legislative appropriations. Estimated 2005 costs for these positions and their support functions and one allocation method per hospital are provided in the table below:]

[Estimated Annual Budget]					
[Salaries]	[Supplies/Support]	[Education]	[Other]	[TOTAL]	[Per Hospital]
[\$150,000]	[\$50,000]	[\$25,000]	[\$5,000]	[\$230,000]	[\$76,667]

[Note: Sample budget that includes benefits]

[Non-trauma designated hospitals may also be asked to assist in funding on a graduated fee scale. Additional support may be provided by existing CCHD EMS Office staff.]

Comment [p52]: Deleted this section and added new language below.

As the lead organization, SNHD will commit the necessary resources to fulfill its obligation to provide regulatory oversight of the Southern Nevada Trauma System as defined in the statutes, regulations and the trauma system plan. The expenses are expected to be covered through a variety of funding sources which include SNHD general funds, fees, grants and future legislative appropriations. The RTAB assists the Chief Health Officer with identifying needs, setting priorities and advocating for sufficient funding to support trauma system planning, implementation and maintenance. The annual budget is prepared by the EMSTS manager under the direction of SNHD administration and adopted by the District Board of Health.

Comment [ME53]: Language updated to reflect current and projected funding mechanisms.

## System Design and Operations

### Introduction

[The trauma catchment areas are dictated by the CCHD policy for triage and transport of trauma patients to the appropriate facility, including facilities outside of Clark County.]

The Southern Nevada Trauma System is comprised of components that facilitate appropriate triage and transportation of the injured through the EMS system to designated health care facilities that possess the capacity, capability and commitment to provide optimal care for trauma victims. SNHD regulations and EMS protocols direct transport of patients who meet trauma field triage criteria to a specified trauma center based on catchment areas approved by the RTAB.

### Overall System

The greater Clark County region has ~~[43]~~ 15 acute care hospitals (see table below) ~~[All acute care hospitals]~~ that provide 24-hour ED coverage ~~[within the county]~~. The non-trauma center hospitals do not receive patients transported by EMS that are identified by ~~[the]~~ trauma field triage. An exception is made if, in the provider's judgment, the inability to adequately ventilate the trauma patient might result in an increased risk of mortality unless the patient is transported to the closest facility which may be a non-trauma center hospital.

The ~~[service]~~ catchment areas for the trauma centers are based on geographic considerations, as well as other factors affecting access (i.e. traffic conditions). The plan endorses trauma patients being transported to ~~[one of the three]~~ a designated trauma center[s] depending on where the injury [location] occurred and severity. ~~[(See Catchment Zones pg. —) and Implementation Schedule (pg. —)].~~ (Appendix C)

**Comment [ME54]:** Old language deleted and new language added to be more descriptive of current process.

**Comment [ME55]:** Exception language added for trauma patient transport to non-trauma center hospitals, in addition to housekeeping changes.

CLARK COUNTY HOSPITALS	TRAUMA DESIGNATION
Boulder City Hospital	
Centennial Hills Hospital Medical Center	
Desert Springs Hospital Medical Center	
Mesa View Regional Hospital	
MountainView Hospital	
North Vista Hospital	
Southern Hills Hospital & Medical Center	
Spring Valley Hospital Medical Center	
St. Rose Dominican Hospital - Rose de Lima Campus	
St. Rose Dominican Hospital - San Martin Campus	
St. Rose Dominican Hospital - Siena Campus	Level III
Summerlin Hospital Medical Center	
Sunrise Hospital & Medical Center	Level II
University Medical Center	Level I, Pediatric Level II
Valley Hospital Medical Center	

**Comment [ME56]:** Housekeeping

~~[There are no separate pediatric trauma facilities in Clark County. Major pediatric trauma victims are triaged and transported to the three designated trauma centers. Sunrise Hospital and Medical Center and UMC have in-house capabilities to manage severely ill or injured children, including pediatric intensive care units and pediatric intensivists. St. Rose Dominican Hospital - Siena Campus has staffing from the same pediatric intensivists as at UMC.]~~

In October 2007, UMC became designated as a Pediatric Level II trauma center. In November 2012, following the recommendations of the 2011 ACS-COT Clark County Trauma System consultation team and the 2011 CDC Guidelines for the Field Triage of Injured Patients, the SNHD EMS "Trauma Field Triage Criteria Protocol" was revised to require pediatric patients who meet physiological and anatomical criteria to be transported to a designated pediatric trauma center.

**Comment [ME57]:** Deleted outdated language and added new language to reflect addition of designated Pediatric Level II trauma center.

[Ground ambulances providing advanced life support (ALS) services are strategically placed throughout the county by geographical jurisdiction and contract. The ambulances respond on all requests for EMS including trauma incidents. These ambulances provide transport to a trauma center for most major trauma victims. Occasionally due to travel times or other circumstances, the patient may require transport by helicopter air ambulance. For example, most trauma patients are transported by the Meroy Air unit to the trauma center at UMC in Las Vegas. Coordination of the use of helicopter ambulances is handled through the County Fire Alarm Office. Meroy Air is the only air medical provider in the County.]

All prehospital providers operate under guidelines established by CCHD. EMT-Paramedic level care is provided to all major trauma victims. Trauma cases are triaged in the field based on field triage and transport guidelines and treated according to County EMS policies. The triage criteria are based on three categories of information: 1) Physiological; 2) Anatomical; and/or 3) Mechanism of Injury. Patients meeting the physiological or anatomic criteria are transported to the closest Level I or II trauma center. Patients meeting the mechanism of injury criteria only, are transported to the closest trauma center. A CCHD EMS policy is also in place to identify the need for rapid transportation and the possible need for an in extremis patient to be stabilized at the closest ED before being transported to a designated trauma center.]

Comment [ME58]: This section was revised and moved to the "Prehospital Phase" section.

#### Prehospital Phase

The prehospital component of the trauma system is designed to provide initial assessment and management of injured patients at the scene of an emergency and safe, efficient transport to the most appropriate health care facility. [CCHD's EMS] SNHD provides regulatory oversight [is] of a coordinated system for the delivery of prehospital health care to the residents and visitors of the county. [Any resident can access] [t]he EMS system is accessed by dialing 9-1-1. [This 9-1-1] where the call is received by one of [5] four public [service] safety answering points (PSAPs), which determines if law enforcement, fire, rescue, ambulance, or any combination of these services is needed. The call is forwarded to (if not already answered by) the fire service agency within the jurisdiction it has occurred. The closest available first responder unit is dispatched, which is staffed by personnel who are either [Emergency Medical Technician] Paramedic [(EMT-P)] or Advanced Emergency Medical Technician providers [Intermediate (EMT-I)]. In addition, the call is routed to the appropriate private ambulance communication center for dispatch of the nearest available ALS ambulance if the fire department does not transport.

Ground ambulances providing advanced life support (ALS) services are strategically placed throughout the county by geographic jurisdiction and contract. [The ambulances respond on all requests for EMS including trauma incidents.] These ambulances provide transport to a trauma center for most major trauma victims. Occasionally due to travel times or other circumstances, the patient may require transport by helicopter air ambulance service. All trauma centers have helicopter landing zones and structured air medical safety programs. [For example,] By SNHD protocol, [most] trauma patients [are] requiring transport[ed] from the scene by [the Meroy Air unit] an air ambulance service will be flown to [the trauma center at] UMC [in Las Vegas]. Coordination of the use of helicopter ambulances is handled through the [County] Fire Alarm Office. [Meroy Air is the only air medical provider in the County.]

Comment [B59]: A description of air medical capabilities for all trauma centers was added as recommended at the Trauma Procedure/Protocol Review Committee meeting on 1-8-15.

All prehospital providers operate under [guidelines] protocols established by [CCHD] SNHD. [EMT-Paramedic level care is provided to all major trauma victims.] Trauma cases are triaged in the field based on [field triage and transport guidelines and treated according to County EMS policies] the SNHD EMS Trauma Field Triage Criteria Protocol. The triage criteria are based on [three] four categories [of information]: 1) Physiological; 2) Anatomical; [and/or] 3) Mechanism of Injury; or 4) Special Considerations. (Appendix C) Patients meeting the physiologic[al] or anatomic criteria are transported to the [closest] Level I or II trauma center in the catchment area where the injury occurred. Patients meeting the mechanism of injury or special consideration criteria only, are transported to the [closest] Level I, Level II or Level III trauma center in the catchment area where the injury occurred. [A CCHD EMS policy is also in place to identify the need for rapid transportation and the possible need for an in extremis

patient to be stabilized at the closest ED before being transported to a designated trauma center.] While on scene or en route, paramedics notify the receiving trauma center of their pending arrival along with the trauma patient information that will elicit a level of trauma team activation determined by the trauma team members in the facility. The SNHD EMS protocols do not preclude transport to any trauma facility if, in the EMS provider's judgment, the time to transport to the designated trauma center would be unduly prolonged due to traffic and/or weather conditions and might jeopardize the patient's condition.

**Comment [ME60]:** Updated and clarifying language added throughout this section.

[Service Delivery]

[Emergency transport ambulances in Clark County are staffed by at least one paramedic, who can administer advanced life-saving procedures and medications, and one EMT-I. Ambulance crews attempt to stabilize their patients while taking them to the closest, most appropriate designated trauma center for treatment. Hospital destinations are determined by protocol, trauma triage criteria, patient condition, and the requests of the patient and/or family. While on scene, paramedics notify the receiving trauma center of their pending arrival along with the trauma patient information that will elicit a level of trauma team activation determined by the trauma team members in the facility.]

**Comment [ME61]:** Deleted redundant language, except final sentence moved to 3<sup>rd</sup> paragraph of "Prehospital Phase" section.

[Paramedics notify the receiving trauma center of their pending arrival trauma information that will elicit a level of trauma team activation determined by the trauma team members.] The performance improvement [departments] programs of the private ambulance [companies] services, fire departments, [and] hospital EDs, and trauma programs [personnel] monitor patient care in the field on both a concurrent and retrospective basis. [Transport] Response times for private ambulance services are monitored for [any variance in average transport times by contract] compliance with standards set forth in franchise agreements and through case review.]

**Comment [ME62]:** Housekeeping changes in this paragraph.

CLARK COUNTY EMS PROVIDERS
[Clark County Agencies] <u>PUBLIC PROVIDER AGENCIES (6)</u>
Boulder City Fire Department (BCFD)
Clark County Fire Department * (CCFD)
Henderson Fire Department (HFD)
Las Vegas Fire & Rescue (LVFR)
Mesquite Fire & Rescue (MFR)
North Las Vegas Fire Department (NLVFD)
PRIVATE PROVIDER AGENCIES (3)
American Medical Response (AMR) – Las Vegas
[American Medical Response (AMR) – Laughlin]
<u>Community Ambulance (CA)</u>
MedicWest Ambulance (MWA)
AIR AMBULANCE SERVICES (3)
Life Guard International, Inc. (LG) - Fixed Wing
[Med-Flight Air Ambulance, Inc. (Fixed Wing)]
Mercy Air Service, Inc. (MA) - Helicopter
TriState CareFlight (TSCF) - Fixed Helicopter
SPECIAL PURPOSE AMBULANCE AGENCIES [(4)] (2)
<u>Guardian Elite Medical Services (GEMS)</u>
Las Vegas Motor Speedway (LVMS)
[Specialized Medical Services, Inc.]
[Motorsports Medical Services (Volunteer Agency)]
[So. Nev. Vol. First Aid & Rescue Assn. (SNVFARA)]
<u>OTHER AGENCIES</u>
<u>Department of Defense</u>
<u>EMS Agencies from Other States</u>
* CCFD RURAL VOLUNTEER AMBULANCE AGENCIES (11)

[First Responders]

All fire departments in the region provide first response services to the scene with medically trained fire personnel who are either prepared at the paramedical level or at a minimum, certified as an EMT responder. The first responders provide initial assessment and stabilization of the patient while awaiting the arrival of the paramedic transport services. All prehospital providers operate under guidelines established by CCHD that address all aspects of clinical care for injured patients. The Trauma Field Triage Criteria (TFTC) provides guidelines for field triage (See Appendix C). Each hospital develops their own trauma team activation criteria that meet the ACS standards for their level of designation.]

Comment [ME63]: Housekeeping changes in this section.

ALS Air Transport Providers

[There is one helicopter ambulance provider, Meroy Air Service Inc., that serves the catchment area.] Coordination of the use of helicopter ambulances is handled through the County Fire Alarm Office.]

Comment [B64]: Deleted redundant language found elsewhere in this section.

[Base Hospital] EMS Dispatch

[Currently,] [t]There is no base hospital in Clark County that has dedicated capabilities to [provide] coordinate all direction to EMS field personnel and maintain online 24-hour medical control. During the 2004 trauma system assessment, [F]this [is] was identified as a significant [current limitation] opportunity for improvement within the [trauma and] EMS and trauma system.

There are four public safety answering points (PSAPs) and three dispatch centers that receive and dispatch EMS calls in Clark County. EMResource serves as the primary means of communicating information related to ambulance transports and ED status between these agencies, however it is limited in its ability to allow dispatchers [There is no current way] to respond to real-time system surges and to manage ambulance flow in a coordinated manner. While SNHD EMS [field personnel use extensive] protocols limit[ing] the need for frequent radio contact for on-line medical control, [on EMS and trauma field events] receiving facilities are available [there are occasions where contact with a central coordination hospital would improve the field response and] to provide essential advice to the field personnel when necessary 24/7. If they do not need to contact the hospital for medical orders, EMS personnel are still required by protocol to notify the receiving facility by radio, telephone or EMResource that they are en route with a patient [Typically a community of this size would have a hospital that would be designated as a base hospital and be staffed by mobile intensive care nurses (MICN) who would be available 24/7 to provide medical direction. CCHD would maintain the certification process for the MICNs. The development of a base hospital is recommended in this trauma plan.]

<u>PUBLIC SAFETY ANSWERING POINT (PSAP)</u>	<u>JURISDICTION</u>
<u>BCFD</u>	<u>Boulder City</u>
<u>Fire Alarm Office</u>	<u>Clark County, Las Vegas, North Las Vegas*</u>
<u>HFD</u>	<u>Henderson</u>
<u>Dispatch Centers</u>	<u>Response Area</u>
<u>AMR</u>	<u>Per franchise agreement</u>
<u>CA</u>	<u>Per ordinance</u>
<u>MW</u>	<u>Per franchise agreement</u>
* MA and TSCF are dispatched through the Fire Alarm Office	

One of the recommendations from the 2004 ACS trauma system consultation visit was to improve communication and create redundancy to allow for continuous and uninterrupted conveyance of information. In 2009, SNHD participated in a study conducted by Fitch & Associates to examine the feasibility of creating a unified medical coordination base station to improve interoperability of communication and more effectively manage patient flow throughout the EMS and trauma system. The findings showed Clark County needs an integrated, centralized communication center; however the

[Clark County] Southern Nevada  
Trauma System Plan

existing political and economic environment would not allow the project to move forward. The trauma plan recommends continuing to work toward improving the coordination of the existing components of the current communication system.

Additional systems utilized in Southern Nevada that provide communication redundancy by sharing information during an emergency or disaster include the State's HAVBED and Health Alert Network systems, state and local web-based emergency operation center tools and local Emergency Notification Systems. The HAVBED system is monitored by the U.S. Department of Health and Human Services and FEMA Region IX Regional Emergency Operations Center. Nevada shares regional access to this system with our neighboring states of California, Arizona, Idaho, New Mexico, Oregon and Colorado.

Comment [B65]: Updated language throughout this section.

#### Trauma Centers

Patients whose injuries have the potential to be fatal or produce disability are preferentially transported by EMS to trauma centers based on NRS 450B.237, NAC 450B.770, SNHD Trauma Regulation 200.200 and SNHD EMS Trauma Field Triage Criteria Protocol. The three state designated and ACS-COT verified trauma centers in the Southern Nevada Trauma System are University Medical Center (Level I and Pediatric Level II), Sunrise Hospital and Medical Center (Level II) and St. Rose Dominican Hospital – Siena Campus (Level III).

A state designated trauma center must meet[s] the requirements [for staffing of all clinical services based on the State's standards] outlined in NAC 450B.819. The state by reference has adopted the ACS-COT standards [as the standard] for trauma centers [in the state]. [State] Compliance with the standards [are] is monitored internally by the hospital and externally by the DPBH and SNHD. Every three years, the hospital is required to undergo an ACS-COT verification survey. [(for state survey for a Level III) every three years.] [An additional step in this plan is to have] [a] additional monitoring occurs through a collaborative, peer review, regional performance improvement process [to be] regularly [scheduled and] conducted by the TMAC. During the [QH] TMAC meetings, trauma cases [will be] are reviewed for adequacy of care and for educational opportunities. For a summary of trauma center standards, reference the most recent publication of ACS-COT [Optimal Review Document, 1998, Chicago, IL ([www.facs.org/trauma/vaprogram.html](http://www.facs.org/trauma/vaprogram.html))] Resources for Optimal Care of the Injured Patient.

Comment [B66]: Updated language throughout this section.

#### Inclusive Trauma Program

The 2004 ACS-COT site visit report for Clark County recommended the development of an inclusive trauma [center] system. An inclusive and integrated trauma [center] system addresses the needs of all patients requiring emergency department treatment and/or hospitalization for injury and utilizes all qualified medical resources. The trauma system plan [should] promotes [integrate] incorporation of all facilities into an inclusive system or network of definitive care facilities to provide a spectrum of care for all injured patients. This integration could take the form of participation in special protocols, the trauma quality review process, data collection, and injury prevention programs. Inclusive hospital participation [will be] is voluntary and is strongly encouraged.

EMS agencies, non-trauma center hospitals, and trauma centers are all important components of an inclusive and integrated trauma system that is capable of matching the right patient, to the right resource, in the right amount of time to optimize their outcome.

Comment [B67]: Updated language based on new ACS-COT Resources for Optimal Care of the Injured Patient document.

Disaster Preparedness

For many years, the SNHD OEMSTS and Office of Public Health Preparedness (OPHP) have worked collaboratively with public and private stakeholders in the public safety, emergency management, health care, and emergency medical communities to address longstanding concerns regarding Southern Nevada's vulnerability to man-made or natural disasters capable of producing large numbers of casualties.

In 2006, Clark County was recognized as a "model community" by the CDC-sponsored Terrorism Injuries: Information, Dissemination, and Exchange (TIIDE) Project because public health and emergency care community leaders had demonstrated meaningful partnerships which created opportunities to work collaboratively, share resources, and accomplish the goals of improving the emergency response capabilities within our region.

The OEMSTS continues to work collaboratively with the OPHP staff, specifically the health care facility liaison and public health preparedness educators to identify resource and training needs within health care facilities in Clark County. The Southern Nevada Healthcare Preparedness Coalition (SNHPC), which includes broad representation from the hospital safety officers, emergency preparedness coordinators, Office of Emergency Management, OPHP, and the Nevada Hospital Association, is involved in coordinating preparedness activities in the community. Some of their recent activities include statewide standardization of codes for overhead emergency announcements in all hospitals and adoption of standardized memorandums of understanding for resource sharing in the event of a disaster. These collaborations have proven to be mutually beneficial as the members address issues related to the availability of personnel, equipment, supplies, and pharmaceuticals; medical surge and hospital evacuation capabilities, and mass fatality management. The exchange of information has strengthened relationships, improved communication, and assisted with developing a well-coordinated emergency response.

**Comment [B68]:** Added new language to address public health preparedness component of trauma system.

## CATCHMENT [ZONES] AREAS

### Overview

The initial catchment [zone] areas [drafts] were constructed using 2002 trauma registry data with input from the [trauma-center] hospitals and EMS providers. Catchment [zones] areas were proposed and adopted in 2005 for the [current] existing trauma center at UMC and the two new centers at Sunrise Hospital and Medical Center and St. Rose Dominican Hospital - Siena Campus. These trauma [zones] catchment areas will be continually reviewed and adjusted, as [appropriate] needed. This will consist of the review of the [existing trauma transports and other means, as needed] volume, acuity and distribution of trauma transports in the system. Analysis will be accomplished to ensure each center's viability. Input will be sought from the EMS community to decrease the likelihood of conflicts arising from EMS experiences of traffic and road conditions that would not be compatible with efficient patient delivery methods. The RTAB and [Medical Advisory Board] MAB will also have input in the process for determining appropriate catchment areas for each trauma center.

### Flexibility

EMS will exercise discretion in transporting [for] cases that lie adjacent to catchment boundaries. It is important to remember that these catchment [zones] areas are guidelines based on geographical boundaries intended to provide UMC, Sunrise Hospital and Medical Center, and St. Rose Dominican Hospital - Siena Campus with the necessary volumes to remain financially viable while providing excellent patient care. If the initial catchment [zones] areas [are proving] prove to be [prohibitive of] problematic in achieving this goal, they can be modified pursuant to SNHD protocols. [In the early stages of the trauma system, it will be especially important to closely monitor trauma volume and transports.]]

### Trauma Bypass

The trauma system is designed to ensure that trauma centers rarely go on bypass and when they do, only for [serious] significant issues that affect patient care. Designated trauma centers have a commitment to meet the challenges of patient volume as long as there are no serious problems that endanger patient safety. However, in the event of a catastrophic event that saturates one trauma center, a trauma bypass plan will go into effect that will allow trauma patients to be transported to the other trauma center(s). A similar system will be developed for physical disasters (e.g. fire, power failure, flooding, etc.). Although extremely rare, if a trauma center does go on bypass, this plan will backup the trauma system. In the event of complete system overload by mass casualties, all trauma centers and non-trauma hospitals will function under the [appropriated-disaster] trauma bypass plan guidelines. [Details of this plan are found in] (Appendix [D] G)

The [Clark County] Southern Nevada Trauma System will strive to establish a [base-hospital-center] unified medical coordination base station in the future to assist in the load leveling of the system based on matching capacity with patient acuity to ensure [an] optimum patient distribution and outcomes.

Comment [ME69]: Housekeeping changes throughout this section

## **IMPLEMENTATION SCHEDULE**

### **Overview**

~~The Clark County Trauma System is a new functionality that is expected to be an entity of CCHD. Leadership provided by CCHD and the many trauma system stakeholders are defined in this plan. The plan is designed to act as a structure to monitor all of the influencing factors on the program operations and make adjustments to meet current and future trauma system needs.~~

~~The following implementation steps are expected:~~

### ***Accomplished***

- ~~• Appointment of CCHD as the lead agency~~
- ~~• A commitment of the three trauma centers and CCHD to permit monitoring and support services and to support establishing a funding vehicle for the lead agency~~
- ~~• Significant initial monitoring of the catchment zones, triage and hospital services~~

### ***Ongoing***

- ~~• Monthly review of trauma catchment zones by CCHD~~
- ~~• Monthly review of trauma center performance by a formalized performance improvement process to begin in late 2005~~

### ***January 2005***

- ~~• Orientation of EMS field personnel to new catchment zones~~
- ~~• Implement close monitoring of trauma center configuration, zones and functionality~~
- ~~• RTAB established in EMS Regulation~~

### ***February 2005***

- ~~• Implementation of Sunrise Hospital and Medical Center catchment zones~~
- ~~• First preliminary RTAB meeting held~~
- ~~• RTAB nominations sought for non-permanent seats~~

### ***March 2005***

- ~~• First review of trauma transport data~~

### ***April 2005***

- ~~• Continued review of trauma transport data~~

### ***July 2005***

- ~~• First official meeting of the permanent RTAB~~
- ~~• Begin Base Hospital Assessment Process~~
- ~~• Trauma registry data coordination at the lead agency initiated~~

### ***August 2005***

- ~~• Implementation of St. Rose Dominican Hospital—Siena Campus catchment zones~~

[Clark County] Southern Nevada  
Trauma System Plan

*Immediate Future Needs*

- ~~Complete and submit Clark County Trauma System Plan to Board of Health~~
- ~~Initial trauma system effectiveness assessed~~
- ~~Initiate first case review through the TMAC~~

**Comment [ME70]:** Workgroup recommended incorporating pertinent events into the "Summary of Key Events" section.

## **POLICY DEVELOPMENT**

The [Clark County] Southern Nevada [t]Trauma [s]System [p]Plan and supporting [policies] documents provide a clear understanding of the structure of the trauma system and the manner in which resources are utilized.

Policies are developed with provider input and implemented on a systemwide basis once approved by [Clark County] Southern Nevada Health District.

The following is a list of the available [policies] regulations, plans, protocols and procedures to support [the] trauma system operations:

~~[(Copies of the policies are contained in Appendix D; Committee descriptions are contained in Appendix B;)]~~

- I. [CCHD] SNHD [EMS] Emergency Medical Services Regulations [1700: Regional Trauma Advisory Board (RTAB)] (Appendix D)
- II. SNHD Trauma System Regulations (Appendix D)
- III. [Trauma Field Triage Criteria Protocol / Catchment Zone] Clark County EMS System Emergency Medical Care Protocols (Appendix D)
- IV. SNHD Trauma Performance Improvement Plan (Appendix D)
- V. Bylaws for Regional Trauma Advisory Board and related subcommittees (Appendix B)
- VI. District Procedure for Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma (Appendix E)
- VII. District Procedure for Renewal of Authorization as a Center for the Treatment of Trauma or Pediatric Center for the Treatment of Trauma (Appendix F)
- VIII. Trauma Bypass Plan
- IX. District Procedure for Trauma Bypass/Internal Disaster (Appendix G)

Unless otherwise noted, these documents can be found in Appendix D.

[Additionally, recommend the development of the following policies by the RTAB:

- I. Trauma Medical Audit Committee (TMAC)
- II. Trauma Care Coordination with Neighboring Jurisdictions
- III. Trauma Center Designation Fees
- IV. Trauma Center Agreements
- V. Interfacility Transfer of the Trauma Patient
- VI. Triage to Appropriate Facility

The following policies are intended to provide the trauma system with guidance related to issues not covered elsewhere in the plan or related documents.

### **I. TRAUMA CARE COORDINATION WITH NEIGHBORING JURISDICTIONS**

#### **A) [Service] EMS Providers**

[CCHD] SNHD EMS regulated agencies [has] have [an] established mutual aid [plan] agreements with adjacent counties in conjunction with the delivery of ALS services for trauma patients. Each EMS agency practices under the protocols promulgated by their EMS authority and medical director.

#### **B) Trauma Care Coordination Oversight**

**Comment [B71]:** References to the appropriate appendix with links added as recommended at the TPPRC meeting on 1-8-15.

**Comment [ME72]:** Updates and housekeeping changes throughout this section.

The TMAC has accepted responsibility to evaluate appropriate care for trauma patients for Southern Nevada trauma centers for the neighboring counties including:

- Lincoln (NV)
- Nye (NV)
- Mohave (AZ)
- San Bernardino (CA)

This activity will include providing feedback to transporting agencies and strongly encouraging a collaborative exchange of information to promote trauma system performance improvement.

**Comment [B73]:** Clarifying language recommended by workgroup.

## II. TRAUMA CENTER FEES

~~[An annual fee]~~ Fees, ~~[(to be determined)]~~ as approved by the District Board of Health, will be charged per designated trauma center to support the activities of the system trauma program, including quality performance, trauma registry management, and trauma program personnel. ~~[Voluntary participation of non-trauma centers will be proposed when more details of the "inclusive" system are identified.]~~ SNHD will evaluate the OEMSTS budget on at least an annual basis and seek all available funding sources to support the system.

**Comment [B74]:** Added clarifying language regarding other funding sources.

## III. TRAUMA CENTER AGREEMENTS

~~[A trauma center agreement will be executed between all designated trauma centers and [Clark County] Southern Nevada Health District and be actively maintained on a continuous basis to [identify] ensure compliance with the roles and responsibilities [for] of the Health District and designated trauma centers as outlined in the SNHD Trauma Regulations. [to assure a funding vehicle for system oversight.]~~

The agreement requires commitment, personnel, and resources necessary to provide optimum medical care of the trauma patient. The agreement requires compliance with all trauma related policies and procedures. The agreement requires the trauma center to comply with the identified trauma center standards in the ~~[Trauma Center EMS-A]~~ agreement and the trauma plan for their specified level of trauma center designation.

**Comment [B75]:** Added clarifying language regarding expectations.

## IV. INTERFACILITY TRANSFER OF THE TRAUMA PATIENT

### A) Transfer Criteria

Trauma patients who are transported to a non-trauma center hospital, or to a level III trauma center without the necessary resources to handle the injury, must be transferred to a trauma center specifically dedicated to a higher level of trauma care. The following patients are to be considered for early transfer to a higher-level trauma center after basic evaluation and emergency stabilization.

- Major Head /Neck Injury or Spinal Cord Injury  
(Penetrating or depressed skull fractures, GCS deterioration)
- Major Chest Injuries  
(Penetrating injury, wide mediastinum, cardiac injury, protracted ventilation)
- Pelvic Injuries  
(Ring disruption or instability, open pelvic injury, penetrating injuries)
- Multiple system injuries

- B) Criteria for consideration of transfer from Level III trauma centers to Level I or II trauma centers will be adopted by reference from Chapter 4 of the ACS-COT Resources for Optimal Care of the Injured Patient.

Comment [ME76]: Workgroup recommended this language be added.

- C) Physician to Physician Communication

Referring physicians are responsible to make direct contact with the receiving physician. The accepting trauma surgeon should review the current physiologic status of the injured patient and discuss the initial management and the optimal timing of transfer. Trauma centers shall maintain a "toll-free" telephone number that can be used to facilitate rapid access to an on-site physician for consultation with community physicians and other providers regarding care of major trauma victims and coordination of interfacility transfers.

Comment [B77]: Added clarifying language as recommended by workgroup members.

- D) Patient Care

The patient's condition should be stabilized before transfer, within the capabilities of the institution, and without unnecessary delay. An appropriate mode of transport to provide the level of care required should be selected by the referring physician. All required COBRA/EMTALA records should be completed with copies provided to the receiving facility.

The receiving physician should assure that their facility is able to accept the patient and is in agreement with the intent to transfer.

- E) The interfacility transfer of trauma patients should be monitored and evaluated by the TMAC.

Comment [ME78]: Workgroup recommended this language be added.

## V. TRAUMA BYPASS PLAN

Should a trauma center be severely compromised, in terms of capacity and capability, such that it cannot function safely as a trauma center it should declare Trauma ~~[Overload]~~ Bypass (TBP).

1. Typical conditions resulting in ~~[TQ]~~ TBP include, but are not limited to:
  - a. Arrival of greater than four ~~[CLASS-I]~~ critical trauma cases in one hour
  - b. Three or more "crash" trauma cases going to the operating room within 30 minutes
  - c. Major mechanical breakdowns (e.g. all CTs including backups are down)
  - d. Major infrastructure emergency (e.g. flooding of the OR, ED, etc)

*Note: These conditions do not require a trauma center to declare TBP if patient safety is not compromised.*

2. Upon declaring a ~~[TQ]~~ TBP, the hospital shall:
  - a. Notify all dispatch agencies (~~[e.g.]~~ i.e. FAO, Boulder City, Henderson, Mesquite, AMR, Community Ambulance, and MedicWest)
  - b. Notify the other ~~[two]~~ trauma centers directly and assess capacity at other facilities.
  - c. Input status change within EM~~[System]~~ Resource
  - d. Notify ~~[CCHD]~~ SNHD when practical
3. Upon the process of a hospital declaring a ~~[TQ]~~ TBP, EMS ~~[P]~~ personnel with trauma transports from that catchment ~~[zone]~~ area shall contact that hospital for destination and patient care directions.
4. It is assumed that a ~~[TQ]~~ TBP for trauma will last no more than four hours and the hospital will automatically come off ~~[TQ]~~ TBP at that time unless there are extenuating circumstances.

5. The hospital shall follow the [TØ] TBP reporting and review process as listed [below] in the Trauma Bypass/Internal Disaster Review Procedure.
6. Frequent [TØs] TBPs shall be evaluated by the RTAB for trending and rectification purposes.
7. A unified medical coordination [B]base [S]station could prospectively affect system flow to avoid [TØ] TBP conditions.

**Comment [ME79]:** Housekeeping changes in this section.

## DATA COLLECTION

*"The ideal trauma care system has an information system which provides for the timely collection of data from all providers in the form of consistent data sets with minimum standards. The information system should be designed to provide system-wide data that allow and facilitate evaluation of the structure, process, and outcomes of the entire system, all phases of care, and their interactions. An important use of this information is to develop, implement, and influence public policy."*

- American College of Surgeons, Clark County Trauma System Consultation, May 2004

### Data Sources

1. Trauma Field Triage Criteria (TFTC) Data: The EMS providers, for each run resulting in patient transport, provide prehospital [P]patient [C]care [R]records (PCR) to [emergency departments] ED and trauma centers. The majority of permitted EMS agencies [are moving toward adopting] use electronic patient care reporting. The reporting process [will] provides valuable information to [CCHD] SNHD for trauma system data analysis efforts. These data elements should be relevant, functional and at minimum include:

- Date of Arrival
- Time of Arrival
- Incident Location
- Specific Trauma Field Triage criterion used to determine transport destination
- Receiving Hospital
- Patient Disposition (Admitted, Discharged, Immediate OR, ICU, Deceased from the trauma centers)

Additionally, the trauma system plan should seek to add a Trauma Field Triage Criteria tracking mechanism to all electronic patient care reports from EMS.

2. ~~[Additional patient care data is collected by the trauma program staff at each facility. The completed trauma registry reports are submitted to the State by the trauma centers. The reports include every injured patient for whom a trauma team was activated and every patient admitted to a trauma center as a major trauma patient.]~~ Nevada Trauma Registry: NRS 450B.238 and NAC 4540B.768 require each hospital to record, maintain, and submit to the DPBH information concerning the treatment of trauma in the hospital. The purpose of the Nevada Trauma Registry is to collect, analyze, and report on data related to the treatment of blunt and penetrating injuries within trauma systems statewide. Trauma patients are defined using inclusion criteria written by the ACS-COT. The data collected include details about injury incidents, patient demographics, prehospital care, diagnoses, treatments, patient outcomes, and costs associated with trauma care. Using a standardized set of data elements allows individual health care facilities to assess their internal operations and provides opportunities for comparative analysis and benchmarking of performance within the system, across the region, or the nation.

3. National Trauma Data Bank: Data must be collected in compliance with the National Trauma Data Standard (NTDS) and submitted to the National Trauma Data Bank (NTDB) annually so that it can be aggregated and analyzed at the national level. At a minimum, trauma centers and the state registry should collect the NTDS data set. Trauma centers in the Southern Nevada Trauma System will be required to collect and transmit data to the ACS-COT as part of the NTDB/Trauma Quality Improvement Program.

4. Medical Examiner Data: Medical examiner reports are included as part of the review of all trauma deaths in Clark County. Autopsy reports provide the detail of injury information required to determine the AIS Score and subsequent ISS Score, used in the analysis of preventable deaths.

Comment [p80]: Housekeeping changes.

Comment [ME81]: Description of trauma registry expanded to emphasize importance of this data source.

Comment [ME82]: Added information related to the NTDB from the new ACS-COT Resources for Optimal Care of the Injured Patient document as recommended by workgroup.

Comment [ME83]: Housekeeping

*The primary data source will be the aggregation of the trauma registry. Other sources for data will include death certificates or information obtained from [UB-92] hospital discharge data.*

Comment [ME84]: Housekeeping

~~[The more inclusive list of data elements to be collected and summarized for quality assurance review is included in the next section.]~~

Comment [ME85]: Deleted unnecessary language.

#### Reporting

Trauma centers will submit their TFTC data electronically to [CCHD] SNHD every month. [The] A [C]entral [Trauma Registry is to] repository of trauma data will be maintained at [CCHD] SNHD on all trauma patients that have been transported to the [three] designated trauma centers. [During the first rollout, each trauma center will maintain daily contact with CCHD to ensure that volume assumptions are being met.] To enhance local data collection efforts, the OEMSTS may require trauma centers to submit quarterly state trauma registry reports to the OEMSTS in addition to the DPBH.

Comment [ME86]: Housekeeping changes and new language recommended by workgroup.

## TRAUMA SYSTEM PERFORMANCE IMPROVEMENT AND PATIENT SAFETY

### [Overview]

Trauma system [and trauma center] performance improvement *activities* are critical features for assuring optimal system operations and patient outcomes. The level and extent of a trauma system's performance improvement process is dependent on the expectations of the system, the individual trauma centers and the public that they serve. [It is clear that in the Clark County] In the Southern Nevada Trauma System, expectations for quality monitoring, evaluating, and improving trauma care are very high. In evaluating the trauma system's performance improvement program [in Clark County], it is important to distinguish between patient care issues and system performance issues. [The former tends to orient to patient care events and the latter to the performance and viability of the trauma system.] Contemporary trauma systems should include system performance improvement initiatives that evaluate system operations, changing trauma epidemiology, market conditions and trends.

Comment [B87]: Housekeeping changes in this section.

~~[Currently, there is no system-wide performance improvement process that is able to evaluate all aspects of the trauma system. University Medical Center is reevaluated every three years by the American College of Surgeons to comply with Level I trauma center standards. Following their initial designation by ACS, Sunrise Hospital and Medical Center and St. Rose Dominican Hospital - Siena Campus will also be periodically reevaluated as defined in NAC 450B.826. All trauma centers must have a trauma performance improvement committee that meets at regularly scheduled intervals to discuss various trauma care-related issues. The CCHD EMS Office, in collaboration with the medical directors and QI directors at each permitted EMS agency, oversee performance improvement on the EMS side of the trauma system.]~~

~~A major component of this trauma plan will be to establish a more complete and system-wide performance improvement process that can accommodate additional trauma centers. Peer review protections added by the legislature in the 2005 legislative year have been extended to the Clark County Health District to allow a system-wide review of all trauma care.~~

~~Quality review of the acute care portion of trauma care is an extremely high priority for trauma centers and the system as a whole and will be conducted both internally at each trauma center and system-wide. System-wide quality review will be conducted by a Trauma Medical Audit Committee (TMAC). The TMAC will be the county-wide committee used to review actual clinical cases to determine potential for performance improvement utilizing performance indicators and nationally recognized benchmarks. A Trauma Screening Committee (Pre-TMAC) will be established to determine which cases are forwarded to TMAC for review.~~

### TMAC Process

~~At each trauma center, cases will be regularly reviewed at the source hospital's trauma Mortality and Morbidity (M&M) committee. While each trauma center will have a slightly different process for internal review, there will be consistency among the trauma centers at determining how cases enter the TMAC process. They all will conduct their individual reviews, conduct the preparatory work (Pre-TMAC) and then participate in the TMAC meeting. This entire process, to be known as the "TMAC Process", uses rigidly defined processes such that the level of review is consistent. Cases are initially reviewed at the trauma center level (including review by each center's trauma medical director) and then forwarded through an internal Pre-TMAC process for consideration for TMAC review. Deaths are identified following review by the Medical Examiner. The autopsies and other medical examiner reports of all trauma-related deaths for all hospitals are sent to TMAC participants for review. Cases meeting specific review criteria to be developed by TMAC are then forwarded to the TMAC. Additionally, the Clark County EMS Agency Regional Trauma Coordinator or an EMS specialist will review scene deaths and~~

~~also forward cases that meet criteria set by TMAC. Additional input will be sought from the rehabilitation community.~~

~~The TMAC meeting is tentatively scheduled to meet quarterly, lasting from 60–90 minutes. System policies and administrative matters will also be addressed by the TMAC. In addition, audits of each trauma center will be conducted bi-annually by the Clark County EMS Office and every three years through the American College of Surgeons Trauma Center verification process.~~

~~All cases under review by TMAC will be fully blinded as to name, address, and date of injury such that they will be rendered completely unidentifiable. All members of TMAC will be required to sign confidentiality and nondisclosure statements. All records will remain under the control of the parent hospital (hospital of patient admission) and no notes, copies of records and/or other materials will be removed from the TMAC meetings by non-parent hospitals.~~

~~The goal of the TMAC will be to assure consistent quality of care at the trauma centers and knowledge sharing between the representatives of each trauma center. Following TMAC discussion, cases will be brought back to quality review sessions at the individual trauma centers.~~

~~Further performance improvement plan detail is provided in Appendix E.~~

**Comment [ME88]:** This section was deleted with the addition of updated language and the creation of the SNHD Trauma PI Plan.

The mission of the SNHD Trauma Performance Improvement and Patient Safety Program is to protect the public by assuring optimal trauma system operation and high quality trauma care resulting in the best possible patient outcomes. The Trauma Performance Improvement [p] Plan provides a framework that establishes objective mechanisms to determine whether medical care rendered to patients requiring the resources of the trauma system is safe, appropriate, and meets acceptable local and national standards. A continuous, comprehensive, multi-disciplinary, evidence-based, performance improvement process promotes monitoring and evaluation of the trauma system; identification of opportunities for improvement; and development of corrective strategies. It is an essential component of the trauma system. (Appendix D)

Trauma System Regulation 200.100 requires the OEMSTS to develop a trauma performance improvement plan to provide continuous assessment of the structure, function, and effectiveness of the system. The plan must include the adoption and implementation of a standardized system to collect and manage data, specific to trauma system evaluation and planning, from permitted EMS agencies, trauma centers, hospitals, and other health care organizations. All EMS agencies, trauma centers, and hospitals that receive trauma patients are required to provide data when requested.

The Southern Nevada Trauma System Plan directs that trauma system performance improvement is a high priority and should promote public safety and quality patient outcomes through accountable and objective performance improvement activities. The trauma system performance improvement process consists of three major elements: 1) the internal process within each trauma center; 2) the external process which includes periodic audits of each trauma center by the DPBH and/or SNHD; scheduled independent evaluations of trauma care and the trauma system by trauma care experts from the ACS-COT; and system review and analysis by the TMAC, including confidential evaluation of the quality and efficiency of actual medical services when the TMAC functions as a peer review committee; and 3) ongoing data collection, monitoring, and analysis of trauma data at the local, state, and national level to identify trends, gaps, and needs.

The SNHD, as the lead regulatory agency in Clark County, plays a central role in the acquisition and analysis of trauma system data. In addition, the RTAB and TMAC share responsibility for interpreting the data to evaluate the efficiency and effectiveness of the trauma system and for determining progress in meeting identified performance goals and benchmarks.

**Comment [B89]:** New language more clearly describes the SNHD Performance Improvement Program.

[Appendix A]

[SECTION 1700  
~~REGIONAL TRAUMA ADVISORY BOARD~~]

**Comment [ME90]:** This section was from the previous EMS Regulations. There are now separate Trauma System Regulations. The appropriate section is included in Appendix A.

~~1700.000 REGIONAL TRAUMA ADVISORY BOARD.~~

- ~~I. The primary mission of the Clark County Health District Regional Trauma Advisory Board is to support the Health Officer's role to ensure a quality system of Patient care for the victims of trauma within Clark County and surrounding areas by making recommendations and assisting in the ongoing design, operation, evaluation and revision of the system from initial Patient access to definitive Patient care.~~
- ~~II. The Regional Trauma Advisory Board shall consist of members appointed by the Health Officer.~~
  - ~~A. Standing members of the Regional Trauma Advisory Board shall be:~~
    - ~~1. One (1) trauma Physician from each facility providing trauma services;~~
    - ~~2. One (1) administrator from each facility providing trauma services;~~
    - ~~3. The chairman of the Medical Advisory Board; and~~
  - ~~B. Upon request of the Health Officer, organizations and associations that have an interest in the care of the victims of trauma shall submit to the Health Officer written nominations for appointment to the Regional Trauma Advisory Board.~~
  - ~~C. After considering the nominations submitted pursuant to paragraph B, the Health Officer shall appoint to the Regional Trauma Advisory Board:~~
    - ~~1. One (1) administrator from a non-trauma hospital;~~
    - ~~2. One (1) person representing the public providers of Advanced Emergency Care;~~
    - ~~3. One (1) person representing the private franchised providers of Advanced Emergency Care;~~
    - ~~4. One (1) person representing health education and prevention services;~~
    - ~~5. One (1) person representing the payors of medical benefits for the victims of trauma; and~~
    - ~~6. One (1) person representing the general public.~~
  - ~~D. In addition to the members set forth in paragraphs A. and C., an employee of the Health District whose duties relate to the administration and enforcement of these Regulations will be an ex officio member of the Regional Trauma Advisory Board.~~
- ~~III. Each standing member may designate an alternate member to serve in their place should they be temporarily unable to perform the required duties of this section. The Health Officer will designate or approve the alternates for the other members of the board.~~

- ~~IV. Appointed members of the Regional Trauma Advisory Board shall serve one (1) year terms, from July 1 through June 30 of the following year. The Health Officer may appoint Persons to fill the unexpired portion of the terms of vacant positions on the Regional Trauma Advisory Board in the manner prescribed in this section. The members shall elect their chairman from amongst the body.~~
- ~~V. Voting shall be done by roll call vote. The chairman of the Regional Trauma Advisory Board may vote on all issues before the body. Issues shall be passed by a simple majority.~~
- ~~VI. Members of the Regional Trauma Advisory Board may establish subcommittees to study specific matters falling within the area of responsibility of the Regional Trauma Advisory Board.~~
- ~~VII. The Regional Trauma Advisory Board shall:
  - ~~A. Review and advise the Health Officer regarding the management and performance of trauma services in this county;~~
  - ~~B. Advise the Health Officer on matters of policy relating to trauma care;~~
  - ~~C. Advise the Board and the Health Officer with respect to the preparation and adoption of regulations regarding trauma care; and~~
  - ~~D. Evaluate the effectiveness of the trauma system based on statistical analysis of critical Patient outcomes.~~~~
- ~~VIII. The Regional Trauma Advisory Board shall meet monthly unless the chairman shall determine that more or less frequent meetings are necessary.~~
- ~~IX. Members of the Regional Trauma Advisory Board shall serve without pay.~~
- ~~X. Nothing contained herein shall be construed as making any action or recommendation of the Regional Trauma Advisory Board binding upon the Health Officer or the Board.]~~

Appendix A

**SECTION 400**  
**REGIONAL TRAUMA ADVISORY BOARD**

**Comment [b91]:** This section is from the most recent Trauma System Regulations.

**400.000 REGIONAL TRAUMA ADVISORY BOARD.**

- I. The primary mission of the Southern Nevada Health District Regional Trauma Advisory Board (RTAB) is to support the Health Officer's role to ensure a high quality system of Patient care for the victims of trauma within Clark County and surrounding areas by making recommendations and assisting in the ongoing design, operation, evaluation and revision of the system from initial Patient access to definitive Patient care.
- II. The RTAB shall consist of members appointed by the Health Officer.
  - A. Standing members of the RTAB shall be:
    1. One (1) trauma medical director from each designated trauma center;
    2. One (1) trauma program manager from each designated trauma center;
    3. The chairman of the Medical Advisory Board; and
  - B. Upon request of the Health Officer, organizations and associations that have an interest in the care of the victims of trauma shall submit to the Health Officer written nominations for appointment to the RTAB.
  - C. After considering the nominations submitted pursuant to paragraph B, the Health Officer shall appoint to the RTAB:
    1. One (1) administrator from a non-trauma center hospital system;
    2. One (1) person representing the public providers of advanced emergency care;
    3. One (1) person representing the private franchised providers of advanced emergency care;
    4. One (1) person representing health education and prevention services;
    5. One (1) person representing the payers of medical benefits for the victims of trauma;
    6. One (1) person representing the general public;
    7. One (1) person representing rehabilitation services;
    8. One (1) person with knowledge of legislative issues/advocacy;
    9. One (1) person involved in public relations/media; and
    10. One (1) person with knowledge of system financing/funding
  - D. In addition to the members set forth in paragraphs A. and C., an employee of the Health District whose duties relate to the administration and enforcement of these Regulations will be an ex officio member of the RTAB.

- III. Each standing member may designate an alternate member to serve in his/her place should he/she be temporarily unable to perform the required duties of this section. The Health Officer will designate or approve the alternates for the other members of the Board.
- IV. Appointed members of the RTAB shall serve two (2) year terms, from July 1 through June 30 of the second year. The Health Officer may appoint persons to fill the unexpired portion of the terms of vacant positions on the RTAB in the manner prescribed in this section. The members shall elect their chairman from amongst the body.
- V. Voting shall be done by roll call vote. The chairman of the RTAB may vote on all issues before the body. Issues shall be passed by a simple majority.
- VI. Members of the RTAB may establish subcommittees to study specific matters falling within the area of responsibility of the RTAB.
- VII. The RTAB shall:
- A. Review and advise the Health Officer regarding the management and performance of trauma services in this county;
  - B. Advise the Health Officer on matters of policy relating to trauma care;
  - C. Advise the Board and the Health Officer with respect to the preparation and adoption of regulations regarding trauma care;
  - D. Evaluate the effectiveness of the trauma system based on statistical analysis of EMS/trauma data collected; and
  - E. Establish a trauma peer review committee to review, monitor, and evaluate trauma system performance and make recommendations for system improvements. When functioning as a peer review committee, the committee derives its authority and privilege from NRS 49.117 through NRS 49.123 and NRS 49.265;
- VIII. The RTAB shall meet on a quarterly basis unless the chairman determines that more or less frequent meetings are necessary.
- IX. Members of the RTAB shall serve without pay.
- X. The RTAB members shall disclose any direct or indirect interest in or relationship with any individual or organization that proposes to enter into any transaction with the Board (NRS 281A.420).
- XI. Nothing contained herein shall be construed as making any action or recommendation of the RTAB binding upon the Health Officer or the Board.

**Comment [ME92]:** Language added based on legal counsel's recommendation.

## Appendix B

### Southern Nevada Trauma System Committee Descriptions

**Regional Trauma Advisory Board (RTAB):** ~~[The purpose of RTAB is to periodically review and revise the Clark County Trauma Plan. RTAB, assisted by the CCHD staff, convenes as needed to assure that the overall trauma system is reviewed on an ongoing basis.]~~ The RTAB is an advisory board with the primary purpose of supporting the Health Officer's role to ensure a high quality system of patient care for the victims of trauma within Clark County and the surrounding areas by making recommendations and assisting in the ongoing design, operation, evaluation, and revision of the system from initial patient access to definitive patient care. The membership of RTAB is multidisciplinary in nature to assure that all stakeholders are afforded the opportunity for input.

**Trauma Medical Audit Committee (TMAC):** ~~[The TMAC is charged with the responsibility of providing recommendations for performance improvement of the trauma system. As trauma registry data becomes available from all county hospitals, the Trauma Screening Committee will review all patients county-wide, which meet the minimum trauma medical audit criteria. The TMAC discusses the appropriateness of medical care rendered to trauma victims and makes recommendations either to the provider organization or the EMS Agency (as appropriate) for improved trauma care or system improvements. The TMAC serves in an advisory capacity to CCHD-EMS on other trauma care systems issues and may appoint subcommittees, either standing or ad hoc, as needed to fulfill its functions.]~~ The TMAC is a multidisciplinary medical review committee of the District Board of Health that will meet regularly, including as a peer review committee, to review and evaluate trauma care in the system, monitor trends in system performance, and make recommendations for system improvements.

~~[Trauma Screening Committee]~~ **Pre-Trauma Medical Audit Committee (Pre-TMAC):** ~~[The Trauma Screening Committee is composed of the Trauma Director and Trauma Coordinator from each of the trauma centers, a TMAC Chairperson, along with the EMS Agency Medical Director. The committee meets six (6) times a year, prior to TMAC meetings, to facilitate the review of cases presented at the TMAC.]~~ The Pre-TMAC review team is a multidisciplinary subcommittee of the TMAC that is responsible for the initial screening of cases for referral to the TMAC. The Pre-TMAC shall meet no less than quarterly, [on the third Wednesday of the month] preceding the TMAC meeting, at times arranged by the members of the Pre-TMAC and the OEMSTS

**Comment [ME93]:** It was recommended not to limit the committee to a certain day of the month for meetings.

**Trauma Registry Users Group (TRUG):** The TRUG is composed of the trauma [coordinators] program managers and trauma registrars within the community and the [EMS agency] OEMSTS staff. The TRUG will meet[s monthly and] at least annually or more frequently as necessary to plan, implement, and monitor the trauma registry.

**Ad-Hoc Committees:** Ad Hoc Committees, assisted by [CCHD] OEMSTS staff, are time-limited committees with specific functions designed to assist the [Trauma Medical Audit Committee] RTAB achieve its overall objectives.

**Southern Nevada Injury Prevention Partnership (SNIPP):** The Southern Nevada Injury Prevention Partnership (SNIPP) was established under the authority of the RTAB to:

1. advise and assist the RTAB in the structure and development of the injury prevention component of the Southern Nevada Trauma System Plan;
2. assure the provision and/or initiation of a full spectrum of injury prevention efforts in Southern Nevada with emphasis on those that directly impact the Trauma System (i.e. motor vehicle related injuries);
3. develop a quantitative community health and injury assessment in order to provide evidence based and specific injury prevention program recommendations specific to Southern Nevada;
4. facilitate and promote collaboration and coordination of available resources to meet identified needs;

[Clark County] Southern Nevada  
Trauma System Plan

5. facilitate and promote coordination and collaboration to evaluate program outcome data to modify existing programs and create new programs to meet identified needs;
6. promote heightened awareness of injury prevention issues and concerns to the community and recognition of injury prevention as a legitimate public and governmental service.

Trauma Procedure/Protocol Review Committee: The purpose of the Trauma Procedure/Protocol Committee would be to assist the Southern Nevada Health District's Office of Emergency Medical Services and Trauma System, the Regional Trauma Advisory Board, and the Trauma Medical Audit Committee in reviewing, researching, editing and/or developing new and existing procedures and/or protocols.

Trauma Rehabilitation Committee: The purpose of the Trauma Rehabilitation Committee would be to collect and review trauma rehabilitation data and documentation to conduct outcomes assessment and performance improvement activities.

Trauma Research Committee: The purpose of the Trauma Research Committee would be to identify research priorities, develop policies and procedures to facilitate trauma data-sharing, identify potential funding sources, and create opportunities for research collaboration.

Trauma System Advocacy Committee: The purpose of the Trauma Advocacy Committee would be to promote trauma system development by advocating for sustainable financial, legislative, and public support for the trauma system serving the residents and visitors of Southern Nevada.

The RTAB and committee bylaws are on file in the OEMSTS.

**Comment [ME94]:** Existing language revised and new language added to reflect the current RTAB/TMAC committee structure.

## [APPENDIX C]

### [Trauma Field Triage Criteria / Catchment Zone]

A licensee providing emergency medical care to a patient at the scene of an injury shall use the following procedures to identify and care for patients with traumas:

**Comment [ME95]:** The language has been updated in the most recent EMS Trauma Field Triage Criteria Protocol.

1. ~~Step 1: If the patient's:~~

- ~~(a) Score on the Glasgow Coma Scale or, if the patient is a pediatric patient, his score on the modified Glasgow Coma Scale is not more than 13;~~
- ~~(b) Systolic blood pressure is less than 90;~~
- ~~(c) Respiratory rate is less than 10 or greater than 29; or~~
- ~~(d) Revised trauma score is less than 11;~~

~~The patient MUST be transported to a center for the treatment of trauma. If the patient is not required to be transported, the licensee providing emergency medical care shall assess the patient's condition based upon the degree of injury to the anatomy and the mode of injury.~~

2. ~~Step 2: If the patient:~~

- ~~(a) Has a penetrating injury to the head, neck, torso or the extremities proximal to the elbow or knee;~~
- ~~(b) Has at least two proximal long bone fractures;~~
- ~~(c) Has a fracture of the pelvis;~~
- ~~(d) Has a combination of trauma with burns;~~
- ~~(e) Has a flail chest;~~
- ~~(f) Has an amputation proximal to the wrist or ankle;~~
- ~~(g) Has acute paralysis;~~
- ~~(h) Has an open and depressed fracture of the skull; or~~
- ~~(i) Has major burns;~~

~~The patient MUST be transported to a center for the treatment of trauma. If the patient is not required to be transported, the licensee providing emergency medical care shall evaluate the patient to determine the method of injury and the existence of any high-energy impact.~~

3. ~~Step 3: If the patient has experienced a high-impact blow to the body which may include:~~

- ~~(a) A fall of at least 20 feet;~~
- ~~(b) A motor vehicle accident in which:~~
  - ~~(1) The motor vehicle was traveling at a speed of at least 40 miles per hour immediately before the accident occurred;~~
  - ~~(2) There was at least 20 inches of severe damage to the body of the motor vehicle;~~
  - ~~(3) There was a 12-inch intrusion into the passenger's compartment;~~
  - ~~(4) The patient was ejected from the motor vehicle;~~
  - ~~(5) The period required to extricate the patient from the motor vehicle was more than 20 minutes;~~
  - ~~(6) The motor vehicle rolled over;~~
  - ~~(7) A person riding in the motor vehicle with the patient died as a result of the accident;~~
  - ~~(8) The patient was riding on a motorcycle that was traveling at a speed of at least 20 miles per hour when the accident occurred; or~~
  - ~~(9) The patient was thrown from a motorcycle driven by him;~~
- ~~(c) As a pedestrian, being run over by a vehicle or thrown any distance by the impact of a vehicle, regardless of the rate of speed of the vehicle; or~~
- ~~(d) Being struck as a pedestrian or bicyclist by a vehicle traveling at a speed of at least 6 miles per hour;~~

~~the patient MUST be transported to a center for the treatment of trauma. For patients who are injured outside a 50-mile radius from a trauma center, the licensee providing emergency medical care shall call and consider transport to the nearest receiving facility.~~

[Clark County] Southern Nevada  
Trauma System Plan

~~4. Step 4: If the patient is less than 5 years of age or more than 55 years of age or is known to:~~

- ~~(a) Have a cardiac or respiratory disease;~~
- ~~(b) Have insulin-dependent diabetes;~~
- ~~(c) Have cirrhosis;~~
- ~~(d) Be morbidly obese;~~
- ~~(e) Be pregnant;~~
- ~~(f) Have a suppressed immune system;~~
- ~~(g) Have a bleeding disorder; or~~
- ~~(h) Be taking any anticoagulant;~~

~~The licensee providing emergency medical care shall communicate with a physician at a center for the treatment of trauma to determine the need to transport the patient to that center.~~

~~The person licensed to provide emergency medical care at the scene of an injury shall transport a patient to a designated center for the treatment of trauma based on the following guidelines:~~

~~Sunrise Hospital and Medical Center Catchment Area~~

- ~~1. Trauma calls that meet Trauma Field Triage Criteria Protocol and occur within the geographical area bordered by Paradise Road to the west, Sahara Avenue to the north, Sunset Road to the south and the county line to the east are to be transported to Sunrise Hospital and Medical Center and the medical directions for the treatment of the patient must originate at that center;~~

~~St. Rose Siena Hospital Catchment Area~~

- ~~2. Trauma calls that meet Step 3 only of the Trauma Field Triage Criteria Protocol and occur within the City of Henderson or the geographical area bordered by I-15 to the west and Sunset Road to the north and the county line to the east are to be transported to St. Rose Siena Hospital and the medical directions for the treatment of the patient must originate at that center;~~

~~University Medical Center Catchment Area~~

- ~~3. Trauma calls that meet Trauma Field Triage Criteria Protocol and occur within any other area of Clark County are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.~~
- ~~4. All trauma calls that meet Trauma Field Triage Criteria Protocol, regardless of location, that are transported by Air Ambulance are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.~~
- ~~5. Trauma calls that meet both the Trauma Field Triage Criteria Protocol and Burn Criteria Protocol should be transported to UMC Trauma Center.~~

**EXCEPTIONS:**

~~Nothing contained within these guidelines precludes transport to any trauma facility if, in the provider's judgment, time to transport to the designated center would be unduly prolonged due to traffic and/or weather conditions and might jeopardize the patient's condition.]~~

[REVISED AND ENDORSED BY EMS MEDICAL ADVISORY BOARD 1/05/05  
IMPLEMENTATION DATE 8/22/05  
CLARK COUNTY HEALTH DISTRICT]

Appendix C

## **TRAUMA FIELD TRIAGE CRITERIA**

Comment [p96]: Updated with most recent version of TFC protocol.

A licensee providing emergency medical care to a patient at the scene of an injury shall use the following procedures to identify and care for patients with traumas:

1. Step 1 – Measure vital signs and level of consciousness. If the patient's:

A. Glasgow Coma Scale is 13 or less;

B. Systolic blood pressure is less than 90 mmHg; or

C. Respiratory rate is less than 10 or greater than 29 breaths per minute (less than 20 in infant aged less than 1 year), or is in need of ventilatory support

the adult patient MUST be transported to a Level 1 or 2 center for the treatment of trauma in accordance with the catchment area designated. The pediatric patient MUST be transported to a pediatric center for the treatment of trauma.

2. Step 2 – Assess anatomy of injury. If the patient has:

A. Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee;

B. Chest wall instability or deformity (e.g. flail chest);

C. Two or more proximal long-bone fractures;

D. Crushed, degloved, mangled, or pulseless extremity;

E. Amputation proximal to wrist or ankle;

F. Pelvis fractures;

G. Open or depressed skull fractures; or

H. Paralysis

the adult patient MUST be transported to a Level 1 or 2 center for the treatment of trauma in accordance with the catchment area designated. The pediatric patient MUST be transported to a pediatric center for the treatment of trauma.

3. Step 3 – Assess mechanism of injury and evidence of high-energy impact, which may include:

A. Falls

1) Adults: greater than 20 feet (one story is equal to 10 feet)

2) Children: greater than 10 feet or two times the height of the child

B. High-risk auto crash

1) Motor vehicle was traveling at a speed of at least 40 miles per hour immediately before the collision occurred;

2) Intrusion, including roof: greater than 12 inches occupant side; greater than 18 inches any side;

3) Ejection (partial or complete) from automobile;

4) Motor vehicle rolled over with unrestrained occupant(s);

5) Death in some passenger compartment

C. Motorcycle crash greater than 20 mph

D. Auto vs pedestrian/bicyclist thrown, run over, or with significant (greater than 20 mph) impact

the patient MUST be transported to a Level 1, 2, or 3 center for the treatment of trauma in accordance with the catchment area designated. For patients who are injured outside a 50-mile radius from a trauma center, the licensee providing emergency medical care shall call and consider transport to the nearest receiving facility.

## TRAUMA FIELD TRIAGE CRITERIA (Cont.)

4. Step 4 – Assess special patient or system considerations, such as:

- A. Older adults
  - 1) Risk of injury/death increases after age 55 years
  - 2) SBP less than 110 mmHg might represent shock after age 65 years
  - 3) Low impact mechanisms (e.g. ground level falls) might result in severe injury
- B. Children should be triaged preferentially to a trauma center.
- C. Anticoagulants and bleeding disorders: Patients with head injury are at high risk for rapid deterioration.
- D. Burns
  - 1) Without other trauma mechanisms: transport in accordance with the Burns protocol
  - 2) With trauma mechanism: transport to UMC Trauma/Burn Center
- E. Pregnancy greater than 20 weeks
- F. EMS provider judgment

The person licensed to provide emergency medical care at the scene of an injury shall transport a patient to a designated center for the treatment of trauma based on the following guidelines:

St. Rose Dominican Hospital – Siena Campus (Level 3 Trauma Center) Catchment Area

All trauma calls that meet Step 3 or in the provider's judgment meet Step 4 of the Trauma Field Triage Criteria Protocol and occur within the City of Henderson or the geographical area bordered by Interstate 15 to the west and Sunset road to the north, and the county line to the east, are to be transported to St. Rose Dominican Hospital - Siena Campus and the medical directions for the treatment of the patient must originate at that center;

Sunrise Hospital & Medical Center (Level 2 Trauma Center) Catchment Area

All adult trauma calls and pediatric Step 3 trauma calls that meet the Trauma Field Triage Criteria Protocol and occur within the geographical area bordered by Paradise Road to the west, Sahara Avenue to the north, Sunset Road to the south, and the county line to the east, are to be transported to Sunrise Hospital & Medical Center and the medical directions for the treatment of the patient must originate at that center;

In addition, adult trauma calls that meet Step 1 or 2 of the Trauma Field Triage Criteria Protocol and occur within the St. Rose Dominican Hospital - Siena Campus Catchment Area, City of Henderson, or the geographical area bordered by Paradise Road to the west continuing along that portion where it becomes Maryland Parkway, Sunset Road to the north, and the county line to the east, are to be transported to Sunrise Hospital & Medical Center and the medical directions for the treatment of the patient must originate at that center.

University Medical Center (Level 1 Trauma Center and Pediatric Level 2 Trauma Center) Catchment Area

All trauma calls that meet the Trauma Field Triage Criteria and occur within any other area of Clark County are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

All pediatric Step 1 and Step 2 trauma calls that occur within Clark County are to be transported to University Medical Center/Trauma and medical directions for the treatment of the patient must originate at that center.

In addition, adult trauma calls that meet Step 1 or 2 of the Trauma Field Triage Criteria Protocol and occur in the geographical area bordered by Paradise road to the east, Sunset Road to the north, Interstate 15 to the west, and the county line to the south, are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

**Comment [HAF97]:** St. Rose Hospital –Siena Campus is how the entity is referred in the entirety of the Plan. Need to update the language in this criteria.

## TRAUMA FIELD TRIAGE CRITERIA (Cont.)

All trauma calls that meet the Trauma Field Triage Criteria Protocol, regardless of location, that are transported by air ambulance are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

**EXCEPTIONS:**

1. Nothing contained within these guidelines precludes transport to any trauma facility if, in the provider's judgment, time to transport to the designated center would be unduly prolonged due to traffic and/or weather conditions and might jeopardize the patient's condition.
2. Additionally, nothing contained within these guidelines precludes transport to the closest facility if, in the provider's judgment, an ability to adequately ventilate the patient might result in increased patient mortality.

SNHD Trauma Field Triage Criteria protocol adapted from the "2011 Guidelines for Field Triage of Injured Patients" published in: Sasser SM, Hunt RC, Faul M, et al. Centers for Disease Control and Prevention. Guidelines for field triage of injured patients: recommendations of the National Expert Panel on Field Triage. 2011. MMWR.2012; 61 (RR-1):1-20.

**Comment [ME98]:** Added reference for source document.

[Appendix D]

**Comment [ME99]:** The language in this section was updated based on the recommendations of the workgroup and was moved to the "Policy Development" section.

[Trauma Policies and Procedures]

[The Trauma Policies and Procedures outlined in this plan are intended to provide the trauma system with an outline for policies and procedures not covered elsewhere in this document. As the trauma system matures, it is expected that new and/or revised policies and procedures will be made to accommodate for the individuality of the Clark County trauma system.]

**Table of Contents**

**I. Trauma Care Coordination with Neighboring Jurisdictions**

**A) Service Providers**

**B) Trauma Care Coordination Oversight**

**II. Trauma Center Designation Fees**

**III. Trauma Center Agreements**

**IV. Interfacility Transfer of the Trauma Patient**

**A) Transfer Criteria**

**B) Physician to Physician Communication**

**C) Patient Care**

**V. Trauma Overload Plan]**

**[I. TRAUMA CARE COORDINATION WITH NEIGHBORING JURISDICTIONS**

**A) Service Providers**

~~CCHD EMS has an established mutual aid plan with adjacent counties in conjunction with the delivery of ALS services for trauma patients.~~

**B) Trauma Care Coordination Oversight**

~~The TMAC has accepted responsibility to evaluate appropriate care for trauma patients for southern Nevada trauma centers for the neighboring counties including:~~

- ~~• Lincoln (NV)~~
- ~~• Nye (NV)~~
- ~~• Mohave (AZ)~~
- ~~• San Bernardino (CA)~~

**II. TRAUMA CENTER FEES**

~~An annual fee (to be determined) will be charged per designated trauma center to support the activities of the system trauma program, including quality performance, trauma registry management, and trauma program personnel. Voluntary participation of non-trauma centers will be proposed when more details of the "inclusive" system are identified.~~

**III. TRAUMA CENTER AGREEMENTS**

~~A trauma center agreement will be executed between all designated trauma centers and Clark County Health District and actively maintained on a continuous basis to identify the roles and responsibilities for the Health District and to assure a funding vehicle for system oversight.~~

~~The agreement requires commitment, personnel, and resources necessary to provide optimum medical care of the trauma patient. The agreement requires compliance with all trauma-related policies and procedures. The agreement requires the trauma center to comply with the identified trauma center standards in the Trauma Center EMS Agreement and the trauma plan for their specified level of trauma center designation.~~

#### ~~IV. INTERFACILITY TRANSFER OF THE TRAUMA PATIENT~~

##### ~~A) Transfer Criteria~~

~~Trauma patients who are transported to a non-trauma center hospital, or to a level III trauma center without the necessary resources to handle the injury, must be transferred to a trauma center specifically dedicated to a higher level of trauma care. The following patients are to be considered for early transfer to a higher level trauma center after basic evaluation and emergency stabilization:~~

- ~~• Major Head/Neck Injury or Spinal Cord Injury  
(Penetrating or depressed skull fractures, GCS deterioration)~~
- ~~• Major Chest Injuries  
(Penetrating injury, wide mediastinum, cardiac injury, protracted ventilation)~~
- ~~• Pelvic Injuries  
(Ring disruption or instability, open pelvic injury, penetrating injuries)~~
- ~~• Multiple system injuries~~

##### ~~B) Physician to Physician Communication~~

~~Referring physicians are responsible to make direct contact with the receiving physician. Trauma centers shall maintain a "toll-free" telephone number that can be used to facilitate rapid access to an on-site physician for consultation with community physicians and other providers regarding care of major trauma victims and coordination of interfacility transfers.~~

##### ~~C) Patient Care~~

~~The patient's condition should be stabilized before transfer, within the capabilities of the institution, and without unnecessary delay. An appropriate mode of transport to provide the level of care required should be selected by the referring physician. All required COBRA/EMTALA records should be completed with copies provided to the receiving facility.~~

~~The receiving physician should assure that their facility is able to accept the patient and is in agreement with the intent to transfer.~~

#### ~~V. TRAUMA BYPASS PLAN~~

~~Should a trauma center be severely compromised, such that it cannot function safely as a trauma center it should declare Trauma Overload (TO).~~

##### ~~1. Typical conditions resulting in TO include;~~

- ~~a. Arrival of greater than four CLASS I trauma cases in one hour~~
- ~~b. Three or more "crash" trauma cases going to the operating room within 30 minutes~~
- ~~c. Major mechanical breakdowns (e.g. all CTs including backups are down)~~
- ~~d. Major infrastructure emergency (e.g. flooding of the OR, ED, etc)~~

##### ~~2. Upon declaring a TO, the hospital shall:~~

- ~~a. Notify all dispatch agencies (e.g. FAO, Henderson, AMR, and MedWest)~~

[Clark County] Southern Nevada  
Trauma System Plan

- b. ~~Notify the other [two] trauma centers directly and assess capacity at other facilities.~~
  - c. ~~Input status change within EMS system~~
  - d. ~~Notify CCHD when practical~~
3. ~~Upon the process of a hospital declaring a TO, EMS Personnel with trauma transports from that catchment zone shall contact that hospital for destination and patient care directions.~~
4. ~~It is assumed that a TO for trauma will last no more than four hours and the hospital will automatically come off TO at that time unless there are extenuating circumstances.~~
5. ~~The hospital shall follow the TO reporting and review process as listed below.~~
6. ~~Frequent TOs shall be evaluated by the RTAB for trending and rectification purposes.~~
7. ~~A Base Station could prospectively affect system flow to avoid TO conditions.~~

Trauma Overload Reporting and Review Committee Procedure

- ~~I. Purpose: This review process has been developed to allow hospital facilities in the community an opportunity to learn about and improve upon procedures and operations that may have contributed to, prevented or improved the situation leading to the declaration of a trauma overload.~~
- ~~II. Requirements: Any hospital declaring a Trauma Bypass (TB) will submit a written report to the Clark County Health District EMS Office within 48 hours describing the circumstances leading to and occurring during and after the TO. The information will provide feedback that could prevent or assist in similar situations in the community in the future.~~
- ~~III. Membership: The TO Committee will consist of members of RTAB appointed by the Health Director.~~
- ~~IV. Process: The report will be forwarded to the TO Review Committee.~~
- ~~A. These individuals will review the report and identify any issues that are relevant, including but not limited to, deviation from the declaring hospital's own TO policy and/or emergency plans.~~
  - ~~B. After the report review, the TO Review Committee may ask for the declaring hospital to present a more complete picture before the review committee to clarify any concerns and to ensure compliance with the trauma overload policy and the hospital's own emergency plan.~~
  - ~~C. A summary will be completed by the Clark County Health District EMS Office from the information gathered by the TO Review Committee and any meetings pertaining to the review. The summary report will be given at the next scheduled Medical Advisory Board and District Board of Health meetings (a copy will be forwarded to the Nevada Bureau of Licensure and Certification).~~
  - ~~D. The Clark County Health District will retain copies of each report and will track frequency and types of incidents to assist in identifying trends or problems in the future. An annual report of all incidents will be forwarded to the District Board of Health and the Nevada Bureau of Licensure and Certification.]~~

**Comment [ME100]:** The language in this section was deleted because it is now found in the "District Procedure for Trauma Bypass/Internal Disaster Review."

**Appendix D**

**SNHD Regulations, Plans, Protocols**

**SNHD Emergency Medical Services Regulations:**

**<http://www.southernnevadahealthdistrict.org/ems/documents/ems/ems-regs.pdf>**

**SNHD Trauma System Regulations:**

**<http://www.southernnevadahealthdistrict.org/ems/documents/ems/cc-trma-sys-regs.pdf>**

**SNHD Trauma Performance Improvement Plan:**

**<http://www.southernnevadahealthdistrict.org/ems/documents/ems/trauma-performance-imprv-plan.pdf>**

**Clark County Emergency Medical Care Protocols:**

**<http://www.southernnevadahealthdistrict.org/ems/documents/ems/bls-ils-als-protocol-manual.pdf>**

**Comment [ME101]:** Workgroup recommended referencing these documents here. The EMS regulations and protocols have been updated and the trauma regulations and PI plan were created since the original trauma plan was written.

**Appendix E**

**DISTRICT PROCEDURE FOR AUTHORIZATION  
AS A CENTER FOR THE TREATMENT OF TRAUMA  
OR PEDIATRIC CENTER FOR THE TREATMENT OF TRAUMA**

*(Trauma Regulations Section 300.000 and 300.100)*

**Comment [p102]:** Existing procedure added to plan with minor housekeeping changes.

**PURPOSE:**

*To define the process for a hospital in Clark County to obtain authorization as a center for the treatment of trauma or pediatric center for the treatment of trauma by the Southern Nevada District Board of Health.*

**DEFINITION:**

*Authorization means the process by which the Board confirms a hospital has met the requirements of the trauma regulations, which demonstrates the facility's capacity, capability and commitment to pursue designation as a center for the treatment of trauma or pediatric center for the treatment of trauma by the Nevada Division of Public and Behavioral Health (DPBH).*

**Comment [B103]:** Name changed here and throughout this section.

**PROCEDURE:**

1. *Submit a completed application packet, in the form specified, to the OEMSTS, with the appropriate fees, no less than six (6) months prior to initiating the process for designation as a center for the treatment of trauma or pediatric center for the treatment of trauma by the DPBH. In addition to the Southern Nevada Health District (SNHD) written application, the hospital shall document the following:*
  - A. *The need for additional trauma services at the level being requested in the proposed service area, including: the population to be served; geographic considerations, such as the distance from existing centers; and the projected impact on the trauma system. If requested, the OEMSTS will provide interpretation, guidance or clarification of the trauma regulations, procedures and protocols and public domain trauma system data to aid the applicant in the process.*
  - B. *The hospital's capacity, capabilities and longitudinal commitment to provide trauma services.*
  - C. *The hospital's commitment to:*
    1. *comply with the requirements of the graduated process for authorization and designation as a center for the treatment of trauma or pediatric center for the treatment of trauma as defined in Trauma Regulations 300.000, subsections IV-VI (Note: Initial entry into the trauma system must be as a Level III center for the treatment of trauma.);*
    2. *submit trauma data to SNHD, State Trauma Registry and American College of Surgeons National Trauma Data Bank/Trauma Quality Improvement Program;*
    3. *actively participate in the Regional Trauma Advisory Board and trauma system performance improvement activities;*
    4. *provide standard financial information to assist in the assessment of the financial stability of the trauma system; and*
    5. *comply with all applicable SNHD regulations and DPBH requirements for authorized and designated centers for the treatment of trauma.*

**Comment [ME104]:** Addition of ACS NTDB/TQIP data recommended by workgroup.

- II. Upon receipt, the OEMSTS will review the application packet and will notify the applicant if any section of the application is incomplete or unclear. The applicant will be afforded the opportunity to complete the application within thirty (30) business days of the date of notification.
- III. Upon successful completion of the review process, the OEMSTS will make a recommendation to the Board to approve or deny the application for authorization based on the merits of the application and the demonstrated need for additional trauma services, as determined by the OEMSTS and the Board. Authorization shall be granted for a one (1) year period pending the completion of the DPBH designation process. If necessary, the authorization may be extended for one (1) year. If, at that time, the applicant has not met the requirements for designation, the authorization shall be revoked and the hospital may reapply for authorization.
- IV. Upon approval by the Board, a letter for authorization will be issued signifying the hospital has met the requirements for authorization outlined in the trauma regulations and the applicant may apply to the DPBH for designation.
- V. Upon successful completion of the DPBH designation process, including verification by the ACS, the DPBH will issue written notification of designation as a center for the treatment of trauma or pediatric center for the treatment of trauma at the level verified by the ACS.
- VI. If authorization is denied by the Board, the applicant may file an appeal as outlined in Trauma Regulations 300.500.

**Appendix F**

**DISTRICT PROCEDURE FOR RENEWAL OF AUTHORIZATION  
AS A CENTER FOR THE TREATMENT OF TRAUMA  
OR PEDIATRIC CENTER FOR THE TREATMENT OF TRAUMA**  
(Trauma Regulations Section 300.200)

Comment [p105]: Existing procedure added to plan with minor housekeeping changes.

**PURPOSE:** *To define the process for a hospital in Clark County to renew their authorization as a center for the treatment of trauma or pediatric center for the treatment of trauma by the Southern Nevada District Board of Health (SNHD).*

**DEFINITION:** *Renewal of authorization means the process by which the Board confirms a hospital continues to meet the requirements of the trauma regulations, which demonstrates the facility's capacity, capability and commitment to continue designation as a center for the treatment of trauma or pediatric center for the treatment of trauma by the Nevada Division of Public and Behavioral Health (DPBH).*

Comment [B106]: Name changed here and throughout this section.

- PROCEDURE:**
- I. *Submit a completed application packet, in the form specified, to the OEMSTS with the appropriate fees, at least sixty (60) days prior to the Board meeting where the application will be considered and prior to initiating the process for renewal of designation as a center for the treatment of trauma or pediatric center for the treatment of trauma by the DPBH. If requested, the OEMSTS will provide interpretation, guidance or clarification of the trauma regulations, procedures and protocols and public domain trauma system data to aid the applicant in the process.*
  - II. *Upon receipt of the application for renewal of authorization, the OEMSTS staff will review the documentation to determine the hospital's ongoing demonstration of their capacity, capability and commitment to provide trauma services and to contribute to the current and future needs of the trauma system as evidenced by their willingness to:*
    1. *submit trauma data to SNHD, State Trauma Registry and American College of Surgeons National Trauma Data Bank/Trauma Quality Improvement Program;*
    2. *actively participate in the Regional Trauma Advisory Board and trauma system performance improvement activities;*
    3. *provide standard financial information to assist in the assessment of the financial stability of the trauma system; and*
    4. *comply with all applicable SNHD regulations and DPBH requirements for authorized and designated centers for the treatment of trauma.*
  - III. *The OEMSTS will notify the applicant if any section of the application is incomplete or unclear. The applicant will be afforded the opportunity to complete the application within five (5) business days of the date of notification.*
  - IV. *Upon successful completion of the review process, the OEMSTS will make a recommendation to the Board to approve or deny the application for renewal of authorization based on the merits of the application.*
  - V. *Upon approval by the Board, a letter of authorization will be issued signifying the hospital has met the requirements for renewal of authorization outlined in*

Comment [ME107]: Current procedure states 30 days, however the notice for the public hearing before the Board must be published 30 days prior the meeting. Therefore, the OEMSTS needs additional time to process the application.

Comment [ME108]: Addition of ACS NTDB/TQIP data recommended by workgroup.

the trauma regulations and the applicant may apply to the DPBH for renewal of their designation.

- VI. Upon successful completion of the DPBH renewal of designation process, including renewal of verification by the ACS, the DPBH will issue written notification of designation as a center for the treatment of trauma or pediatric center for the treatment of trauma at the level verified by the ACS.
- VII. If renewal of authorization is denied by the Board, the applicant may file an appeal as outlined in Trauma Regulations 300.500.

**Appendix G**

**DISTRICT PROCEDURE FOR  
TRAUMA BYPASS/INTERNAL DISASTER**

(Trauma Regulations Section 200.100)

Comment [ME109]: Existing procedure added to plan with minor housekeeping changes.

**PURPOSE:**

The Trauma Bypass/Internal Disaster Review Procedure is designed to allow trauma centers in the community the opportunity to learn about and improve upon procedures and operations that may have contributed to, prevented, or improved the situation leading to the declaration of Trauma Bypass (TBP) or Internal Disaster (ID).

**DEFINITION:**

Any trauma center declaring TBP or ID will, within 48 hours, submit a written report to the Southern Nevada Health District EMSTS office describing the circumstances leading to, occurring during, and after TBP/ID status has been declared. The information will be shared with members of the Trauma Bypass/Internal Disaster Review Committee to provide an opportunity for feedback and identification of strategies to prevent or assist in the management of similar situations in the community in the future.

**PROCEDURE:**

- I. The membership of the TBP/ID Review Committee will consist of the following members of the Regional Trauma Advisory Board (RTAB): A medical director from a non-affiliated trauma center; a trauma program manager from a non-affiliated trauma center; chairman of the Medical Advisory Board (if from a non-affiliated facility); an EMS transport agency representative; and an administrator from a non-trauma hospital.
- II. The following procedure will occur upon receipt of the report from the trauma center declaring TBP/ID:
  - A. The members will review the report and identify any issues that are relevant, including but not limited to, deviation from the declaring trauma center's own TBP/ID policy and/or emergency plans.
  - B. After the report review, the TBP/ID Review Committee may ask for the declaring hospital to provide additional information to clarify any concerns and to ensure compliance with the TBP/ID Plan and the trauma center's own emergency plan.
  - C. The report will then be presented at the next scheduled Trauma Medical Audit Committee (TMAC) meeting to allow the declaring hospital an opportunity to participate in the review process.
  - D. A summary will be completed by the Southern Nevada Health District EMSTS office from the information gathered by the TBP/ID Review Committee and TMAC. The summary report will be given at the next scheduled RTAB meeting.
  - E. The Southern Nevada Health District will retain copies of each report and will track frequency and types of incidents to assist in identifying trends or problems in the future. An annual report of all incidents may be forwarded to the District Board of Health and the Nevada Bureau of Preparedness Assurance, Inspections and Statistics.

## Appendix [E]

### Performance Improvement Plan Detail

**Comment [p110]:** This content was deleted because it is now part of the SNHD Trauma Performance Improvement Plan.

#### A) Overview

The purpose of the Clark County Performance Improvement Plan will be to assure that there are periodic medical audit and performance evaluations of each of the designated trauma centers and the trauma care system as required by Clark County and the State of Nevada. The Clark County Performance Improvement Plan will consist of four major elements:

1. An internal process with each trauma center
2. An on-going external trauma system medical audit of case reviews (TMAC)
3. A trended performance improvement (QI) clinical review of trends, gaps and needs
4. A periodic audit of each new trauma center by the Emergency Medical Services Agency (EMS)
5. A scheduled independent evaluation of trauma care and trauma care system by trauma experts drawn from outside of the county

#### B) Internal Performance Improvement, Designated Trauma Centers

Each trauma center must have a formal and fully functional internal medical performance improvement program for its trauma service. As such, each trauma center shall have a written Performance Improvement Plan which describes this program.

Responsibility for the trauma care at each institution, as well as for compliance with the County Trauma System Plan and Trauma Standards, will be that of the Trauma Medical Director at each of the trauma centers.

As part of the internal performance improvement process, each trauma center will perform its own case reviews. It is then the responsibility of the respective Trauma Medical Directors and Trauma Program Managers/Coordinators to identify all trauma cases (including all trauma deaths) that meet the CCHD Trauma Care System minimum medical audit criteria for external performance improvement review.

#### C) External Performance Improvement

The trauma system performance improvement process is designed to recognize the interdisciplinary nature of trauma care and includes two key components:

##### 1. Trauma Medical Audit Review Process:

- a. ~~Trauma Center Standard of Care:~~ Standard of care for trauma patients that are expected to be provided at the designated trauma centers include the medical care rendered and the audit filters for monitoring purposes. The minimum medical audit filters that are acceptable for assessing the care rendered to a trauma patient at a designated trauma center are defined in the *ACS Optimal Review Document, 1998, Chicago, IL*. Trauma cases (including all deaths) and the Trauma Medical Director and Trauma Program Manager/ Coordinator for external performance improvement review identify those cases that do not meet the minimum medical audit filters.
- b. ~~Trauma Screening (Pre-TMAC):~~ Each trauma center is expected to form a committee to conduct internal quality review and to screen cases for

the TMAC meeting. All cases defined in the criteria by TMAC will be screened and forwarded for review by TMAC. The Pre-TMAC will form the initial screening of trauma center cases that meet the minimum medical audit criteria for case review, or have special educational or scientific value. Other specific cases may be selected for review by the Trauma Medical Directors, the Trauma Screening Committee, and/or the CCHD-EMS Medical Director.

These selected cases will then be forwarded to be presented and evaluated before the multidisciplinary Trauma Medical Audit Committee (TMAC).

- e. ~~Trauma Medical Audit Committee (TMAC): The TMAC, a multi-disciplinary medical advisory committee to CCHD-EMS, will be comprised of representatives from surgical and non-surgical specialties, trauma center program managers/coordinators, the county medical examiner, prehospital ALS service medical directors, and CCHD-EMS. The TMAC conducts detailed mortality and morbidity review of cases that meet one or more of the medical audit filter criteria as identified by the Trauma Screening Committee. Other cases may also be reviewed that are regarded as having exceptional educational or scientific benefit.~~

2. ~~Trauma Center/Systems Review~~

- a. ~~Designated Trauma Centers Audits: Periodic reviews will be performed by CCHD to assure trauma center contract compliance. The audits may include random chart reviews, trauma registry data review, and review of other records and documents.~~
- b. ~~Verification of Trauma Centers/Trauma System: Reviews conducted every three years by out of county trauma specialists (i.e. American College of Surgeons) allow for independent evaluation for verification of trauma centers and effectiveness of the trauma system. The reviews are designed to evaluate the quality of care rendered by the trauma centers and to review for compliance with the components of the trauma system.~~

D) ~~Trauma Medical Audit Review Process~~

The Trauma Medical Audit Review Process will provide the following:

- ~~A Trauma Medical Audit Committee (TMAC) for on-going medical review of trauma~~
- ~~Educational forum for trauma care~~
- ~~Opportunities for analysis of data and information of scientific value for studies and strategic planning of the trauma system~~

1. ~~Trauma Medical Audit Committee Procedures~~

Overview: The TMAC will be charged with the responsibility of providing recommendations for performance improvement of the trauma system. As trauma registry data becomes available from all county hospitals, the Trauma Screening Committee will review all patients county-wide, which meet the minimum trauma medical audit criteria. The TMAC discusses the appropriateness of medical care rendered to trauma victims and makes recommendations either to the provider organization or the EMS Agency (as appropriate) for improved trauma care or system improvements. The TMAC serves in an advisory capacity to CCHD-EMS on other

~~trauma care systems issues and may appoint subcommittees, either standing or ad hoc, as needed to fulfill its functions.~~

~~**Appointment of Members:** CCHD will send a letter to each hospital administrator requesting the appointment of a member of the institution's medical staff to serve as a member of the TMAC for a two-year term. Trauma medical directors, program managers/coordinators, and emergency medical directors, will be chosen between the designated trauma center and CCHD EMS. For non-institution members representing a specialty, nominations will be made by the Regional Trauma Advisory Board. The Chairperson of the TMAC will validate the appointments with CCHD every two years. Appointments will be staggered to assure the integrity of the committee. Each member will be required to sign a confidentiality agreement, which will be maintained on file at CCHD and updated annually. CCHD Chief Health Officer and the EMS Manager will provide staff support to the TMAC.~~

~~**TMAC Chairperson:** The TMAC will select a general surgeon actively participating in trauma care to serve as TMAC chairperson for a two-year term. The chairperson shall have been an active member of the Trauma Medical Audit Committee for at least two (2) years. Elections will be held on even years on or before the regularly scheduled June meeting. The chairperson shall appoint a vice chairperson to fill his/her duties during absences. The chairperson presides over the committee and documents the results of the committee discussions. The chairperson corresponds or follows up on committee matters as directed by the membership.~~

~~**Attendance:** Trauma Medical Directors (or appropriate designee) from designated trauma centers will be required to attend all scheduled meetings. Subspecialties will be invited to all meetings; however, attendance will only be expected when specific trauma cases require relevant subspecialty review and evaluation. Remaining membership will be monitored by CCHD for active participation. Inactive members will be reminded of their non-participatory status and asked for a commitment.~~

~~**Meetings:** The TMAC will initially meet twelve (12) times a year. Approximately three (3) times a year, recognized trauma experts will be invited to critique cases and to provide an educational presentation. Each trauma center and CCHD will be responsible to provide one (1) guest lecture per year for the TMAC. Continuing education credits will be provided for physicians, nurses, and paramedics in attendance. The EMS Clinical Systems Manager will facilitate the process of obtaining the credits from various providers. Minutes/ correspondence of the TMAC will be stored in a secure place in CCHD EMS by the Clinical Systems Manager to maintain confidentiality.~~

## ~~2. Preparation of Cases for TMAC Review~~

~~Each trauma center will prepare appropriate materials for its cases to be presented to the TMAC that includes:~~

- ~~• Clinical information~~
- ~~• All pertinent radiologic examinations~~
- ~~• Autopsy findings (when appropriate)~~

~~The CCHD Chief Health Officer, or designated representative, will provide the prehospital care report and prehospital component for presentation when pertinent to the care of the trauma victim.~~

~~CCHD will provide staff support for:~~

- ~~• Preparation of overheads to be used during the meeting~~

- ~~Distributing meeting announcements~~
- ~~Preparation of MAC agenda~~
- ~~Maintaining records of proceedings~~

3. ~~Conclusion of Trauma Medical Audit Committee Case Review~~

- a. ~~Categorization of Trauma-Related Deaths: Following presentation of trauma related deaths, a quorum of the committee members present must make the determination as to the preventability of death. Each trauma-related death must be assigned one of the following designations:~~

→ ~~Non-Preventable (NP)~~

- ~~Anatomic injury or combination of injuries considered non-survivable with optimum care~~
- ~~Physiologic state at time of arrival of first responder important but not critical to judgment of non-preventable~~
- ~~Evaluation and management appropriate to ACLS and ATLS guidelines; suboptimal care, if identified, is deemed not to have influenced outcome~~
- ~~Patient expired despite acceptable care provided by the System in a timely manner~~

→ ~~Potentially Preventable (PP)~~

- ~~Anatomic injury or combination of injuries considered to be very severe but survivable under optimal conditions~~
- ~~Physiologic state at time of arrival of first responder critical to judgment of potential survivability~~
- ~~Evaluation and management generally appropriate to ACLS and ATLS guidelines; any suboptimal care directly or indirectly implicated in patient's demise~~
- ~~Potential area(s) for improvement of System care identified~~

→ ~~Preventable (P)~~

- ~~Anatomic injury or combination of injuries considered survivable~~
- ~~Physiologic state at time of arrival of first responder critical to judgment of preventability; patient generally stable; if unstable, patient becomes stable with treatment~~
- ~~Suboptimal care clearly related to unfavorable outcome~~
- ~~Definite area(s) for improvement of System care identified~~

- b. ~~Contributing Factors: The following factors are considered relative to morbidity/mortality:~~

- ✓ ~~Delay in diagnosis~~
- ✓ ~~Error in diagnosis~~
- ✓ ~~Error in judgment/error in interpretation~~
- ✓ ~~Error in technique~~
- ✓ ~~Patient disease~~
- ✓ ~~System failure~~
- ✓ ~~Inadequate protocol~~
- ✓ ~~Care appropriate~~
- ✓ ~~Other \_\_\_\_\_~~

~~Information feedback to the trauma centers and non-designed hospitals is critical to the audit process. Parts of the System identified as contributing to PP or P outcomes must devise a plan to deter similar future occurrence(s) and submit it to the TMAC. The TMAC members, in determining whether a death was potentially preventable or probably preventable, will provide justification for that determination.~~

- ~~e. Level of Care: All cases reviewed by the TMAC, in which patient care was administered, will receive a grade. This grade will be recorded as part of the permanent record. The grades shall be assigned based on the following criteria:~~

- ~~• Meets expected Trauma Center care~~
- ~~• Opportunity(ies) for improved care identified~~
- ~~• Unacceptable or inappropriate care~~

- ~~d. Action Steps: At the conclusion of each case review, the committee will discuss the case and arrive at a conclusion for action that may include one or more of the following:~~

- ~~• No further comment or action is indicated~~
- ~~• Request a follow-up report from the involved institution or prehospital care provider including plan for addressing deficiencies identified~~
- ~~• Make a recommendation to the involved institution or prehospital care provider that is pertinent to the case.~~
- ~~• Request additional information for a subsequent meeting to allow for further discussion~~
- ~~• Review specific educational program or implement an action.~~
- ~~• Monitor correction plan to see if similar issues are eliminated in the future~~

- ~~e. Case Summaries: Copies of the case summaries reviewed, identification of trauma medical audit filter criteria, the level of care grade received, recommendations for action, and the comments of the committee will be maintained by CCHD as confidential information of the TMAC and CCHD.~~

#### ~~4. Confidentiality of Committee Proceedings & Records~~

~~The proceedings and records of this committee are confidential and will be protected using "blinded records". Any personal identifiers in the Trauma Registry will be removed by the Trauma Registrar prior to public exposure.~~

~~All members of the Trauma Medical Audit Committee and the Trauma Screening Committee will be required to complete and sign a Statement of Confidentiality as a condition of membership on the committees and of participation in the proceedings. The Statement of Confidentiality will be renewed on an annual basis.~~

~~Because of the confidentiality requirements, TMAC meetings will be "closed". Attendance at the meetings is limited to members of the committee with the exception of special invitation to invited trauma experts who present and participate in the case reviews and are approved by the TMAC membership and CCHD. All invited guests will be required to sign a confidentiality agreement.~~

#### ~~5. Standing Committees~~

~~Standing committees will be ongoing committees that meet regularly to accomplish a specific function as requested by the TMAC. The TMAC Chairperson or the EMS Administrator can appoint members to a standing or ad hoc committee.~~

- ~~a. Trauma Medical Advisory Committee (TMAC): The purpose of TMAC will be to periodically review and revise the Clark County Trauma Plan. TMAC, assisted by the CCHD staff, convenes as needed to assure that the overall trauma system is reviewed on an ongoing basis. The membership of RTAB will be multidisciplinary in nature to assure that all stakeholders are afforded the opportunity for input.~~
- ~~b. Trauma Screening Committee (Pre-TMAC): The Trauma Screening process will be conducted by each trauma center internally using TMAC criteria.~~
- ~~c. Trauma Registry Users Group (TUG): The TUG membership will be drawn from trauma coordinators and trauma registrars within the community and CCHD EMS staff. The TUG will meet monthly and more frequently as necessary to plan, implement, and monitor the trauma registry.~~
- ~~d. Ad Hoc Committees: Ad Hoc Committees, assisted by CCHD staff, will be time limited committees with specific functions designed to assist the TMAC to achieve its overall objectives.~~

6. ~~Minimum Recommended Screening Standards~~

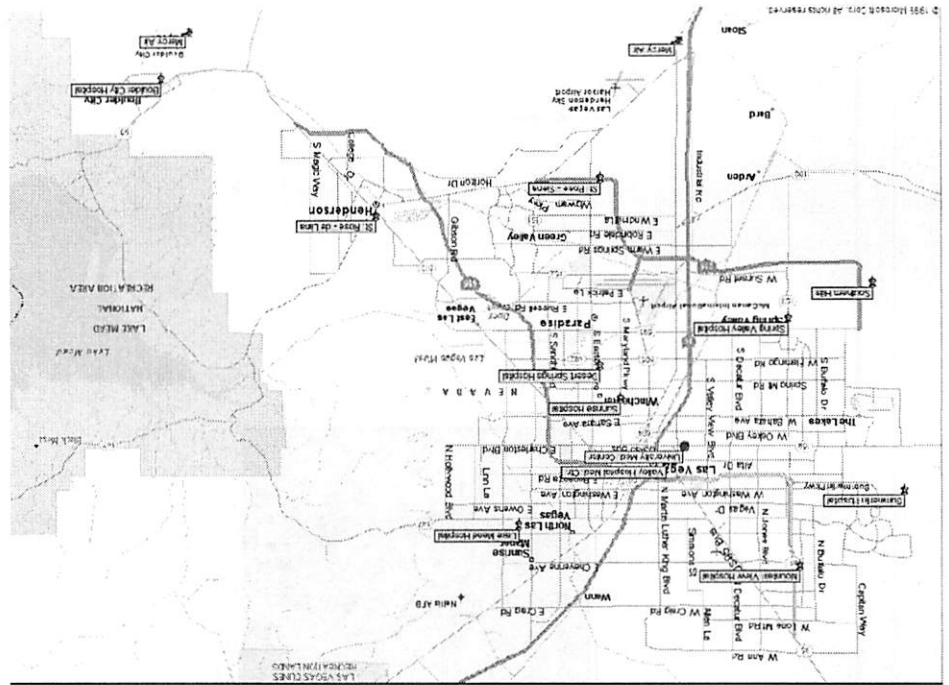
- ~~• The absence of an ambulance report on the medical record for a patient transported by prehospital EMS personnel (system filter)~~
- ~~• Field Airway Management~~
- ~~• Under-Triage~~
- ~~• Field Care Issues~~
- ~~• Any failure or delay of the trauma surgeon to be present within 15 minutes of patient's arrival~~
- ~~• Delay or failure to activate trauma team according to internal triage criteria~~
- ~~• Delay in patient disposition from trauma resuscitation area > 4 hours~~
- ~~• A patient with a GCS of <14 who does not receive a CT scan of the head~~
- ~~• A comatose trauma patient (GCS of <8) leaving the emergency department before a definitive airway is established~~
- ~~• A patient sustaining a gunshot wound to the abdomen that is managed non-operatively~~
- ~~• Patients with abdominal injuries and hypotensive (SBP < 90 mm HG) who do not undergo laparotomy within 1 hour of arrival in the ED; other patients undergoing laparotomy performed > 4 hours after arrival in ED~~
- ~~• Patients with epidural or subdural brain hematoma receiving craniotomy > 4 hours after arrival at emergency department, excluding those performed for ICP monitoring~~
- ~~• Interval of > 6-8 hours between arrival and the initiation of debridement of an open tibial fracture, excluding a low-velocity gunshot wound~~

[Clark County] Southern Nevada  
Trauma System Plan

- ~~Abdominal, thoracic, vascular, or cranial surgery performed > 24 hours after arrival~~
- ~~More than 10% of trauma patient admitted to the hospital to a non-surgical services~~
- ~~Unexpected return to the operating room after initial surgery~~
- ~~Clinical and iatrogenic complications after admission~~
- ~~Hourly determination and recording of BP, pulse, respirations, and GCS, not done~~
- ~~Nonfixation of femoral diaphyseal fracture~~
- ~~Missed diagnosis (discovered following discharge)~~
- ~~Unplanned readmission to hospital for complications related to prior trauma admission~~
- ~~All trauma deaths~~

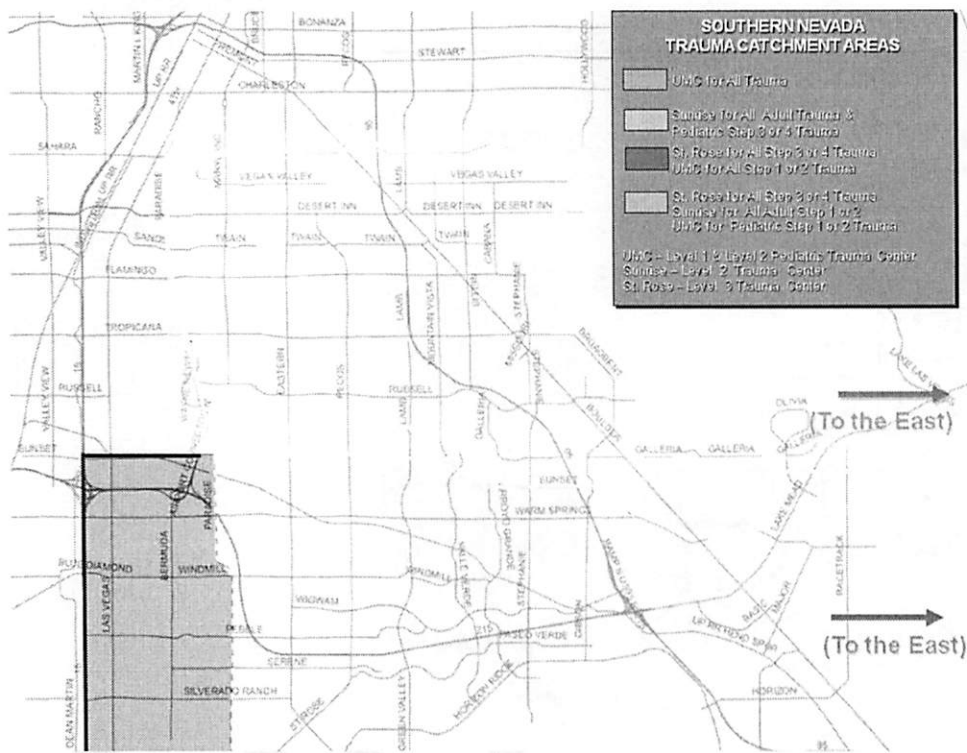
Appendix [F]H

[Clark County Trauma System Map]



## Trauma System Plan

*Map of Southern Nevada Trauma Catchment Areas*



**Comment [ME112]:** Most recent Southern Nevada Trauma Catchment Area Map

## ***Appendix I***

### ***Trauma Program History] Southern Nevada Trauma System Summary of Key Events***

The following is a historical summary *of key events* in trauma program development in the region:

- *January 1988*, UMC underwent [its] first ACS-COT consultation review for Level II *trauma center* designation [in January 1988].
- *September 1988*, UMC designated as a Level II trauma center.
- *October 1989*, Sunrise Hospital and Medical Center [received] *designated as a Level III trauma center* [designation in October 1989].
- *December 1989*, UMC [was] verified as a Level II trauma center [in December 1989].
- *December 1991*, Sunrise Hospital and Medical Center Level III designation renewed for one year.
- *April 1992*, Sunrise Hospital and Medical Center designated as Level III trauma center.
- [In] January 1993, UMC extended [its] Level II [status] *trauma center* verification on a provisional basis.
- *May 1993*, UMC [was] re-verified as a Level II trauma center [in May 1993].
- *June 1993*, UMC designated as a Level II trauma center.
- *January 1995*, Sunrise Hospital and Medical Center's health facility certificate [was] issued without notation of *designation as a Level III trauma center* [in January 1995].
- *April 1996*, UMC received nine-month extension of Level II trauma center designation.
- *February 1997*, UMC re-verified as a Level II trauma center.
- [In] January 1999, UMC received Level I [F]trauma [G]center designation.
- *January 2002*, UMC re-verified as a Level I trauma center.
- *July 2002*, UMC trauma center closed for a 10-day period [in July 2002 due to issues with medical staff malpractice insurance concerns] *during the medical liability insurance crisis*.
- [In] October 2003, Sunrise Hospital and Medical Center and St. Rose Dominican Hospital - Siena Campus notified the Nevada State Health Division of their interest in becoming trauma centers (Level II and Level III, respectively).
- *October 2003*, [F]the Nevada State Health Division asked the [Clark County Health District] [(CCHD)] [in November 2003] to facilitate a trauma system needs assessment, leading to the engagement of The Abaris Group to assist with the study and ACS-COT to conduct a trauma system consultation visit.
- [In December] November 2003, the Clark County [Health] District Board of Health *recommended the* [created] *creation of a Citizen's Task Force on Trauma System Development in Clark County*. [to make recommendations regarding trauma in Southern Nevada.]
- *January 2004*, Citizen's Trauma Task Force established.
- *March 2004*, ACS-COT conducted a trauma center consultation review at Sunrise Hospital and Medical Center.
- *April 2004*, Sunrise Hospital and Medical Center requested provisional trauma center designation from the State Health Division in order to receive trauma patients before ACS-COT verification visit. Advised by ACS-COT that they would need to review actual trauma cases during the verification process.
- [In] June 2004, the ACS-COT and The Abaris Group's consultation reports were completed and the Citizen's Trauma Task Force made recommendations to the Clark County [Health] District Board of Health and to the State Health Division.
- [In] June 2004, the State [of Nevada] Health Division agreed to permit Sunrise Hospital and Medical Center to operate as a trauma center with some conditions.
- [In] October 2004, *first Regional Trauma Advisory Committee (RTAC) meeting held*. CCHD [begins] *began* the process of developing a comprehensive trauma system for the region through the preparation of [this] a trauma system plan.
- *November 2004*, UMC re-designated as Level I trauma center.

- January 2005, RTAC formally established in the Clark County EMS Regulations.
- [On] February [9;] 2005, Sunrise Hospital and Medical Center was granted access to EMS-transported trauma patients when they opened as a provisional Level II [F]trauma [G]center.
- [In] February 2005, the [Regional Trauma Advisory Board] RTAC was convened to formalize the process of developing a comprehensive trauma system for the region.
- [In] June 2005, the 73<sup>rd</sup> Session of the Nevada Legislature passed SB120, effective July 1, 2005, amending NRS 450B.237 to prohibit the Administrator of the Health Division from approving a proposal to designate a hospital as a center for the treatment of trauma (in counties with a population[s→] of 400,000 or more) unless approved by the county or [d]District [b]Board of [h]Health where it is located. The proposal may not be approved unless the county or [d]District [b]Board of [h]Health has established and adopted a comprehensive trauma system plan which includes consideration of and plans for the development and designation of new centers for the treatment of trauma in the county based on the demographics of the county and the manner in which the county may most effectively provide trauma services.
- [In] June 2005, the 73<sup>rd</sup> Session of the Nevada Legislature passed AB555, effective October 1, 2005, amending NRS 49.117 to 49.123 to include a medical review committee of a county or [d]District [b]Board of [h]Health that certifies, licenses or regulates providers of emergency medical services, when functioning as a peer review committee, to be protected from discovery procedures.
- July 2005, first official meeting of RTAC held.
- August 2005, Sunrise Hospital and Medical Center granted designation as a Level II trauma center.
- August 2005, St. Rose Dominican Hospital – Siena Campus granted designation as a Level III trauma center.
- October 2005, Clark County District Board of Health approves RTAC name change to Regional Trauma Advisory Board (RTAB).
- February 2006, Clark County District Board of Health name changed to Southern Nevada District Board of Health.
- February 2006, the first Clark County Trauma System Plan adopted by the Southern Nevada District Board of Health.
- October 2006, the first Clark County Trauma System Regulations adopted by the Southern Nevada District Board of Health.
- December 2006, the first Trauma Performance Improvement Plan adopted by the Southern Nevada District Board of Health.
- January 2007, first Trauma Medical Audit Committee (TMAC) meeting held.
- February 2007, SB58 introduced during the 74<sup>th</sup> Session of the Nevada Legislature to provide for the imposition of administrative assessments for certain traffic violations to be used to support emergency medical services and services for the treatment of trauma. The bill did not pass.
- October 2007, UMC re-designated as a Level I and initially designated as a Pediatric Level II trauma center.
- June 2008, St. Rose Dominican – Siena Campus re-designated as a Level III trauma center.
- August 2008, Sunrise Hospital and Medical Center re-designated as a Level II trauma center.
- October 2008, first Clark County Trauma System Report published (<http://www.southernnevadahealthdistrict.org/ems/documents/ems/2008-ccts-report.pdf>).
- May 2010, Clark County Trauma System Status Report published (<http://www.southernnevadahealthdistrict.org/ems/documents/ems/2010-trauma-system-review.pdf>).
- October 2010, UMC re-designated as a Level I and Pediatric Level II trauma center.
- June 2011, St. Rose Dominican Hospital – Siena Campus re-designated as a Level III trauma center.
- July 2011, Sunrise Hospital and Medical Center re-designated as a Level II trauma center.
- July 2011, ACS-COT Trauma System Consultation conducted and report published (<http://www.southernnevadahealthdistrict.org/download/trauma/acs-report-2011.pdf>).
- March 2013, SB205 introduced during the 77<sup>th</sup> Session of the Nevada Legislature to create a fund for the State Trauma Registry and support the State Health Division in developing and managing a

[Clark County] Southern Nevada  
Trauma System Plan

standardized system for the collection of data related to the treatment of traumatic injuries before and after admission to a hospital. The bill did not pass.

- April 2013, Self-Assessment for Clark County Trauma System Planning, Development, and Evaluation conducted and report published (<http://www.southernnevadahealthdistrict.org/ems/documents/ems/clark-county-trauma-system-self-assessment-2013.pdf>).
- October 2013, UMC re-designated as a Level I and Pediatric Level II trauma center.
- April 2014, St. Rose Dominican – Siena Campus re-designated as a Level III trauma center.
- May 2014, Sunrise Hospital and Medical Center re-designated as a Level II trauma center.
- May 2014, Southern Nevada Trauma System “Serious Injuries • Superior Care • Trauma Systems Matter” slogan/logo introduced during press conference to kick-off public information campaign.

**Comment [ME113]:** Workgroup recommended the trauma center re-designation dates be added. The list of activities was updated and housekeeping changes were made throughout this section.

**Comment [ME114]:** A recommendation was made to move the “Summary of Key Events” into the “Appendix” so that it would not disrupt the flow of the narrative portion of the document, but would still be available for reference.

## Appendix J

### Southern Nevada Trauma System Needs Assessment

In April 2013, SNHD conducted a U.S. Department of Health and Human Services, Health Resources and Services Administration, "Self-Assessment for Trauma System Planning, Development, and Evaluation." The process involved assessing the status of the Southern Nevada Trauma System based on a set of selected indicators considered to be representative measures of the core functions of assessment, policy development, and assurance within the system. The goal was to examine the current strengths and opportunities for improvement in the system using the same benchmarks, indicators, and scoring methodology employed in the 2007 and 2011 trauma system assessments conducted by SNHD.

The following definitions found in the 2006 HRSA Model Trauma System Planning and Evaluation document provide a common framework for understanding each component of the evaluation tool:

- Benchmarks are global overarching goals, expectations, or outcomes. In the context of the trauma system, a benchmark identifies a broad system attribute.
- Indicators are those tasks or outputs that characterize the benchmark. Indicators identify actions or capabilities within the benchmark. Indicators are the measurable components of a benchmark.
- Scoring breaks down the indicator into completion steps. Scoring provides an assessment of the current status and marks progress over time to reach a certain milestone.

Although each indicator has different details for scoring, the scoring follows this common theme:

<u>Score</u>	<u>Progress on Achieving Indicator</u>
<u>1</u>	<u>No</u>
<u>2</u>	<u>Minimal</u>
<u>3</u>	<u>Limited</u>
<u>4</u>	<u>Substantial</u>
<u>5</u>	<u>Full</u>
<u>0</u>	<u>Not Known</u>

The following are the 16 core functions, benchmarks, and indicators, selected from the complete BIS assessment instrument, that were assessed in 2007, 2011 and 2013.

#### Core Function 100:

Assessment: Regular systematic collection, assembly, analysis, and dissemination of information on the health of the community.

**BENCHMARK 101:** There is a thorough description of the epidemiology of injury in the system jurisdiction using both population-based data and clinical databases.

#### Essential Service: Monitor Health

**Indicator 101.2** There is a description of injuries within the trauma system jurisdiction including the distribution by geographic area, high-risk populations (pediatric, elder, distinct cultural/ethnic, rural, and others), incidence, prevalence, mechanism, manner, intent, mortality.

contributing factors, determinants, morbidity, injury severity (including death), and patient distribution using any or all the following: vital statistics, emergency department (ED) data, EMS data, hospital discharge data, state police data (those from law enforcement agencies), medical examiner data, trauma registry, and other data sources. The description is updated at regular intervals.

NOTE: Injury severity should be determined through the consistent and system-wide application of one of the existing injury scoring methods, for example, Injury Severity Score (ISS).

1. There is no written description of injuries within the trauma system jurisdiction.
2. One or more population-based data sources (e.g., vital statistics and medical examiner data) describe injury within the jurisdiction, but clinical data sources are not used.
3. One or more population-based data sources and one or more clinical data sources are used to describe injury within the jurisdiction.
4. Multiple population-based and clinical data sources are used to describe injury within the jurisdiction, and the description is systematically updated at regular intervals.
5. Multiple population-based and clinical data sources (e.g., trauma registry, ED data, and others) are electronically linked and used to describe injury within the jurisdiction.
0. Not known

Indicator 101.2 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>3.0</u>	<u>3.0</u>	<u>3.3</u>

**BENCHMARK 102: There is an established trauma management information system (MIS) for ongoing injury surveillance and system performance assessment.**

**Essential Service: Monitor Health**

Indicator 102.2 Injury surveillance is coordinated with statewide and local community health surveillance.

1. Injury surveillance does not occur within the system.
2. Injury surveillance occurs in isolation from other health risk surveillance and is reported separately.
3. Injury surveillance occurs in isolation but is combined and reported with other health risk surveillance processes.
4. Injury surveillance occurs as part of broader health risk assessments.
5. Processes of sharing and linkage of data exist between EMS systems, public health systems, and trauma systems, and the data are used to monitor, investigate, and diagnose community health risks.
0. Not known

Indicator 102.2 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>2.0</u>	<u>2.0</u>	<u>2.0</u>

Indicator 102.3 Trauma data are electronically linked from a variety of sources.

Note: Deterministically means with such patient identifiers as name and date of birth. Probabilistically means computer software is used to match likely records through such less certain identifiers as date of incident, patient age, gender, and others.

1. Trauma registry data exist but are not deterministically or probabilistically linked to other databases.
  2. Trauma registry data exist and can be deterministically linked through hand-sorting processes.
  3. Trauma registry data exist and can be deterministically linked through computer-matching processes.
  4. Trauma registry data exist and can be deterministically and probabilistically linked to at least one other injury database including: EMS data systems (i.e., patient care records, dispatch data, and others), ED data systems, hospital discharge data, and others.
  5. All data stakeholders (insurance carriers, FARS, and rehabilitation, in addition to typical trauma system resources) have been identified, data access agreements executed, hardware and software resources secured, and the "manpower" designated to deterministically and probabilistically link, analyze, and report a variety of data sources in a timely manner.
- 0 Not known

Indicator 102.3 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>3.0</u>	<u>1.0</u>	<u>1.9</u>

Core Function 200:

Policy Development: Promoting the use of scientific knowledge in decision making that includes building constituencies; identifying needs and setting priorities; legislative authority and funding to develop plans and policies to address needs; and ensuring the public's health and safety.

BENCHMARK 201: Comprehensive state statutory authority and administrative rules support trauma system leaders and maintain trauma system infrastructure, planning, oversight, and future development.

Essential Service: Develop Policies

Indicator 201.4 The lead agency has adopted clearly defined trauma system standards (e.g., facility standards, triage and transfer guidelines, and data collection standards) and has sufficient legal authority to ensure and enforce compliance.

1. The lead agency does not have sufficient legal authority and has not adopted or defined trauma system performance and operating standards, nor is there sufficient legal authority to do so.
2. Sufficient authority exists to define and adopt standards for trauma system performance and operations, but the lead agency has not yet completed this process.

3. There is sufficient legal authority to adopt and implement operation and performance standards including enforcement. Draft process procedures have been developed.
4. The authority exists to fully develop all operational guidelines and standards; the stakeholders are reviewing draft policies and procedures; and adoption by the lead agency, including implementation and enforcement, is pending.
5. The authority exists; operational policies and procedures and trauma system performance standards are in place; and compliance is being actively monitored
0. Not known

Indicator 201.4 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>4.0</u>	<u>3.0</u>	<u>3.7</u>

**BENCHMARK 203:** The state lead agency<sup>2</sup> has a comprehensive written trauma system plan based on national guidelines. The plan integrates the trauma system with EMS, public health, emergency preparedness, and incident management. The written trauma system plan is developed in collaboration with community partners and stakeholders.

<sup>2</sup> The respondents were advised to consider SNHD as the lead agency for the Southern Nevada Trauma System when rating this benchmark.

**Essential Service: Inform, Educate, Empower**

**Indicator 203.1** The lead agency, in concert with a trauma-specific multidisciplinary, multi-agency advisory committee, has adopted a trauma system plan.

1. There is no trauma system plan, and one is not in progress.
2. There is no trauma system plan, although some groups have begun meeting to discuss the development of a trauma system plan.
3. A trauma system plan was developed and adopted by the lead agency. The plan, however, has not been endorsed by trauma stakeholders.
4. A trauma system plan has been adopted, developed with multi-agency groups, and endorsed by those agencies.
5. A comprehensive trauma system plan has been developed, adopted in conjunction with trauma stakeholders, and includes the integration of other systems (e.g., EMS, public health, and emergency preparedness).
0. Not known

Indicator 203.1 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>4.0</u>	<u>4.0</u>	<u>4.4</u>

**Indicator 203.4** The trauma system plan clearly describes the system design (including the components necessary to have an integrated and inclusive trauma system) and is used to guide system implementation and management. For example, the plan includes references to regulatory standards and documents, and includes methods of data collection and analysis.

**Comment [ME115]:** SNHD legal counsel recommended adding a footnote to indicate the reference to the lead agency in this benchmark is referring to SNHD, not the State.

[Clark County] Southern Nevada  
Trauma System Plan

1. There is no trauma system plan.
2. The trauma system plan does not address or incorporate the trauma system components (prehospital, communication, transportation, acute care, rehabilitation, and others), nor is it inclusive of all-hazards preparedness, EMS, or public health integration.
3. The trauma system plan provides general information about all the components including all-hazards preparedness, EMS, and public health integration; however, it is difficult to determine who is responsible and accountable for system performance and implementation.
4. The trauma system plan addresses every component of a well-organized and functioning trauma system including all-hazards preparedness and public health integration. Specific information on each component is provided, and trauma system design is inclusive of providing for specific goals and objectives for system performance.
5. The trauma system plan is used to guide system implementation and management. Stakeholders and policy leaders are familiar with the plan and its components and use the plan to monitor system progress and to measure results.
0. Not known

Indicator 203.4 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>3.0</u>	<u>3.0</u>	<u>3.4</u>

**BENCHMARK 204: Sufficient resources, including those both financial and infrastructure related, support system planning, implementation, and maintenance.**

**Essential Service: Develop Policies**

**Indicator 204.2 Financial resources exist that support the planning, implementation, and ongoing management of the administrative and clinical care components of the trauma system.**

1. There is no funding to support the trauma system planning, implementation, or ongoing management and operations for either trauma system administration or trauma clinical care.
2. Some funding for trauma care within the third-party reimbursement structure has been identified, but ongoing support for administration and clinical care outside the third-party reimbursement structure is not available.
3. There is current funding for the development of the trauma system within the lead agency organization consistent with the trauma system plan, but costs to support clinical care support services have not been identified (transportation, communication, uncompensated care, standby fees, and others). No ongoing commitment of funding has been secured.
4. There is funding available for both administrative and clinical components of the trauma system plan. A mechanism to assess needs among various providers has begun. Implementation costs and ongoing support costs of the lead agency have been addressed within the plan.
5. A stable (consistent) source of reliable funding for the development, operations, and management of the trauma program (clinical care and lead agency administration) has been identified and is being used to support trauma planning, implementation, maintenance, and ongoing program enhancements.
0. Not known

Indicator 204.2 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>2.0</u>	<u>3.0</u>	<u>2.0</u>

Indicator 204.3 Designated funding for trauma system infrastructure support (lead agency) is legislatively appropriated.

Note: Although nomenclature concerning designated, appropriated, and general funds varies between jurisdictions, the intent of this indicator is to demonstrate long-term, stable funding for trauma system development, management, evaluation, and improvement.

1. There is no designated funding to support the trauma system infrastructure.
  2. One-time funding has been designated for trauma system infrastructure support, and appropriations have been made to the lead agency budget.
  3. Limited funds for trauma system development have been identified, but the funds have not been appropriated for trauma system infrastructure support.
  4. Consistent, though limited, infrastructure funding has been designated and appropriated to the lead agency budget.
  5. The legislature has identified, designated, and appropriated sufficient infrastructure funding for the lead agency consistent with the trauma system plan and priorities for funding administration and operations.
0. Not known

Indicator 204.3 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>1.0</u>	<u>1.0</u>	<u>1.9</u>

**BENCHMARK 208: The trauma, public health, and emergency preparedness systems are closely linked.**

Essential Service: Mobilize Community Partnership

Indicator 208.1 The trauma system and the public health system have established linkages including programs with an emphasis on population-based public health surveillance, and evaluation, for acute and chronic traumatic injury and injury prevention.

1. There is no evidence that demonstrates program linkages, a working relationship, or the sharing of data between public health and the trauma system. Population-based public health surveillance, and evaluation, for acute or chronic traumatic injury and injury prevention has not been integrated with the trauma system.
2. There is little population-based public health surveillance shared with the trauma system, and program linkages are rare. Routine public health status reports are available for review by the trauma system lead agency and constituents.
3. The trauma system and the public health system have begun sharing public health surveillance data for acute and chronic traumatic injury. Program linkages are in the discussion stage.

4. The trauma system has begun to link with the public health system, and the process of sharing public health surveillance data is evolving. Routine dialogue is occurring between programs.
5. The trauma system and the public health system are integrated. Routine reporting, program participation, and system plans are fully vested. Operational integration is routine, and measurable progress can be demonstrated. (Demonstrated integration and linkage could include such activities as rapid response to and notification of incidents, integrated data systems, communication cross-operability, and regular epidemiology report generation.)
0. Not known

**Indicator 208.1 Results**

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>3.0</u>	<u>2.0</u>	<u>2.7</u>

**Core Function 300:**

**Assurance:** Assurance to constituents that services necessary to achieve agreed-on goals are provided by encouraging actions of others (public or private), requiring action through regulation, or providing services directly.

**BENCHMARK 301:** The trauma management information system (MIS) is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the trauma system, including a cost-benefit analysis.

**Essential Service: Evaluation**

**Indicator 301.1** The lead trauma authority ensures that each member hospital of the trauma system collects and uses patient data as well as provider data to assess system performance and to improve quality of care. Assessment data are routinely submitted to the lead trauma authority.

1. There is no system-wide management information data collection system that the trauma centers and other community hospitals regularly contribute to or use to evaluate the system.
2. There is a trauma registry system in place in the trauma centers, but it is used by neither all facilities within the system nor the lead trauma authority to assess system performance.
3. The trauma management information system contains information from all facilities within a geographic area.
4. The trauma management information system is used by the trauma centers to assess provider and system performance issues.
5. Hospital trauma registry data are routinely submitted to the lead trauma authority, are aggregated, and are used to evaluate overall system performance.
0. Not known

**Indicator 301.1 Results**

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>4.0</u>	<u>3.0</u>	<u>2.5</u>

**BENCHMARK 302: The trauma system is supported by an EMS system that includes communications, medical oversight, prehospital triage, and transportation; the trauma system, EMS system, and public health agency are well integrated.**

**Essential Service: Link To Provide Care**

**Indicator 302.1 There is well-defined trauma system medical oversight integrating the specialty needs of the trauma system with the medical oversight for the overall EMS system.**

**Note: The EMS system medical director and the trauma medical director may, in fact, be the same person.**

- 1. There is no medical oversight for EMS providers within the trauma system.**
- 2. EMS medical oversight for all levels of prehospital providers caring for the trauma patient is provided, but such oversight is provided outside of the purview of the trauma system.**
- 3. The EMS and trauma medical directors have integrated prehospital medical oversight for prehospital personnel caring for trauma patients.**
- 4. Medical oversight is routinely given to EMS providers caring for trauma patients. The trauma system has integrated medical oversight for prehospital providers and routinely evaluates the effectiveness of both online and offline medical oversight.**
- 5. The EMS and trauma system fully integrate the most up-to-date medical oversight and regularly evaluate program effectiveness. System providers are included in the development of medical oversight policies.**
- 0. Not known**

**Indicator 302.1 Results**

<b><u>2007 BIS SCORE</u></b>	<b><u>2011 BIS SCORE</u></b>	<b><u>2013 BIS SCORE</u></b>
<b><u>3.0</u></b>	<b><u>2.0</u></b>	<b><u>3.0</u></b>

**Indicator 302.6 There are mandatory system-wide prehospital triage criteria to ensure that trauma patients are transported to an appropriate facility based on their injuries. These triage criteria are regularly evaluated and updated to ensure acceptable and system-defined rates of sensitivity and specificity for appropriately identifying the major trauma patient.**

- 1. There are no mandatory universal triage criteria to ensure trauma patients are transported to the most appropriate hospital.**
- 2. There are differing triage criteria guidelines used by different providers. Appropriateness of triage criteria and subsequent transportation are not evaluated for sensitivity or specificity.**
- 3. Universal triage criteria are in the process of being linked to the management information system for future evaluation.**
- 4. The triage criteria are used by all prehospital providers. There is system-wide evaluation of the effectiveness of the triage tools in identifying trauma patients and in ensuring that they are transported to the appropriate facility.**
- 5. System participants routinely evaluate the triage criteria for effectiveness. There is linkage with the trauma system, and sensitivity and specificity (over- and under-triage rates) of the tools used are regularly reported through the trauma lead authority. Updates to the triage criteria are made as necessary to improve system performance.**
- 0. Not known**

Indicator 302.6 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>4.0</u>	<u>4.0</u>	<u>3.9</u>

**BENCHMARK 303: Acute care facilities are integrated into a resource-efficient, inclusive network that meets required standards and that provides optimal care for all injured patients.**

**Essential Service: Link To Provide Care**

**Indicator 303.1 The trauma system plan has clearly defined the roles and responsibilities of all acute care facilities treating trauma and of facilities that provide care to specialty populations (e.g., burn, pediatric, spinal cord injury, and others).**

- 1. There is no trauma system plan that outlines roles and responsibilities of all acute care facilities treating trauma and of facilities that provide care to special populations.**
- 2. There is a trauma system plan, but it does not address the roles and responsibilities of licensed acute care and specialty care facilities.**
- 3. The trauma system plan addresses the roles and responsibilities of licensed acute care facilities or specialty care facilities, but not both.**
- 4. The trauma system plan addresses the roles and responsibilities of licensed acute care facilities and specialty care facilities.**
- 5. The trauma system plan clearly defines the roles and responsibilities of all acute care facilities treating trauma within the system jurisdiction. Specialty care services are addressed within the plan, and appropriate policies and procedures are implemented and tracked.**
- 0. Not known**

Indicator 303.1 Results

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>3.0</u>	<u>3.0</u>	<u>3.8</u>

**BENCHMARK 307: To maintain its state, regional, or local designation, each hospital will continually work to improve the trauma care as measured by patient outcomes.**

**Essential Service: Evaluation**

**Indicator 307.1 The trauma system engages in regular evaluation of all licensed acute care facilities that provide trauma care to trauma patients and designated trauma hospitals. Such evaluation involves independent external reviews.**

- 1. There is no ongoing mechanism for the trauma system to assess or evaluate the quality of trauma care delivered by all licensed acute care facilities that provide trauma care to trauma patients and designated trauma hospitals.**
- 2. There is a mechanism for the trauma system to evaluate trauma care services in designated trauma hospitals through internal performance improvement processes.**

3. There is a mechanism to evaluate trauma care services across the entire trauma care system through performance improvement processes.
4. Review of trauma care quality is both internal (through routine monitoring and evaluation) and external (through independent review during re-designation or re-verification of trauma centers).
5. Quality of trauma care is ensured through both internal and external methods. Internal review is regular, and participation is routine for trauma stakeholders. External independent review teams provide further assurance of quality trauma care within all licensed acute care and trauma facilities treating trauma patients.
0. Not known

**Indicator 307.1 Results**

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>4.0</u>	<u>1.0</u>	<u>3.2</u>

**BENCHMARK 308: The lead agency ensures that adequate rehabilitation facilities have been integrated into the trauma system and that these resources are made available to all populations requiring them.**

**Essential Service: Link To Provide Care**

**Indicator 308.1 The lead agency has incorporated, within the trauma system plan and the trauma center standards, requirements for rehabilitation services including interfacility transfer of trauma patients to rehabilitation centers.**

1. There are no written standards or plans for the integration of rehabilitation services with the trauma system or with trauma centers.
2. The trauma system plan has incorporated the use of rehabilitation services, but the use of those facilities for trauma patients has not been fully realized.
3. The trauma system plan has incorporated requirements for rehabilitation services. The trauma centers routinely use the rehabilitation expertise although written agreements do not exist.
4. The trauma system plan incorporates rehabilitation services throughout the continuum of care. Trauma centers have actively included rehabilitation services and their programs in trauma patient care plans.
5. There is evidence to show a well-integrated program of rehabilitation is available for all trauma patients. Rehabilitation programs are included in the trauma system plan, and the trauma centers work closely with rehabilitation centers and services to ensure quality outcomes for trauma patients.

0. Not known

**Indicator 308.1 Results**

<u>2007 BIS SCORE</u>	<u>2011 BIS SCORE</u>	<u>2013 BIS SCORE</u>
<u>2.0</u>	<u>1.0</u>	<u>2.0</u>

**BENCHMARK 311: The lead agency acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the trauma system.**

**Essential Service: Enforce Laws**

**Indicator 311.4 Laws, rules, and regulations are routinely reviewed and revised to continually strengthen and improve the trauma system.**

- 1. There is no process for examining laws, rules, or regulations.**
- 2. Laws, rules, and regulations are reviewed and revised only in response to a "crisis" (e.g., malpractice insurance costs).**
- 3. Laws, rules, and regulations are reviewed and revised on a periodic schedule (e.g., every 5 years).**
- 4. Laws, rules, and regulations are reviewed by agency personnel on a continuous basis and are revised as needed.**
- 5. Laws, rules, and regulations are reviewed as part of the performance improvement process involving representatives of all system components and are revised as they negatively impact system performance.**
- 0. Not known**

**Indicator 311.4 Results**

<b><u>2007 BIS SCORE</u></b>	<b><u>2011 BIS SCORE</u></b>	<b><u>2013 BIS SCORE</u></b>
<b><u>4.0</u></b>	<b><u>4.0</u></b>	<b><u>3.6</u></b>

**A more detailed description of the consensus scores can be found in the 2013 Self-Assessment for Clark County Trauma System Planning, Development, and Evaluation Report**  
**(<http://www.southernnevadahealthdistrict.org/ems/documents/ems/clark-county-trauma-system-self-assessment-2013.pdf>).**

**Comment [ME116]:** A recommendation was made to move the results of the trauma system assessments from the "Needs Assessments" section to the "Appendix" for reference.

**Comment [ME117]:** This new section was added as recommended by workgroup members to provide details about the trauma system assessment tool and results to allow comparison of the status of system development over time.

APPENDIX D

**[Southern Nevada  
Health District]**

**Trauma System  
Performance Improvement  
Plan**

**[March 18, 2009]**  
**February 26, 2015**

## TERMS AND ACRONYMS

**Comment [B1]:** Added "Terms and Acronyms" as recommended by workgroup.

ACS-COT ----- means American College of Surgeons Committee on Trauma

Board ----- means Southern Nevada District Board of Health

Health Officer ----- means Chief Health Officer of the Southern Nevada Health District or the Chief Health Officer's designee

HIPAA ----- means Health Insurance Portability and Accountability Act

HSPR ----- means Health Statistics, Planning and Response

ICD-9-CM ----- means International Classification of Diseases, Ninth Revision, Clinical Modification

NRS ----- means Nevada Revised Statutes

EMSTS/OEMSTS ----- means Southern Nevada Health District Office of Emergency Medical Services & Trauma System

PIPS ----- means Performance Improvement and Patient Safety Program

RTAB ----- means Regional Trauma Advisory Board

SNHD ----- means Southern Nevada Health District

TMAC ----- means Trauma Medical Audit Committee

TMD ----- means Trauma Medical Director

TPM ----- means Trauma Program Managers

TRUG ----- means Trauma Registry User Group

## Table of Contents

Comment [B2]: Added "Table of Contents" as recommended by workgroup.

<u>Terms and Conventions</u> .....	2
<u>Philosophy of the Southern Nevada Health District</u>	
<u>Emergency Medical Services &amp; Trauma System Program</u> .....	4
<u>Mission and Vision</u> .....	4
<u>Authority &amp; Scope</u> .....	4
<u>Trauma Patient Population Criteria</u> .....	5
<u>Data Collection and Analysis</u> .....	5
<u>Process for Monitoring Compliance</u> .....	6
<u>Review Process</u> .....	7
<u>Trauma Performance Improvement Committee Structure</u> .....	7
<u>Referral Process for Investigation or Review</u> .....	8
<u>Determination of Judgments</u> .....	11
<u>Corrective Action Planning</u> .....	12
<u>Documentation of Analysis and Evaluation</u> .....	13
<u>Loop Closure and Re-evaluation</u> .....	13
<u>Integration into Emergency Medical Services Performance Improvement Process</u> .....	13
<u>Confidentiality Protection</u> .....	14

## Appendices

<u>Appendix A: Trauma Medical Audit Committee</u> .....	16
<u>Appendix B: Levels of Performance Improvement Review</u> .....	20
<u>Appendix C: District Procedure for Primary Performance Improvement Case Review</u> .....	22
<u>Appendix D: Criteria for Trauma Case Selection</u> .....	22
<u>Appendix E: TMAC Process Algorithm</u> .....	24
<u>Appendix F: Trauma Center Case Summary</u> .....	25
<u>Appendix G: Non-trauma Center Hospital Case Summary</u> .....	26
<u>Appendix H: Guideline for Judgment Concerning Mortality Determination (ACS)</u> .....	28
<u>Appendix I: Guideline for Judgment Concerning Morbidity</u> .....	30
<u>Appendix J: Trauma Medical Audit Committee Corrective Action Plan</u> .....	31
<u>Appendix K: Trauma Center Quarterly Report</u> .....	32
<u>Appendix L: Clark County EMS System Trauma Field Triage Criteria Protocol</u> .....	37

**Southern Nevada Health District**  
**Emergency Medical Services & Trauma System Program**

The Southern Nevada Health District (SNHD) is committed to protecting and promoting the health and well-being of the residents and visitors of Clark County, Nevada which includes regulatory oversight of the Emergency Medical Services and Trauma System.

**Comment [ME3]:** New language added to reflect Society of Trauma Nurses (STN) recommended content for trauma performance improvement (PI) plans.

**[Introduction]**  
**Mission and Vision**

**Comment [ME4]:** New title added to reflect STN recommended content for trauma PI plans.

The [purpose] mission of the [Southern Nevada Health District] SNHD Trauma Performance Improvement [Plan] Program is to protect the public by assuring optimal trauma system operation and high quality trauma care resulting in the best possible patient outcomes. The Trauma Performance Improvement [p] Plan provides a framework that establishes objective mechanisms to determine whether medical care rendered to patients requiring the resources of the trauma system is safe, appropriate, and meets acceptable local and national standards. A continuous, comprehensive, multi-disciplinary, evidence-based, performance improvement process promotes monitoring and evaluation of the trauma system; identification of opportunities for improvement; and development of corrective strategies. It is an essential component of the trauma system.

**Comment [ME5]:** Minor housekeeping changes throughout this section.

**Authority and Scope**

**Comment [ME6]:** Title revised to reflect STN recommended content for trauma PI plans.

~~[While the Nevada State Health Division]~~ The Nevada Department of Health and Human Services, Division of Public and Behavioral Health (DPBH) is designated by [state statute] Nevada Revised Statute (NRS) 450B.237 as having primary authority over the establishment of a program for the treatment of trauma throughout the state. In 2005, the authority to plan, implement, and monitor the Clark County trauma care system ~~[has been]~~ was delegated to the Southern Nevada District Board of Health. The District Board of Health has established and adopted a comprehensive trauma system plan and regulations which include consideration of and plans for the development and designation of new trauma centers in the county, based on the demographics of the county, and the manner in which the county may most effectively provide trauma services. This authority provides a unique opportunity to develop a trauma system that reflects local guidelines, protocols, and practices and that is responsive to the needs of Southern Nevada.

**Comment [ME7]:** Minor housekeeping changes in this section.

**Comment [ME8]:** New language more clearly describes SNHD's role in trauma system regulation.

Trauma System Regulation 200.100 requires the Office of Emergency Medical Services & Trauma System (OEMSTS) to develop a trauma performance improvement plan to provide continuous assessment of the structure, function, and effectiveness of the system. The plan must include the adoption and implementation of a standardized system to collect and manage data, specific to trauma system evaluation and planning, from permitted EMS agencies, trauma centers, hospitals, and other healthcare organizations. All EMS agencies, trauma centers, and hospitals that receive trauma patients are required to provide data when requested.

**Comment [ME9]:** New language more clearly describes the purpose of the "Trauma Performance Improvement Plan."

**Comment [B10]:** Reflects name change endorsed by RTAB.

The [Clark County] Southern Nevada Trauma System Plan directs that trauma system performance improvement is a high priority and should promote public safety and quality patient outcomes through accountable and objective performance improvement activities. The trauma system performance improvement process consists of three major elements: 1) the internal process within each trauma center; 2) the external process which includes periodic audits of each trauma center by the ~~[Nevada State Health Division]~~ DPBH and/or ~~[Southern Nevada Health District]~~ [HSNHD]; scheduled independent

evaluations of trauma care and the trauma system by trauma care experts from the American College of Surgeons Committee on Trauma (ACS-COT); and system review and analysis by the Trauma Medical Audit Committee (TMAC), including confidential evaluation of the quality and efficiency of actual medical services when the TMAC functions as a peer review committee; and 3) ongoing data collection, monitoring, and analysis of trauma data at the local, state, and national level to identify trends, gaps, and needs.

Comment [ME11]: Minor housekeeping changes in this section.

The ~~[Southern Nevada Health District]~~ [SNHD], as the lead regulatory agency in Clark County, plays a central role in the acquisition and analysis of trauma system data. In addition, the Regional Trauma Advisory Board (RTAB) and TMAC share responsibility for interpreting the data to evaluate the efficiency and effectiveness of the trauma system and for determining progress in meeting identified performance goals and benchmarks.

Comment [B12]: Housekeeping

The intent of this document is to define the process of performance improvement utilized within the ~~[Clark County]~~ [Southern Nevada] ~~[t]~~ [Trauma] ~~[s]~~ [System].

Comment [B13]: Housekeeping

### **Trauma Patient Population Criteria**

A trauma patient is defined by Trauma System Regulations as a person who has sustained an acute injury which meets the trauma field triage criteria as outlined in the Clark County EMS System Trauma Field Triage Criteria Protocol. (Appendix L) A patient with major trauma is defined as a person who has sustained an acute injury which has the potential of being fatal or producing major disability and/or has an injury severity score of greater than 15.

Trauma patients who sustain injuries that meet the criteria outlined by the National Trauma Data Bank are included in the state trauma registry, if the following conditions are met:

- The patient has at least one injury diagnostic code that falls within the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) ranges of 800-904.99, 925-929.99, or 940-959.99, and
- The patient was admitted to a health care facility or died following treatment or evaluation or was transferred into or out of a health care facility.

Comment [ME14]: New language added to reflect STN recommended content for trauma PI plans.

### **Data Collection and Analysis**

Comment [B15]: Title changed to reflect STN recommended content for trauma PI plans.

~~The [Clark County]~~ Southern Nevada Trauma System Plan defines the need to develop an information system that facilitates timely collection of data, utilizing consistent data sets, from the participants in the trauma care system. Quantitative and qualitative analysis and trending of the available data, from mutually agreed upon data sources, will be done using performance indicators and national evidence-based benchmarks to enhance system evaluation, planning and improvement. Such data sources include: prehospital care records, trauma field triage criteria transport reports, trauma center reports, state trauma registry reports, National Trauma Data Bank reports, Trauma Quality Improvement Program reports, medical examiner reports, and the most recent Universal Billing Code data. To enhance local data collection efforts, the OEMSTS may require trauma centers to submit quarterly state trauma registry reports to the OEMSTS in addition to the DPBH.

Comment [ME16]: New language recommended by workgroup.

Comment [ME17]: New language recommended by workgroup.

The collection and analysis of data should include methods of monitoring system performance which results in problem identification, development of corrective action plans, reevaluation, problem resolution, outcome improvement, and loop closure.

**Comment [ME18]:** New language based on recommendations for PIPS programs found in ACS-COT *Resources for Optimal Care of the Injured Patient* document.

The Trauma Registry User Group (TRUG) will evaluate, plan, implement and monitor the trauma registry and other data sources to maintain consistency of the data collection process. The membership will be drawn from the Trauma Program Managers (TPM) and the Trauma Registrars at the trauma centers and the ~~[Regional Trauma Coordinator]~~ EMSTS manager or designee. The TRUG will meet at least annually.

**Comment [B19]:** Existing language moved from section titled "Trauma Data Collection, Analysis and Trending" to this new section titled "Data Collection and Analysis."

**Comment [ME20]:** Workgroup recommended at least annual meeting and as necessary.

**Comment [ME21]:** Title changed to reflect STN recommended content for trauma PI plans.

### **[Trauma System Performance Improvement] Process for Monitoring Compliance**

#### **Internal Performance Improvement**

According to the most recent edition of the ACS-COT "Resources for Optimal Care of the Injured Patient" publication, ~~[E]~~each trauma center must have a formal, validated, and fully functional internal medical performance improvement and patient safety (PIPS) program for its trauma service. As such, each trauma center will have a written performance improvement plan which describes this program. The PIPS program must include a reliable method for collecting data which can be used to identify opportunities for improvement, facilitate development of corrective action plans, and monitor, reevaluate, benchmark and document problem resolution and outcome improvements.

**Comment [B22]:** Identifies source document for changes throughout the plan.

**Comment [B23]:** Language added to reflect required criteria for PIPS from *Resources for Optimal Care of the Injured Patient* document.

~~[The Trauma Medical Director (TMD) at each institution will be responsible for maintaining accepted standards of trauma care and for compliance with the [Clark County] Southern Nevada Trauma System Plan.~~

As part of the internal performance improvement process, each trauma center will perform its own case reviews and focused audits to identify specific issues or trends and develop appropriate actions to address identified issues. It is then the responsibility of the respective ~~[Trauma Medical Directors]~~ TMD and TPM to identify all trauma cases (including all trauma deaths) that meet the ~~[Clark County] Southern Nevada~~ [t]Trauma [s]System minimum medical audit criteria for external performance improvement review. (Appendix D)

**Comment [ME24]:** Minor housekeeping changes throughout this section.

#### **External Performance Improvement**

The trauma system performance improvement process is designed to recognize the interdisciplinary nature of trauma care and includes the trauma center/trauma system review process and the trauma medical audit review process.

#### **Trauma Center/Trauma System Review**

- Designated Trauma Center Audits: Periodic reviews will be performed by the ~~[Nevada Department of Health and Human Services, Division of] DPBH [Health,] Bureau of [Health Care Quality & Compliance (HCQC)] Preparedness, Assurance, Inspections and Statistics (PAIS)~~ and/or ~~[SNHD]~~ to determine compliance with applicable state statutes, county regulations, and the ~~[Clark County] Southern Nevada Trauma System Plan~~. The audits may include random chart reviews, reviews of trauma registry data, policies, procedures, performance improvement plans, and other records or documents.

**Comment [B25]:** Reflects change in Division name.

**Comment [B26]:** Trauma program moved from HCQC to PAIS.

**Comment [b27]:** Shared responsibility with certain tasks delegated to SNHD.

**Comment [B28]:** Housekeeping

For designated Level I, II and III trauma centers, this process ~~[will]~~ may be incorporated into the ~~[T]rauma [C]enter [V]erification~~ process by the ~~[American College of Surgeons]~~ ACS-COT

**Comment [B29]:** Intent is to provide flexibility for periodic reviews during verification or as needed

and has unanimous support of all designated trauma centers within the ~~[Clark County]~~ Southern Nevada ~~[t]Trauma [s]System.~~

Comment [B31]: Housekeeping

- Verification of Trauma Centers/Trauma System: On-site reviews will be conducted every three years by out-of-state trauma specialists from the ~~[American College of Surgeons]~~ ACS-COTI to allow for independent evaluation to verify an institution's capabilities and performance as a trauma center based on the criteria contained in the most current "Resources for Optimal Care of the Injured Patient" document. The reviews are designed to evaluate the quality of care rendered by the trauma center and to assess the trauma center's participation in the overall effectiveness of the trauma system.

Comment [B32]: Housekeeping

### Review Process

The process for monitoring and reviewing the performance of the Southern Nevada Trauma System also includes identification of process or system related issues that need to be addressed in order to promote a culture that fosters patient care and system improvements that align with national benchmarks. When an event is identified by an individual or an entity, the process for review should include verification and validation of the issue, investigation of the relevant facts, resolution, feedback and documentation of the activity for ongoing monitoring and trend analysis. (Appendix B)

Comment [ME33]: Added clarifying language to describe PI review process as described in *Resources for Optimal Care of the Injured Patient* document and included language that reflects STN recommendations for PI plans.

### Trauma Performance Improvement Committee Structure

~~[Trauma Medical Audit Review Process:]~~ The cornerstone of the trauma ~~[medical audit]~~ system review process is the TMAC. The TMAC is a multidisciplinary medical review committee of the ~~[d]District [b]Board of [h]Health~~ that will meet regularly, including as a peer review committee, to review and evaluate trauma care in the system, monitor trends in system performance, and make recommendations for system improvements. ~~[The TMAC will assess each of the trauma centers and the trauma care system, including emergency medical services, to assure optimal care delivery. Functioning as a peer review committee, the TMAC will evaluate the quality and efficiency of actual trauma care globally and on a case-by-case basis.]~~ The TMAC is designed to evaluate and improve trauma care by conducting detailed mortality and morbidity review of cases that meet one or more of the medical audit criteria, that have exceptional educational or scientific benefit, or that involve medical issues which require discussion or resolution. The TMAC, when functioning as a peer review committee, will discuss the quality and efficiency of medical care rendered and will make recommendations either to the provider organization or EMS agency, as appropriate, for improved trauma care or system ~~[improvements]~~ performance. In addition, the TMAC will provide an educational forum for trauma care and opportunities for analysis of data and information of scientific value for research and strategic planning of the trauma system.

Comment [ME34]: Title changed to reflect STN recommended content for trauma PI plans.

Comment [ME35]: Housekeeping

Comment [ME36]: Deleted redundant language that appeared when the TMAC description was moved from the "SNHD TMAC" section to this new section.

Comment [ME37]: Housekeeping

Comment [ME38]: Existing language moved from "SNHD TMAC" section.

The TMAC shall meet no less than quarterly, on the third Wednesday of the month, at times arranged by the members of the TMAC and the ~~[SNHD]~~ OEMSTS. The meetings will follow a structured format and an agenda prepared by the ~~[Regional Trauma Coordinator]~~ EMSTS manager or designee. ~~[(Appendix C)]~~

Comment [ME39]: Reflects change in title and responsibilities.

Comment [ME40]: Existing language moved from "Committee Meetings" section. Also removed reference to agenda format previously found in Appendix C.

Comment [B41]: Housekeeping

Comment [ME42]: Existing language moved from "SNHD TMAC" section.

The details of the TMAC process, including the scope of the committee, membership, attendance, voting rights and documentation are outlined in the ~~[Clark County]~~ Trauma System Regulations, Section 500, Trauma Medical Audit Committee. (Appendix A) The TMAC may appoint subcommittees, either standing or ad hoc, as needed to fulfill its functions.

### Pre-Trauma Medical Audit Committee (TMAC)

Comment [ME43]: Housekeeping

The Pre-TMAC review team is a multidisciplinary subcommittee of the TMAC *that is responsible for the initial screening of cases for referral to the TMAC. The Pre-TMAC shall meet no less than quarterly, on the third Wednesday of the month preceding the TMAC meeting, at times arranged by the members of the Pre-TMAC and the OEMSTS.*

Comment [ME44]: Added clarifying language regarding committee meetings.

The Pre-TMAC standing members include:

Comment [ME45]: Housekeeping

- At least one ~~[Trauma Medical Director]~~ TMD (rotating)
- ~~[Trauma Program Managers]~~ TPMs
- ~~[Regional Trauma Coordinator]~~ EMSTS manager or designee

Comment [B46]: Housekeeping

Comment [B47]: Housekeeping

Comment [ME48]: Reflects change in title and responsibilities.

The ad hoc members that may participate include:

- Chair~~[person]~~man of the TMAC
- Vice chair~~[person]~~man of the TMAC
- EMS Agency ~~[Medical Director]~~ representative (rotating)
- ~~[Pre-hospital]~~ EMS QI Directors Committee representative
- Non-trauma center hospital representative ~~[(ED Medical Director or General Surgery Physician)]~~
- County Medical Examiner or his/her designee
- Subject matter experts

Comment [B49]: Housekeeping

Comment [B50]: Change provides greater flexibility.

Comment [B51]: Housekeeping

Comment [ME52]: Examples not intended to be restrictive.

Comment [ME53]: Allows for invited guests, as needed.

### Referral Process for Investigation or Review

Comment [ME54]: Title changed to reflect STN recommended content for trauma PI plans.

#### TMAC Peer Review Process

The first step in the TMAC peer review process is the identification of cases for Pre-TMAC/TMAC review. Based upon the ~~[guidelines]~~ criteria for trauma case selection approved by the RTAB, ~~[the Trauma Medical Directors and Trauma Program Managers at]~~ each trauma center will submit cases to the Pre-TMAC review team. (Appendix ~~[E]~~D) The ~~[Trauma Medical Director]~~ TMD or ~~[Trauma Program Manager]~~ TPM will complete a Pre-TMAC case summary following a uniform format. (Appendix F) Identified non-trauma center hospital cases will require a case summary to be completed by a representative of that hospital following the uniform format outlined in Appendix G.

Comment [ME55]: Housekeeping changes recommended by workgroup.

Comment [ME56]: Language added to define non-trauma center hospital responsibilities.

Comment [ME57]: Reflects change in title and responsibilities.

Comment [ME58]: Changes recommended by workgroup to allow OEMSTS staff to invite specialty representative(s), if requested by committee members.

Comment [ME59]: Added clarifying language.

The EMSTS manager or designee should be notified at least two (2) weeks prior to the Pre-TMAC meeting if ad hoc members of the Pre-TMAC or other specialty representatives need to be invited to participate in the meeting. The ~~[Pre-TMAC]~~ case summaries should be submitted by the TPM or EMSTS manager or designee ~~[to the Regional Trauma Coordinator]~~ at the Pre-TMAC meeting. All cases submitted will be reviewed at the Pre-TMAC meeting which will be scheduled at least quarterly.

#### Pre-TMAC Screening Process

The screening conducted through the Pre-TMAC process includes not only the medical care provided at the trauma centers, but may also include review of prehospital care, non-trauma center hospital care prior to transfer, deaths of trauma patients in non-trauma center hospitals and those who die at the scene.

Comment [B60]: Based on recommendation of workgroup, existing language moved to beginning of this section with addition of new language to reflect the option of reviewing care provided at non-trauma center hospitals prior to transfer to a trauma center.

The Pre-TMAC will perform the initial screening of ~~[trauma center]~~ cases to be submitted to the TMAC that meet the minimum medical audit criteria for case review or have special educational or scientific value. (Appendix C) ~~[Other cases may be selected for review by the Trauma Medical Directors, Trauma~~

~~Program Managers or the SNHD Office of Emergency Medical Services & Trauma System (OEMSTS). When the cases are selected,] The initial screening will include:~~

1. Reviewing each case and developing specific questions about identified issues; ~~[are developed and]~~
2. Requesting additional case information, if needed;
3. Discussing identified or previously unidentified opportunities for system improvement;
4. Providing [the] information [is provided] to the respective [Trauma Medical Directors] TMD, [and Trauma Program Managers] TPM or non-trauma center hospital representative so they can prepare the case(s) for formal review at the TMAC meeting; and
5. Forwarding [The] selected cases [are then forwarded] to the multidisciplinary TMAC to be presented and evaluated. (Appendix D)

**NOTE: Staff from the trauma center whose case is being considered should recuse themselves from the process of determining if their case should be forwarded to TMAC.**

~~Appendix [E]D outlines the RTAB approved screening [guidelines] criteria for assessing cases to be forwarded to the TMAC. Typically, the members of the Pre-TMAC review team, as well as the trauma centers, establish more rigorous screening processes. [The role of the Pre-TMAC cannot be overstated, since this is a critical phase of the comprehensive audit process.]~~

#### **[Membership of the Pre-TMAC Review Team]**

~~The Pre-TMAC review team is a multidisciplinary subcommittee of the TMAC.~~

~~The standing members include:~~

- ~~At least one Trauma Medical Director (rotating)~~
- ~~Trauma Program Managers~~
- ~~Regional Trauma Coordinator~~

~~The ad-hoc members that may participate include:~~

- ~~Chairperson of the TMAC~~
- ~~Vice chairperson of the TMAC~~
- ~~EMS Agency Medical Director (rotating)~~
- ~~Pre-hospital QI Directors Committee representative~~
- ~~Non-trauma center hospital representative (ED Medical Director or General Surgery Physician)~~
- ~~County Medical Examiner or his/her designee~~

#### **Review of Deaths – Medical Examiner's Participation**

The participation of the Clark County Coroner's Office is an important component of the trauma system's performance improvement activities. Upon request of the ~~[Regional Trauma Coordinator]~~ EMSTS manager or designee, the coroner or his/her designee should provide the OEMSTS with access to medical examiners' reports on deaths due to traumatic injury within the county. Access to the requested autopsy reports should be provided prior to the TMAC meeting to allow review for completeness or obvious system care issues. The documents provided by the Coroner's Office are

**Comment [B61]:** Clarifying language in this section recommended by workgroup. References to the appendix added as recommended by TPPRC on 1-8-15.

**Comment [ME62]:** Workgroup recommended adding this language.

**Comment [B63]:** Housekeeping

**Comment [B64]:** Housekeeping

**Comment [B65]:** A recommendation was made to remove this sentence because it was considered superfluous.

**Comment [ME66]:** This section was moved to the new section titled "Trauma Performance Improvement Committee Structure."

**Comment [ME67]:** Reflects change in title and responsibilities.

**Comment [b68]:** Housekeeping

**Comment [ME69]:** Reflects current process.

**Comment [ME70]:** Reflects current process.

confidential and are only to be used by the medical review committee of the [d]District [b]Board of [h] Health when functioning as a peer review committee.

~~Trauma-related~~ [D]deaths that occur at a non-trauma center hospital will be reviewed at the Pre-TMAC meeting. If further investigation of any case is required, ~~the Trauma Medical Director, or his/her designee, whose catchment area covers the particular non-trauma center hospital~~ the EMSTS manager or designee, will be the person primarily responsible for ~~providing~~ requesting information related to the case. A representative from the non-trauma center hospital may be invited to either the Pre-TMAC or TMAC, as needed. Specific cases will be presented at the TMAC meeting by the ~~reviewing Trauma Medical Director.~~ representative of the non-trauma center hospital or their designee.

**Comment [B71]:** Housekeeping as recommended by TPPRC on 1-8-15.

**Comment [ME72]:** Reflects change in title and responsibilities.

**Comment [B73]:** Added clarifying language regarding process.

**Comment [ME74]:** These changes were recommended to make the notification a third party invitation.

The Pre-TMAC screening process may identify any trauma-related death needing review and comment by the TMAC. Examples include:

- Deaths having been judged ~~“preventable” or “possibly preventable”~~ as “mortality without opportunity for improvement,” “anticipated mortality with opportunity for improvement,” and “unanticipated mortality with opportunity for improvement” by individual trauma center PIPS programs. (Appendix H)
- Other potential areas for TMAC review include, but are not limited to, adverse events which occur in trauma center or non-trauma center hospitals at any time during the episode of care.
  - ~~Deaths which occur in trauma centers and non-trauma center hospitals at a late post injury phase~~
  - ~~Any young (e.g., under 55 years of age) victim~~
  - ~~Victims dying greater than one hour, but less than six hours, after hospital arrival (excluding those with injuries to the heart or great vessels)~~
  - ~~Victims dying of exsanguinations, especially if an operative procedure to control hemorrhage was performed~~
  - ~~Victims having been in the hospital for an extended period prior to death~~

**Comment [B75]:** Revised to new language found in *Resources for Optimal Care of the Injured Patient* and STN documents and added reference to appendix as recommended by TPPRC on 1-8-15.

**Comment [ME76]:** Workgroup discussed the need to simplify this list and focus on those issues commonly associated with system failures. New language recommended by workgroup.

During the Pre-TMAC meeting, all cases will be reviewed, and cases requiring further discussion will be selected and referred to the TMAC.

~~The TMAC may select cases where questions are unresolved or information is insufficient to make a mortality category determination for review. All deaths must have a Trauma Medical Director's assessment of the management of the case and mortality category which best describes the case (i.e., non-preventable, potentially preventable, preventable). In any instance where a trauma-related death has occurred in a trauma center, the Probability of Survival (P<sub>s</sub>) is to be calculated as part of the case review.~~

**Comment [ME77]:** This content moved to new section titled “Determination of Judgments.”

#### Preparing Case Materials for the TMAC

The ~~[Regional Trauma Coordinator]~~ EMSTS manager or designee will notify the trauma center ~~or non-trauma center hospital~~ if any additional documentation, such as diagnostic films or treatment protocols, need to be available at the TMAC meeting. The Pre-TMAC case summaries will be utilized by the ~~[Regional Trauma Coordinator]~~ EMSTS manager or designee to prepare the agenda for the TMAC meeting. Any documentation reviewed during the Pre-TMAC meetings should remain in the custody of the trauma centers' staff.

**Comment [ME78]:** Reflects change in title and responsibilities.

**Comment [ME79]:** Added clarifying language as agreed upon by workgroup.

**Comment [ME80]:** Reflects change in title and responsibilities.

**Comment [ME81]:** Recommended language to ensure protection of documentation containing protected health information.

### [SNHD-TMAC]

[The TMAC is a multidisciplinary medical review committee of the district board of health, comprised of representatives as outlined in the Clark County Trauma System Regulations, Section 500, Trauma Medical Audit Committee. (Appendix A)]

The TMAC is designed to evaluate and improve trauma care by conducting detailed mortality and morbidity review of cases that meet one or more of the medical audit criteria, that have exceptional educational or scientific benefit, or that involve medical issues which require discussion or resolution. The TMAC, when functioning as a peer review committee, will discuss the quality and efficiency of medical care rendered and will make recommendations either to the provider organization or EMS agency, as appropriate, for improved trauma care or system improvements. The TMAC may appoint subcommittees, either standing or ad hoc, as needed to fulfill its functions.

The details of the TMAC process, including the scope of the committee, membership, attendance, voting rights and documentation are outlined in the Clark County Trauma System Regulations, Section 500, Trauma Medical Audit Committee. (Appendix A)]

### Determination of Judgments

[The TMAC may select cases where questions are unresolved or information is insufficient to make a mortality category determination for review. All deaths must have a [Trauma Medical Director's] TMD's assessment of the management of the case and mortality category which best describes the case (i.e., non-preventable, potentially preventable, preventable "*mortality without opportunity for improvement*," "*anticipated mortality with opportunity for improvement*," or "*unanticipated mortality with opportunity for improvement*") (Appendix H)]. In any instance where a trauma-related death has occurred in a trauma center, the Probability of Survival (P<sub>s</sub>) is to be calculated as part of the case review.]

### [Committee Meetings]

The TMAC shall meet no less than quarterly, on the third Wednesday of the month, at times arranged by the members of the TMAC and the SNHD OEMSTS. The meetings will follow a structured format and an agenda prepared by the Regional Trauma Coordinator. (Appendix C)]

### Case Presentation

The TMAC chair[person]man will facilitate the meeting, including the case reviews, discussions, recommendations or judgments. [SNHD] OEMSTS staff will formally document the proceedings and are responsible for storage of the information.

The [Trauma Medical Directors] TMD or his/her designees will present each case and respond to questions and comments related to the case. Case presentations should include all pertinent clinical data and other essential information and materials necessary. Comments will be solicited from the expert members of the TMAC in fields such as emergency medicine, pathology, neurosurgery, anesthesia, radiology, internal medicine, orthopedic surgery, trauma nursing, etc.

The comments and recommendations of the experts will be included in the TMAC summary of the presented case with the same requirement for action, follow-up or subsequent further review by the TMAC as any other case.

Comment [ME82]: The language from this section was incorporated into a new section titled "Trauma Performance Improvement Committee Structure."

Comment [ME83]: Title changed to reflect STN recommended content for trauma PI plans.

Comment [ME84]: Revised to new language found in *Resources for Optimal Care of the Injured Patient* and STN documents and added reference to appendix as recommended by TPPRC 1-8-15.

Comment [ME85]: Existing language moved from "Review of Deaths – Medical Examiner's Participation."

Comment [ME86]: This content was moved to new section titled "Trauma Performance Improvement Committee Structure."

Comment [B87]: Housekeeping

Comment [B88]: Housekeeping

Comment [B89]: Housekeeping

**NOTE:** ~~Staff from the trauma center whose case is being reviewed will not participate in the decisions for case determination for their hospital.~~

Comment [B90]: Housekeeping

#### Categorization of Select Non-Death Cases

All non-death cases referred to TMAC for review will be discussed and a resolution or determination should be agreed upon. In cases where the issue is resultant patient morbidity, the Guideline for Judgment Concerning Morbidity Determination (Appendix I) should be utilized in determining the morbidity categorization. A quorum of TMAC members must be present for morbidity categories to be determined.

Comment [B91]: Housekeeping

#### Categorization of Trauma-Related Deaths

All trauma-related deaths should be included in the Pre-TMAC screening process and may be forwarded to the TMAC. TMAC may require detailed presentation of any death identified from the review summaries from all trauma-related deaths. A death case where the autopsy is unavailable will be held over for review until the autopsy report becomes available.

Following presentation, in-hospital deaths reviewed will be considered for outcome determination by the TMAC. Any discrepancies in trauma center death categorization will be discussed and finalized by the committee. Category guidelines are contained in the Guideline for Judgment Concerning Mortality Determination (ACS). (Appendix H)

Comment [B92]: Housekeeping

#### Non-Trauma Center Hospital Case Review

Feedback to the non-trauma center hospitals is critical to the performance improvement process for the trauma system. The ~~[Trauma Medical Director or his/her designee of the trauma center, whose catchment area covers the particular non-trauma center hospital]~~ TMAC chairman will be ~~[appointed as the person]~~ primarily responsible for leading the discussion to provide ~~[providing this]~~ feedback.

Comment [ME93]: This activity falls within the responsibilities of the TMAC chair.

~~[The appointed physician or his/her designee]~~ Issues identified through the criteria for trauma case selection (Appendix D) or performance improvement review (Appendix B) process should be presented at the Pre-TMAC and reported ~~[the case findings]~~ to the TMAC, if needed.

Comment [B94]: Language added to clarify process.

Following presentation, a case will be considered for outcome determination by the TMAC. Cases will be discussed and finalized by the committee using the criteria found in the Guideline for Judgment Concerning Mortality Determination (ACS) (Appendix H) or the Guideline for Judgment Concerning Morbidity Determination (Appendix I).

Comment [B95]: To promote loop closure on non-trauma center case reviews, new language was added as recommended by TPPRC on 1-8-15.

The ~~[SNHD]~~ Trauma Field Triage Criteria Protocol (Appendix L) allows EMS agencies to transport patients who are outside a 50-mile radius from a designated trauma center to the nearest receiving facility, which may be a non-trauma center hospital. Such cases may be reviewed within the Pre-TMAC/TMAC process. ~~(Appendix [G]B)~~

Comment [B96]: Housekeeping

Comment [B97]: Housekeeping

#### Corrective Action Planning

Comment [ME98]: Title changed to reflect STN recommended content for trauma PI plans.

#### Finalization of Case Review

Comment [ME99]: Housekeeping

All cases presented by the trauma centers to TMAC, in which patient care was administered, will include discussion of findings and action plans that were created in their PIPS program.

At the conclusion of each case review, the TMAC members will discuss the case and provide comments and/or recommendations to the trauma center. (Appendix J)

When an opportunity for improvement is identified, the TMAC should develop a corrective action plan to mitigate or prevent similar events from occurring in the future. Analysis of available data should direct appropriate evidence-based strategies to address the issue. The action plan should include measurable objectives, a method of assigning accountability for completion of each step of the action plan, a reasonable timeline, and re-evaluation of the desired outcome to assure resolution. (Appendix J)

### Documentation of Analysis and Evaluation

#### [Case Summaries – SNHD OEMSTS]

Minutes for the TMAC will be kept by OEMSTS staff and distributed to the members at each meeting. Corrective action plans will be created using a uniform format as outlined in Appendix J. [Copies of] The case summaries for cases reviewed from each trauma center or non-trauma center hospital, together with the recommendations for action and the comments of the TMAC, will be documented, reviewed and monitored for significant trending by the [Regional Trauma Coordinator] EMSTS manager or designee.

Per Trauma System Regulation 500.000, all proceedings, documents and discussions of the TMAC, when functioning as a peer review committee, are confidential and are covered under NRS 49.117 - 49.123 and NRS 49.265. The privilege relating to discovery of testimony provided to the TMAC shall be applicable to all proceedings and records of the TMAC whose purpose is to review, monitor, evaluate, and report on trauma system performance.

### Loop Closure and Re-evaluation

Any issues identified through the review process that result in the development of an action plan will be monitored and re-evaluated (loop closure), on at least a quarterly basis, until the issue is considered resolved by the TMAC and OEMSTS.

[Additionally, t]The [SNHD] OEMSTS will monitor the activities of the TMAC for necessary further action in the form of SNHD regulation, procedure or protocol changes or referral of issues to the RTAB or other appropriate advisory boards or committees.

The [SNHD] OEMSTS does maintain the right to utilize independent outside expert review when quality of care issues are noted, which are not resolved through the TMAC process. The [SNHD] OEMSTS will collaborate with the trauma center where the issue has been identified to attempt a resolution that is agreeable to both the [SNHD] OEMSTS and the trauma center. If the issue is not resolved in this manner the case may be forwarded to the [State of Nevada, Department of Health & Human Services, Division of Health,] DPBH Bureau of [HCQC] PAIS.

### Integration into Emergency Medical Services Performance Improvement Process

#### [EMS/Trauma Performance Improvement Committee]

Comment [B100]: Added reference to appendix as recommended by TPPRC on 1-8-15.

Comment [ME101]: New language to reflect action planning process recommended by the ACS-COT and STN.

Comment [ME102]: Title changed to reflect STN recommended content for trauma PI plans.

Comment [ME103]: Housekeeping

Comment [ME104]: Added clarifying language to describe process recommended by STN.

Comment [B105]: Housekeeping

Comment [ME106]: Added clarifying language as agreed upon by workgroup.

Comment [ME107]: Reflects change in title and responsibilities.

Comment [ME108]: Added clarifying language from regulations.

Comment [ME109]: Title changed to reflect STN recommended content for trauma PI plans.

Comment [ME110]: New language added to reflect recommendations of the ACS-COT and STN.

Comment [B111]: Housekeeping

Comment [B112]: Housekeeping

Comment [ME113]: Housekeeping changes throughout section.

Comment [B114]: Title changed to reflect STN recommended content for trauma PI plans.

Comment [B115]: Housekeeping

~~The [EMS/Trauma Performance Improvement Committee]~~ EMS Quality Improvement Directors Committee ~~[will] functions as a subcommittee of the [RTAB] Medical Advisory Board. [its] The membership includes [representatives from the permitted EMS agencies, designated trauma centers and other stakeholders]~~ the quality improvement directors and/or medical directors for all permitted EMS agencies, the TMAC chairman or designee, and OEMSTS staff.

**Comment [ME116]:** The responsibilities of the EMS/Trauma Performance Improvement Committee were transferred to the existing EMS Quality Improvement Directors Committee. A representative from the TMAC was added to the EMS QI Directors committee.

The mission of the committee is to ensure the coordination, integration, efficiency and effectiveness of the ~~[interface between the]~~ EMS and trauma system. The system components that should be regularly evaluated include: communication, medical oversight, prehospital triage and transportation, and measurement of patient outcomes. The committee will analyze current data and identify new data sources, information and research to promote system assessment and improvement.

**Comment [B117]:** Existing language moved from section titled "Trauma Data Collection, Analysis and Trending" with minor housekeeping changes throughout this section.

### Confidentiality Protection

**Comment [ME118]:** Title changed to reflect STN recommended content for trauma PI plans.

When functioning as a peer review committee, the TMAC and its subcommittees, including the Pre-TMAC review team, are protected by the same confidentiality privilege provided to peer review committees of hospitals. NRS 49.117 expands the peer review committee protection to a medical review committee of a district board of health that certifies, licenses or regulates EMS providers pursuant to NRS Chapter 450B, but only when functioning as a peer review committee. NRS 49.119 provides that a peer review committee has a privilege to refuse to disclose its peer review proceedings and to prevent any other person from disclosing that information. NRS 49.265 specifies that medical review committees of district boards of health functioning as a peer review committee are not subject to discovery proceedings. NRS 49.121 provides that any member of the committee, a person whose work is being reviewed, and a person who offered testimony, an opinion or documentary evidence to the committee may claim the confidentiality privilege. The confidentiality privilege is presumed to be claimed as to a particular matter unless a written waiver is signed by all persons entitled to claim the confidentiality privilege as to that matter.

~~In 1997, [T]he Nevada Supreme Court [has stated in a 1997 case concerning the extent of]~~ found that for the purposes of the peer review committee privilege ~~[that the intent of]~~ the legislative intent in creating the privilege was to protect the internal operations of the peer review and the documents derived directly from the process of peer review. When the TMAC functions as a peer review committee, with statutory privilege protection, this means:

**Comment [B119]:** Housekeeping changes by legal counsel.

- No person attending the meeting can be required to testify outside of the committee proceedings, unless the person is a party to an action or a proceeding the subject of which is reviewed by the TMAC functioning as a peer review committee
- No document prepared or generated by the committee is discoverable
- The open meeting law is not applicable, and no public notice is required
- Minutes may be kept but should be marked as not for public review or reproduction, and are not available as such
- The proceedings are not subject to HIPAA

Members of the TMAC and its subcommittees, including the Pre-TMAC review team, and all approved guests, will be required to sign a confidentiality statement prior to commencement of the meeting. Guest attendance is allowed for purposes of education or professional expertise with advance permission of the ~~chair[person]~~ man and concurrence of the ~~[SNHD]~~ OEMSTS.

**Comment [B120]:** Housekeeping

### ~~[Trauma Data Collection, Analysis and Trending]~~

~~The Clark County Trauma System Plan defines the need to develop an information system that facilitates timely collection of data, utilizing consistent data sets, from the participants in the trauma care system. Quantitative and qualitative analysis and trending of the available data, from mutually agreed upon data sources, will be done using performance indicators and national evidence-based benchmarks to enhance system evaluation, planning and improvement. Such data sources include: prehospital care records, Trauma Field Triage Criteria transport reports, trauma center reports, State Trauma Registry reports, medical examiner reports, and the most recent Universal Billing Code data.~~

**Comment [B121]:** This section was moved into the new section titled "Data Collection and Analysis."

### ~~[Trauma Registry User Group (TRUG)]~~

~~The TRUG will evaluate, plan, implement and monitor the trauma registry and other data sources to maintain consistency of the data collection process. The membership will be drawn from the Trauma Program Managers and the Trauma Registrars at the trauma centers and the Regional Trauma Coordinator.~~

**Comment [B122]:** This section was moved into the new section titled "Data Collection and Analysis."

### ~~EMS/Trauma Performance Improvement Committee~~

~~The EMS/Trauma Performance Improvement Committee will function as a subcommittee of the RTAB its membership includes representatives from the permitted EMS agencies, designated trauma centers and other stakeholders.~~

~~The mission of the committee is to ensure the coordination, integration, efficiency and effectiveness of the interface between the EMS and trauma system. The system components that should be regularly evaluated include: communication, medical oversight, prehospital triage and transportation, and measurement of patient outcomes. The committee will analyze current data and identify new data sources, information and research to promote system assessment and improvement.]~~

**Comment [B123]:** This section was moved into the new section titled "Integration into Emergency Medical Services Performance Improvement Process."

**APPENDIX A**  
**SECTION 500**  
**TRAUMA MEDICAL AUDIT COMMITTEE**

**500.000 TRAUMA MEDICAL AUDIT COMMITTEE.**

- I. The Trauma Medical Audit Committee (TMAC) ~~[shall meet no less than quarterly,]~~ is a multidisciplinary medical review committee of the District Board of Health that will meet regularly, including as a peer review committee, to review, monitor, and evaluate trauma system performance and make recommendations for system improvements. The TMAC, when functioning as a peer review committee, derives its authority and privilege from NRS 49.117 - 49.123; NRS 49.265; and NRS 450B.237.
- II. The scope of the TMAC shall include, but not be limited to:
  - A. Participation in the development, implementation, and evaluation of medical audit criteria;
  - B. Review and evaluation of trauma care in the county;
  - C. Review of trauma deaths in the county;
  - D. Participation in the designing and monitoring of quality improvement strategies related to trauma care; and
  - E. Participation in research projects
- III. The TMAC shall consist of the following members:
  - A. The Standing TMAC members shall be appointed by the Health Officer. They include:
    1. Trauma ~~[M]medical [D]director~~ from each designated trauma center
    2. Trauma ~~[P]program [M]manager~~ from each designated trauma center
    3. County ~~[M]medical [E]examiner~~ or designee
    4. ~~[Regional Trauma Coordinator]~~ EMSTS manager or designee
    5. Neurosurgeon recommended by ~~[Southern Nevada Health District]~~ the Health Officer
    6. Anesthesiologist recommended by ~~[Southern Nevada Health District]~~ the Health Officer
    7. Orthopedic ~~[S]surgeon~~ recommended by ~~[Southern Nevada Health District]~~ the Health Officer
    8. Emergency Physician not affiliated with a trauma center recommended by ~~[Southern Nevada Health District]~~ the Health Officer
    9. Permitted emergency medical services agency medical director/quality improvement coordinator recommended by the Health Officer.
  - B. Ad Hoc ~~[M]members~~ that may participate include: other relevant individuals or subject matter experts, as determined by the chairman and Health Officer.
    1. ~~[Medical Director Aeromedical Services]~~
    2. ~~Designated Assistant Trauma Medical Directors or Trauma Surgeon staff of~~

**Comment [B124]:** Housekeeping to reflect language in the Trauma System Plan.

**Comment [B125]:** Reflects change in title and responsibilities.

**Comment [B126]:** Housekeeping throughout this section.

**Comment [B127]:** Formalized EMS agency representative as a standing member of the TMAC as recommended by the TPPRC on 1-8-15.

**Comment [B128]:** Workgroup recommended revising the language to allow greater flexibility.

~~Trauma Centers~~

- ~~3. Approved physicians enrolled in trauma fellowships~~
- ~~4. Trauma Center Intensivists~~
- ~~5. Assistant Trauma Program Managers~~
- ~~6. Physicians from non-trauma center hospitals who are presenting cases~~
- ~~7. Southern Nevada Health District Emergency Medical Services & Trauma System Manager and appropriate Health District staff~~
- ~~8. Permitted Emergency Medical Services Agency Medical Directors/Quality Improvement Coordinators~~

IV. Each standing member may designate an alternate member to serve in [their] *his/her* place should [they] *he/she* be temporarily unable to perform the required duties of this section. The Health Officer will designate or approve the alternates for the other members of the TMAC.

Comment [B129]: Housekeeping

V. Appointed members of the TMAC shall serve two (2) year terms, from January 1 through December 31 of the second year. The Health Officer may appoint persons to fill the unexpired portion of the terms of vacant positions on the TMAC in the manner prescribed in this section. The members shall elect their chairman from amongst the body.

VI. *The TMAC shall meet on a quarterly basis unless the chairman determines that more or less frequent meetings are necessary.*

Comment [p130]: New language to reflect frequency of meetings.

VII. Members of the TMAC shall serve without pay.

VIII. Attendance

- A. Attendance at the meetings for the trauma medical directors and trauma program managers or their designees is mandatory. The trauma medical directors and the trauma program managers are expected to attend 90% of the scheduled TMAC meetings annually. After three (3) consecutive absences in a calendar year, an appointed member may be replaced on the TMAC.
  - B. Resignations from the TMAC shall be submitted, in writing, to the [Health District] OEMSTS.
  - C. Invitees may participate in the peer review of specified cases where their expertise is requested. All requests for invitees must be approved by the [Health District] OEMSTS in advance of the scheduled meeting.
  - D. Invitees not participating in the peer review of specified cases must be approved by the [Health District] OEMSTS and all trauma medical directors.
- IX. Due to the advisory nature of the TMAC, many issues require consensus rather than a vote process. Vote process issues will be identified as such by the chair[person]*man*. Voting members shall be the standing committee members. When voting is required, a simple majority of the voting members of the standing committee need to be present. Members may not participate in voting when a conflict of interest exists.
- X. Minutes will be kept by [Health District] *OEMSTS* staff and distributed to the members at each meeting. All official correspondence and communication generated by the TMAC will be approved by the TMAC members and released by [Health District]

OEMSTS staff on Southern Nevada Health District letterhead. |

**Comment [B131]:** Housekeeping throughout this section.

- XI. All proceedings, documents and discussions of the TMAC, when functioning as a peer review committee, are confidential and are covered under NRS 49.117 - 49.123 and NRS 49.265. The privilege relating to discovery of testimony provided to the TMAC shall be applicable to all proceedings and records of the TMAC whose purpose is to review, monitor, evaluate, and report on trauma system performance.

All members and invitees shall sign a confidentiality agreement not to divulge or discuss information that would have been obtained solely through TMAC meetings. Prior to guest(s) participating in the meeting, the chair[person]man is responsible for explaining the signed confidentiality agreement to invitees. Invitees should only be present for the portions of meetings they have been requested to attend.

**Comment [B132]:** Housekeeping

- XII. Nothing contained herein shall be construed as making any action or recommendation of the TMAC binding upon the Health Officer or the Board.

[APPENDIX C

TMAC MEETING AGENDA FORMAT

~~Call to Order Confidentiality Statement~~

**Comment [B133]:** It was recommended that the agenda format be removed because it is not necessary.

~~I. Approval of Minutes~~

~~II. New Business~~

~~III. Medical Peer Review~~

~~A. [Regional Trauma Coordinator] EMSTS Manager Report~~

**Comment [B134]:** Reflects change in name and responsibilities.

~~1. Trauma [Overload] Bypass Internal Disaster Declarations~~

**Comment [B135]:** Housekeeping

~~2. Trauma Center Quarterly Report~~

~~3. Discussion of Trauma Center Mortality Data~~

**Comment [B136]:** Housekeeping

~~B. Coroner's Report~~

~~1. Total Trauma Deaths Report (by age, location and exam)~~

~~2. Deaths at Non-Trauma Centers~~

~~3. On-scene Deaths (by manner, manner type)~~

**Comment [B137]:** Describes standard content of report.

~~C. [Review of Death Data Analysis~~

~~1. St. Rose~~

~~2. Sunrise~~

~~3. UMC]~~

**Comment [B138]:** Housekeeping

~~D. Trauma Center Case [Presentations] Reviews~~

**Comment [B139]:** Housekeeping

~~1. St. Rose~~

~~2. Sunrise~~

~~3. UMC~~

~~4. Categorization~~

~~5. Finalization of Case Review~~

~~E. Institution Specialty Physician Specific Patient Care/Process Issues~~

**Comment [B140]:** Housekeeping

~~F. Additional Reports~~

**Comment [B141]:** Recommended by workgroup to allow addition of specialty reports, i.e. ACS-COT Trauma Quality Improvement Program (TQIP) reports.

~~IV. Adjournment]~~

**APPENDIX B**  
**LEVELS OF PERFORMANCE**  
**IMPROVEMENT REVIEW**

**Primary Review**

- Case identified by Trauma Medical Director (TMD), Trauma Program Manager (TPM) or EMSTS manager
- Case verified and validated using process outlined in District Procedure for Primary Performance Improvement Case Review (Appendix D)
- Immediate feedback and resolution may be possible at this level
- Activity should be documented for ongoing monitoring and trending



**Secondary Review**

- Case reviewed by TMD, TPM or EMSTS manager
- Systematic investigation of case conducted including:
  - Review of pertinent medical records
  - Validation of facts from individuals involved in case
  - Creation of timeline of the event
- Immediate feedback and resolution may be possible at this level
- If not, the case should be referred for internal multi-disciplinary committee review for further analysis and event resolution
- Activity should be documented for ongoing monitoring and trending



**Tertiary Review**

- Case reviewed by TMD, TPM or EMSTS manager
- Systematic review of case selected according to the Criteria for Trauma Case Selection (Appendix E)
- Presentation at Pre-TMAC of facts as outlined in the Trauma Center Case Summary (Appendix G) or Non-Trauma Center Hospital Case Summary (Appendix H)
- Immediate feedback and resolution may be possible at this level
- If not, the case should be referred to TMAC for further analysis and event resolution
- Activity should be documented for ongoing monitoring and trending



**Quaternary Review**

- Case referred by Pre-TMAC to TMAC
- Systematic review by TMAC including presentation of facts as outlined in the Trauma Center Case Summary (Appendix G) or Non-Trauma Center Hospital Case Summary (Appendix H)
- Feedback and resolution should occur at this level
- Activity should be documented for ongoing monitoring and trending

**Comment [p142]:** New language to clarify process for PI review based on language in *Resources for Optimal Care of the Injured Patient*.

## APPENDIX C

### DISTRICT PROCEDURE FOR PRIMARY PERFORMANCE IMPROVEMENT CASE REVIEW

When an individual or entity wishes to have an incident involving patient care reviewed within the Southern Nevada Emergency Medical Services & Trauma System, the following steps shall be taken:

**Comment [B143]:** New language to clarify process for primary PI case review. Procedure already exists in SNHD EMS protocols for EMS case reviews.

1. The person requesting a review of an incident should contact the designated representative of the agency/hospital involved to initiate the process. If after gathering appropriate information and discussing the incident, both parties are satisfied a problem does not exist, nothing further needs to be done.
2. If either party would like to pursue an investigation of the incident, the "Southern Nevada Health District EMS & Trauma System Incident Report" should be completed and submitted to the OEMSTS. This can be done electronically by accessing the website at the following address: <http://www.southernnevadahealthdistrict.org/ems/incident-report/index.php>
3. Upon receipt of the "Southern Nevada Health District EMS & Trauma System Incident Report" OEMSTS staff will review the case, gather information from the agencies/hospitals involved and evaluate the need for further investigation. The agency/hospital may be asked to conduct an internal investigation, involving its medical director when appropriate, and provide a summary of its findings to the OEMSTS.
4. The personnel involved in the incident may be interviewed by the EMS Medical Director or his designee and its agency/hospital medical director to gather additional information.
5. Upon completion of the investigation, a report will be prepared and given to the agency/hospital representatives involved. Direct communication between the agency/hospital and complainant is recommended with a brief written summary of actions taken provided to the OEMSTS.
6. A quarterly aggregate summary of the incidents reviewed by the OEMSTS will be prepared and reported at the EMS Quality Improvement Directors Committee and Trauma Medical Audit Committee meetings.
7. All documentation and correspondence regarding this quality improvement activity; to monitor, review, evaluate and report on the appropriateness and quality of care provided a patient is confidential pursuant to NRS 49.117 – 49.123, NRS 49.265, NRS 450B.810 and NRS 629.061.

## APPENDIX D

### [GUIDELINES] CRITERIA FOR TRAUMA CASE SELECTION

Comment [B144]: Housekeeping

[These [guidelines] criteria are used to assist in selecting trauma cases that ~~[involve treatment issues, system performance issues, or recommendations for system improvement.]~~ promote continuous measurement, evaluation and improvement in system performance.]

Comment [B145]: Added clarifying language to reflect new ACS and STN PI language.

[The Trauma Medical Director and/or Trauma Program Manager at each trauma center or the ~~[Regional Trauma Coordinator]~~ EMSTS manager or designee will identify cases by audit criteria and/or by action of hospital/trauma ~~[QI]~~ performance improvement and patient safety (PIPS) programs ~~[and processes, etc.]~~ that need to be reviewed by the trauma system TMAC process utilizing the following [guidelines] criteria:]

Comment [B146]: Reflects change in title and responsibilities. Also includes housekeeping changes recommended by workgroup.

- Deaths having been judged ~~["preventable or "possibly preventable"]~~ "mortality without opportunity for improvement," "anticipated mortality with opportunity for improvement," or "unanticipated mortality with opportunity for improvement." All trauma-related mortalities with opportunities for improvement identified by individual trauma center PIPS programs. (Appendix H)
- [Other potential areas for TMAC review include:]
  - [All in-hospital deaths related to trauma (patients pronounced dead at hospital including DOA)]
  - Cases identified by review of the Medical Examiners Reports
  - Patient outcomes impacted by trauma system
  - Cases with pre-hospital care issues
    - ~~[EMS documentation (complete vs incomplete)~~
    - ~~Missing EMS run sheets]~~
  - [Unexpected Saves]
  - All trauma patient transfers to [the] a trauma center
  - All trauma transfers out of [the] a trauma center
  - Cases identified as being treated at another trauma center prior to presenting to the current trauma center with care issues related to the first trauma center visit
  - Cases identified as being treated at a non-trauma hospital prior to presenting to a trauma center with care issues related to the first hospital visit
  - Any case with educational value
  - All cases with system-related issues

Comment [B147]: Revised to new language found in *Resources for Optimal Care of the Injured Patient* and STN documents and added reference to appendix as recommended by TPPRC 1-8-15.

Comment [B148]: Housekeeping

Comment [B149]: Deleted because the data are currently captured in the Trauma Center Quarterly Report.

Comment [B150]: Deleted because the data are currently captured in the Trauma Center Quarterly Report. Workgroup recommended focusing on care related issues.

Comment [B151]: Deleted because these cases can be captured in the category "Any case with educational value" as listed below

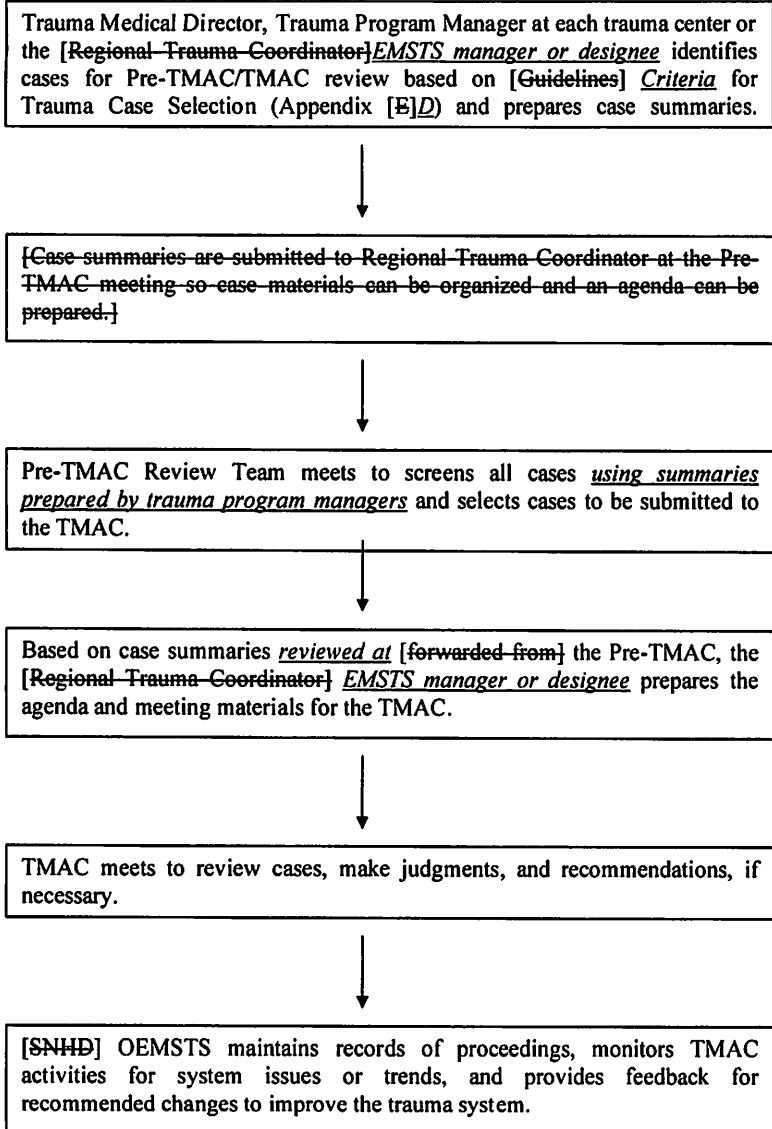
Comment [B152]: Workgroup recommended this addition to allow review of non-trauma hospital issues.

Cases which fall within these guidelines should have the case summary documentation (Appendix F or G) completed for the Pre-TMAC.

Comment [B153]: Housekeeping

DRAFT

**APPENDIX [B] *E***  
**TMAC PROCESS ALGORITHM**



**Comment [b154]:** New language reflects current process for case selection and allows program managers to retain custody of their records. Also includes housekeeping changes.

**APPENDIX F**

**TRAUMA CENTER CASE SUMMARY | REVIEW FOR PRE-TMAC**

**Comment [B155]:** Housekeeping

Trauma Registry No: \_\_\_\_\_

Med Rec No: \_\_\_\_\_

Date of Admission: \_\_\_\_\_

Date of Discharge: \_\_\_\_\_

Age: \_\_\_\_\_

Sex: \_\_\_\_\_

ISS: \_\_\_\_\_

Ps: \_\_\_\_\_

Death: YES NO

Judgment (if applicable): \_\_\_\_\_

Reason for Review:

Type of Incident / Mechanism:

Discharge Diagnosis:

Pertinent Clinical Data (i.e., Lab, X-Ray, ABG, etc.):

Surgical Procedures (Date / Procedure):

Complications:

Comments (Including QA, Pre-Hospital, Hospital):

Autopsy Findings (if applicable):

Evaluation of Care Rendered:

**APPENDIX G**

**NON-TRAUMA CENTER HOSPITAL CASE SUMMARY**

Case Number: \_\_\_\_\_ Medical Record Number: \_\_\_\_\_

Date of Admission: \_\_\_\_\_ Date of Discharge: \_\_\_\_\_

Age: \_\_\_\_\_ Sex: \_\_\_\_\_ ISS: \_\_\_\_\_ Ps: \_\_\_\_\_

Death: Yes No Judgment (if applicable): \_\_\_\_\_

Reason for Review:

Mechanism / Type of Incident:

Discharge Diagnosis:

Pertinent Clinical Data: (i.e. Prehospital vital signs, arrival vital signs, admission lab, ABG, etc.):

Procedures:

Complications:

Comments (Including QI/PI, Prehospital & Hospital):

Autopsy Findings:

Narrative Summary:

Evaluation of Care Rendered:

[APPENDIX H

**GUIDELINE FOR JUDGMENT CONCERNING MORTALITY**

**Comment [b156]:** Language deleted because terminology has been revised as noted in the ACS-COT Resources for Optimal Care of the Injured Patient document and STN TOPIC course materials.

<b>Judgment</b>	<b>Guideline</b>	<b>Documentation</b>
<b>Non-Preventable</b>	<ol style="list-style-type: none"> <li>1. Anatomic injury or combination of injuries considered to be non-survivable with optimum care</li> <li>2. Physiologic state at time of arrival of first responder important but not critical to judgment of preventability</li> <li>3. Evaluation and management appropriate to ACLS and ATLS guidelines; no improvement(s) in diagnosis or management identified that would positively affect outcome</li> <li>4. <math>Ps &lt; 0.25</math></li> </ol>	<ol style="list-style-type: none"> <li>1. Findings at operation; post mortem examination ISS</li> <li>2. Field and admission RTS, vital signs</li> <li>3. Prehospital and hospital record: admission labs, ABG, intraoperative anesthesia record</li> <li>4. Age, RTS, ISS</li> </ol>
<b>Potentially Preventable</b>	<ol style="list-style-type: none"> <li>1. Anatomic injury or combination of injuries considered to be very severe but survivable under optimum conditions</li> <li>2. Physiologic state at time of arrival of first responder critical to judgment; potential survivability; patient generally considered unstable; responds minimally to treatment</li> <li>3. Evaluation and management generally appropriate to ACLS and ATLS guidelines; potential improvement(s) in diagnosis or treatment identified</li> <li>4. <math>Ps &gt; 0.25 &lt; 0.50</math></li> </ol>	<ol style="list-style-type: none"> <li>1. Findings at operation; post mortem examination ISS</li> <li>2. Field and admission RTS, vital signs</li> <li>3. Prehospital and hospital record: admission labs, ABG; intraoperative anesthesia record</li> <li>4. Age, RTS, ISS</li> </ol>
<b>Preventable</b>	<ol style="list-style-type: none"> <li>1. Anatomic injury or combination of injuries considered survivable</li> <li>2. Physiologic state at time of arrival of first responders critical to judgment of preventability; patient generally stable; if unstable, becomes stable with treatment</li> <li>3. Definite improvement(s) in diagnosis or management identified</li> <li>4. <math>Ps &gt; 0.50</math></li> </ol>	<ol style="list-style-type: none"> <li>1. Findings at operation; post mortem examination ISS</li> <li>2. Field and admission RTS, vital signs</li> <li>3. Prehospital and hospital record: admission labs, ABG; intraoperative anesthesia record</li> <li>4. Age, RTS, ISS</li> </ol>

## APPENDIX H

### GUIDELINE FOR JUDGMENT CONCERNING MORTALITY DETERMINATION (ACS)

**Comment [B157]:** New language as recommended in the *Resources for Optimal Care of the Injured Patient* document and STN TOPIC course materials.

<u>Old Judgment</u>	<u>Guideline</u>	<u>New Judgment</u>
<u>Non-preventable</u>	<u>Result of procedure, disease, illness, injury; appropriate preventable steps were taken.</u>	<u>Mortality without opportunity for improvement (OFI)</u>
<u>Potentially preventable</u>	<u>Result of procedure, disease, illness, injury; potential to be prevented or ameliorated.</u>	<u>Anticipated mortality with opportunity for improvement (OFI)</u>
<u>Preventable</u>	<u>Unexpected result that could have been prevented or ameliorated.</u>	<u>Unanticipated mortality with opportunity for improvement (OFI)</u>

Source: 2014 Edition of the Trauma Outcomes & Performance Improvement Course Manual published by the Society of Trauma Nurses in collaboration with the American College of Surgeons Committee on Trauma.

**Comment [p159]:** Added reference for source document.

Judgment	Guideline	Example
Delay in Diagnosis	Injury related diagnosis made greater than 24 hours after admission, resulting in minimum morbidity	Unsuspected C spine fracture with no neurologic sequelae
Error in Diagnosis	Injury missed because of misinterpretation of inadequacy of physical examination or diagnostic procedure(s)	False negative CT scan of abdomen
Error in Judgment	Therapeutic or diagnostic decision made contrary to available data	Delay in treating severe injuries to perform a negative laparotomy in a stable patient with a history of hypotension who has a benign abdomen and a negative DPL
Error in Technique	Technical error occurring during the performance of a diagnostic or therapeutic procedure	Pneumothorax associated with placement of a subclavian venous catheter

GUIDELINE FOR JUDGMENT CONCERNING MORBIDITY

APPENDIX I

Comment [B161]:

Comment [b160]: Existing language no longer found in the Resources for Optimal Care of the Injured Patient document or STN TOPIC course materials.

**APPENDIX I**

**Comment [B163]:** Recommended language from STN TOPIC course materials which focuses on opportunities for improvement.

**GUIDELINE FOR JUDGMENT CONCERNING MORBIDITY DETERMINATION**

<b><u>Human Error</u></b>	<b><u>At-risk Behavior</u></b>	<b><u>Reckless Behavior</u></b>
<b><u>Product of current system design</u></b>	<b><u>Unintentional risk-taking</u></b>	<b><u>Intentional risk-taking</u></b>
<b><u>Manage through:</u></b> 1. <b><u>Processes</u></b> 2. <b><u>Procedures</u></b> 3. <b><u>Training</u></b> 4. <b><u>Design</u></b> 5. <b><u>Environment</u></b>	<b><u>Manage through:</u></b> 1. <b><u>Removing incentives for at-risk behaviors</u></b> 2. <b><u>Creating incentives for healthy behaviors</u></b> 3. <b><u>Increasing situational awareness</u></b>	<b><u>Manage through:</u></b> 1. <b><u>Processes</u></b> 2. <b><u>Disciplinary action</u></b>
<b><u>Recommended action:</u></b> <b><u>Counseling</u></b>	<b><u>Recommended action:</u></b> <b><u>Retraining</u></b>	<b><u>Recommended action:</u></b> <b><u>Disciplinary Action</u></b>

**Source: 2014 Edition of the Trauma Outcomes & Performance Improvement Course Manual published by the Society of Trauma Nurses in collaboration with the American College of Surgeons Committee on Trauma.**

**Comment [p165]:** Added reference for source document.

# APPENDIX J

## TRAUMA MEDICAL AUDIT COMMITTEE CORRECTIVE ACTION PLAN

Comment [B166]: Housekeeping

Mortality/Morbidity Case Review

TMAC Meeting Date:

[Reviewer:]

[Chart Review Month:]

Trauma Center:

[Trauma Center Deaths:]

Case Number	Reason for Review	<u>Benchmark</u>	<u>Indicator/ Objectives</u>	Discussion	<u>Responsible Party</u>	<u>Timeline</u>	Outcome	<u>Loop Closure</u>

Comment [B167]: New language added to reflect steps in action plan recommended in *Resources for Optimal Care of the Injured Patient* document and STN TOPIC course materials.

This document and any attachments and correspondence surrounding it are part of the process to monitor, evaluate, review and report on the necessity, quality and level of patient care management provided a trauma patient and, as such, are confidential and privileged by law pursuant to NRS 49.117 - 49.123 and 49.265 and any and all other confidentiality laws and applicable privileges.

**APPENDIX [D] K**  
**TRAUMA CENTER QUARTERLY REPORT**

**Comment [B168]:** All deleted content and age groupings previously recommended by TMDs/TPMs.

HOSPITAL \_\_\_\_\_ REPORT PERIOD \_\_\_\_\_

1. Number of patients in Trauma Registry for each month:

- 0 - 14 years
- 15 - 54 years
- ≥ 55 years

2. ~~Injury Types:~~

- ~~Blunt (number)~~
- ~~Blunt (percent)~~
- ~~% of Blunt w/ISS > 15~~
- ~~Penetrating (number)~~
- ~~Penetrating (percent)~~
- ~~% of Penetrating w/ISS > 15~~

3. Total Work-related Blunt Injuries for Adults

4. Total Work-related Penetrating Injuries for Adults

**Comment [B169]:** TMAC members opted to collect only work-related injury types.

5. Mode of Arrival from Scene by two age groups, 0-14 years and ≥ 15 years:

- Total Patients
- Ground
- Air
- [Walk-In]
- Other

6. Mechanisms of Injury for All Registry Patients by two age groups, 0-14 years and ≥ 15 years:

- Cut/Pierce
- Fall
- Gunshot Wound
- MV-Traffic Occupant
- MV-Traffic Motorcyclist
- MV-Traffic-Pedal Cyclist
- MV-Traffic Pedestrian
- MV-Traffic Unspecified
- Struck by, Against
- Other/Specified

**Comment [B170]:** Previously recommended by TMDs/TPMs.

7. Mode of Arrival for Transfers In

- ~~Total Patients~~
- ~~Ground~~
- ~~Air~~
- ~~Other]~~

8. Mechanisms of Injury for Transfers In

- ~~MVC~~
- ~~Falls~~
- ~~Water Injury/Jet Ski~~

- ~~MCC~~
- ~~Assault~~
- ~~GSW~~
- ~~ATV~~
- ~~Stabbing~~
- ~~Pedestrian~~
- ~~Crush~~
- ~~Bicycle~~
- ~~Abuse~~
- ~~Burn~~
- ~~Healthcare Plan Repatriation~~
- ~~Unintentional Injury~~
- ~~Other]~~

9. Sending Facility by Region for Transfers In *by two age groups, 0-14 years and ≥ 15 years:*

- Clark County
- NV (other counties)
- AZ
- UT
- CA
- [Other]

10. [% of] Transfers In [w/ *by* ISS [≥15] *by two age groups, 0-14 years and ≥ 15 years:*

ISS Group 0-9

ISS Group 10-15

ISS Group 16-24

ISS Group ≥ 25

**Comment [B171]:** Injury Severity Score (ISS) groupings found in *Resources for Optimal Care of the Injured Patient* document.

11. [Mode of Transport for Transfers Out:

- ~~Total Patients~~
- ~~Ground~~
- ~~Air~~
- ~~Other]~~

12. [Mechanisms of Injury for Transfers Out

- ~~MVC~~
- ~~Falls~~
- ~~Water Injury/Jet-Ski~~
- ~~MCC~~
- ~~Assault~~
- ~~GSW~~
- ~~ATV~~
- ~~Stabbing~~
- ~~Pedestrian~~
- ~~Crush~~
- ~~Bicycle~~
- ~~Abuse~~
- ~~Burn~~
- ~~Healthcare Plan Repatriation~~

- ~~Unintentional Injury~~
- ~~Other~~

13. ~~[Receiving Facility by Region for Transfers Out:~~

- ~~Clark County~~
- ~~NV (other counties)~~
- ~~AZ~~
- ~~UT~~
- ~~CA~~

14. [% of] Transfers Out [w/ ~~by~~ ISS ~~(≥15)~~ by two age groups, 0-14 years and ≥ 15 years:

- ISS Group 0-9
- ISS Group 10-15
- ISS Group 16-24
- ISS Group ≥ 25

**Comment [B172]:** ISS groupings found in *Resources for Optimal Care of the Injured Patient* document.

15. ~~[Surgical — ED to OR:]~~

16. Total Deaths by two age groups, 0-14 years and ≥ 15 years:

- ~~[ISS Grp 1 to 8~~
- ~~9 to 15~~
- ~~16 to 24~~
- ~~≥24]~~
- ~~[Death in ER (unable to score ISS)]~~ Dead on Arrival
- ED Mortality Rate
- ~~[Gross Mortality Rate %~~
- Trauma Service Mortality Rate % (calculated by each trauma center annually)
- Adjusted Mortality Rate % (calculated by OEMSTS annually)

**Comment [B173]:** New language recommended by workgroup and found in *Resources for Optimal Care of the Injured Patient* document.

17. Autopsy by two age groups, 0-14 years and ≥ 15 years:

- Full
- External or Head Only
- None
- Pending

18. PI Judgments by two age groups, 0-14 years and ≥ 15 years:

- ~~[DOA]~~
- ~~[Non preventable]~~ Mortality without Opportunities for Improvement
- ~~[Potentially preventable]~~
- ~~[Preventable]~~ Mortality with Opportunities for Improvement
- Pending

**Comment [B174]:** New language found in *Resources for Optimal Care of the Injured Patient* document.

19. Total Blunt Deaths by two age groups, 0-14 years and ≥ 15 years

20. Total Penetrating Deaths by two age groups, 0-14 years and ≥ 15 years

21. Total Suicide Blunt Deaths by two age groups, 0-14 years and ≥ 15 years

22. Total Suicide Penetrating Deaths by two age groups, 0-14 years and ≥ 15 years

23. Total Work-related Blunt Deaths for Adults

24. Total Work-related Penetrating Deaths for Adults

**Comment [B175]:** Previously recommended by TMDs/TPMs.

25. Mechanism of Injury for Deaths by two age groups, 0-14 years and ≥ 15 years:

- [MVC
- Falls
- Water craft/Jet-ski
- MCC
- Assault
- GSW
- ATV
- Stabbing
- Pedestrian
- Crush
- Bicycle
- Abuse
- Burn
- Unintentional Injury
- Other]
- Cut/Pierce
- Fall
- Gunshot Wound
- MV-Traffic Occupant
- MV-Traffic Motorcyclist
- MV-Traffic-Pedal Cyclist
- MV-Traffic Pedestrian
- MV-Traffic Unspecified
- Struck by, Against
- Other/Specified

**Comment [B176]:** Previously recommended by TMDs/TPMs.

26. Discharge Disposition for Registry Patients Only by two age groups, 0-14 years and ≥ 15 years:

- Home from ED\*
  - Home from Hospital\*
  - Rehabilitation from Hospital
  - Skilled Nursing Facility/Long Term Care/Nursing Home
  - Other Acute Care Facility
- \*includes discharge to jail, psychiatric facility, group home, against medical advice, etc.*

27. [Length of Stay-Issues-Related to Discharge Placement:-

- Rehabilitation-Issues
- Psychiatric-Issues
- Payer-Issues
- Social-Issues]

28. Inability to Transfer to Higher Level of Care Issues by two age groups 0-14 years and ≥ 15 years:

29. Trauma Center Readmissions

**Comment [B177]:** Recommended by members of TMAC.

30. Rate of Overtriage for Trauma System by two age groups, 0-14 years and ≥ 15 years

31. Rate of Undertriage for Trauma System by two age groups, 0-14 years and ≥ 15 years

32. Total EMS Time (from time of dispatch to arrival in ED) by two age groups, 0-14 years and ≥ 15 years

33. Total EMS Scene Time (from time of arrival on scene to departure to hospital) by two age groups, 0-14 years and  $\geq 15$  years

**Comment [B178]:** Recommended by members of TMAC.

34. Clark County EMS Documentation

- Number of complete reports
- Number of incomplete reports
- Number of missing reports
- Outside of Clark County EMS

DRAFT

APPENDIX L

## TRAUMA FIELD TRIAGE CRITERIA

A licensee providing emergency medical care to a patient at the scene of an injury shall use the following procedures to identify and care for patients with traumas:

1. Step 1 – Measure vital signs and level of consciousness. If the patient's:

- A. Glasgow Coma Scale is 13 or less;
- B. Systolic blood pressure is less than 90 mmHg; or
- C. Respiratory rate is less than 10 or greater than 29 breaths per minute (less than 20 in infant aged less than 1 year), or is in need of ventilatory support

the adult patient *MUST* be transported to a Level 1 or 2 center for the treatment of trauma in accordance with the catchment area designated. The pediatric patient *MUST* be transported to a pediatric center for the treatment of trauma.

2. Step 2 – Assess anatomy of injury. If the patient has:

- A. Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee;
- B. Chest wall instability or deformity (e.g. flail chest);
- C. Two or more proximal long-bone fractures;
- D. Crushed, degloved, mangled, or pulseless extremity;
- E. Amputation proximal to wrist or ankle;
- F. Pelvis fractures;
- G. Open or depressed skull fractures; or
- H. Paralysis

the adult patient *MUST* be transported to a Level 1 or 2 center for the treatment of trauma in accordance with the catchment area designated. The pediatric patient *MUST* be transported to a pediatric center for the treatment of trauma.

3. Step 3 – Assess mechanism of injury and evidence of high-energy impact, which may include:

- A. Falls
  - 1) Adults: greater than 20 feet (one story is equal to 10 feet)
  - 2) Children: greater than 10 feet or two times the height of the child
- B. High-risk auto crash
  - 1) Motor vehicle was traveling at a speed of at least 40 miles per hour immediately before the collision occurred;
  - 2) Intrusion, including roof: greater than 12 inches occupant site; greater than 18 inches any site;
  - 3) Ejection (partial or complete) from automobile;
  - 4) Motor vehicle rolled over with unrestrained occupant(s);
  - 5) Death in same passenger compartment
- C. Motorcycle crash greater than 20 mph
- D. Auto vs pedestrian/bicyclist thrown, run over, or with significant (greater than 20 mph) impact

the patient *MUST* be transported to a Level 1, 2, or 3 center for the treatment of trauma in accordance with the catchment area designated. For patients who are injured outside a 50-mile radius from a trauma center, the licensee providing emergency medical care shall call and consider transport to the nearest receiving facility.

Comment [p179]: Added SNHD TFTC Protocol for reference.

## TRAUMA FIELD TRIAGE CRITERIA (Cont.)

### 4. Step 4 – Assess special patient or system considerations, such as:

- A. Older adults
  - 1) Risk of injury/death increases after age 55 years
  - 2) SBP less than 110 mmHg might represent shock after age 65 years
  - 3) Low impact mechanisms (e.g. ground level falls) might result in severe injury
- B. Children should be triaged preferentially to a trauma center.
- C. Anticoagulants and bleeding disorders: Patients with head injury are at high risk for rapid deterioration.
- D. Burns
  - 1) Without other trauma mechanisms: transport in accordance with the Burns protocol
  - 2) With trauma mechanism: transport to UMC Trauma/Burn Center
- E. Pregnancy greater than 20 weeks
- F. EMS provider judgment

The person licensed to provide emergency medical care at the scene of an injury shall transport a patient to a designated center for the treatment of trauma based on the following guidelines:

#### St. Rose Dominican Hospital – Siena Campus (Level 3 Trauma Center) Catchment Area

All trauma calls that meet Step 3 or in the provider's judgment meet Step 4 of the Trauma Field Triage Criteria Protocol and occur within the City of Henderson or the geographical area bordered by Interstate 15 to the west and Sunset road to the north, and the county line to the east, are to be transported to St. Rose Dominican Hospital - Siena Campus and the medical directions for the treatment of the patient must originate at that center;

#### Sunrise Hospital & Medical Center (Level 2 Trauma Center) Catchment Area

All adult trauma calls and pediatric Step 3 trauma calls that meet the Trauma Field Triage Criteria Protocol and occur within the geographical area bordered by Paradise Road to the west, Sahara Avenue to the north, Sunset Road to the south, and the county line to the east, are to be transported to Sunrise Hospital & Medical Center and the medical directions for the treatment of the patient must originate at that center;

In addition, adult trauma calls that meet Step 1 or 2 of the Trauma Field Triage Criteria Protocol and occur within the St. Rose Dominican Hospital - Siena Campus Catchment Area, City of Henderson, or the geographical area bordered by Paradise Road to the west continuing along that portion where it becomes Maryland Parkway, Sunset Road to the north, and the county line to the east, are to be transported to Sunrise Hospital & Medical Center and the medical directions for the treatment of the patient must originate at that center.

#### University Medical Center (Level 1 Trauma Center and Pediatric Level 2 Trauma Center) Catchment Area

All trauma calls that meet the Trauma Field Triage Criteria and occur within any other area of Clark County are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

All pediatric Step 1 and Step 2 trauma calls that occur within Clark County are to be transported to University Medical Center/Trauma and medical directions for the treatment of the patient must originate at that center.

In addition, adult trauma calls that meet Step 1 or 2 of the Trauma Field Triage Criteria Protocol and occur in the geographical area bordered by Paradise road to the east, Sunset Road to the north, Interstate 15 to the west, and the county line to the south, are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

## TRAUMA FIELD TRIAGE CRITERIA (Cont.)

All trauma calls that meet the Trauma Field Triage Criteria Protocol, regardless of location, that are transported by air ambulance are to be transported to University Medical Center/Trauma and the medical directions for the treatment of the patient must originate at that center.

### EXCEPTIONS:

1. Nothing contained within these guidelines precludes transport to any trauma facility if, in the provider's judgment, time to transport to the designated center would be unduly prolonged due to traffic and/or weather conditions and might jeopardize the patient's condition.
2. Additionally, nothing contained within these guidelines precludes transport to the closest facility if, in the provider's judgment, an ability to adequately ventilate the patient might result in increased patient mortality.

*SNHD Trauma Field Triage Criteria protocol adapted from the "2011 Guidelines for Field Triage of Injured Patients" published in: Sasser SM, Hunt RC, Faul M, et al. Centers for Disease Control and Prevention. Guidelines for field triage of injured patients: recommendations of the National Expert Panel on Field Triage. 2011. MMWR. 2012; 61 (RR-1):1-20.*

Comment [p180]: Added reference for source document.