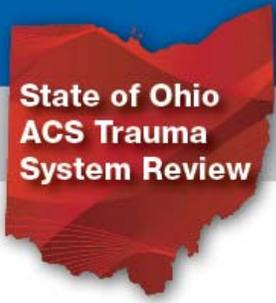


# Ohio Trauma System Review by the American College of Surgeons



State of Ohio  
ACS Trauma  
System Review

Final Report for  
Ohio Department of Public Safety  
Ohio EMS / Trauma Research Grants  
EMS Fund Priority 2  
2012 - 2013

Submitted By:  
Lynn Haas RN, MSN, CNP  
Trauma Program Manager  
Cincinnati Children's Hospital Medical Center  
Cincinnati, Ohio

August 12, 2013

# Table of Contents

Executive Summary.....	pg 2
Investigator Summary.....	pg 2
Historical Perspective	
Trauma Systems at National Level.....	pg 4
Ohio Trauma System.....	pg 5
Project Results.....	pg 6
Executive Summary from Consultative Report.....	pg 9
Priority Recommendations.....	pg 13
Conclusions.....	pg 17
Budget.....	pg 18
Appendices	
A: Pre-Review Questionnaire.....	pg 18
B: Trauma System Consultation Report: State of Ohio 2013.....	pg 18
C. ACS Powerpoint presentation.....	pg 19
D. Letter from the American College of Surgeons.....	pg 39

## **Executive Summary**

Over the past 20 years, a growing appreciation has developed for the complexity of trauma care, shifting the emphasis from stand-alone trauma centers toward comprehensive trauma system development. The American College of Surgeons Committee on Trauma (ACS-COT) developed the Trauma System Consultation Program in 1996. This program provides a broad perspective on all components of the state trauma system and their integration and function, leading to the identification of opportunities for trauma system development and enhancement. In 2012, the EMS / Trauma grant (Priority #2) funded the process for the ACS Trauma System Consultation for the State of Ohio. A pre-review questionnaire (PRQ) was completed in preparation for the site review. On May 5-8, 2013, the 4 day site review, which was held in Columbus, Ohio, provided a forum for Ohio stakeholders to express their comments and answer reviewer questions. The result of this process was a report titled "Trauma System Consultation Report: State of Ohio 2013". Written by the ACS-COT reviewers, this report provides a roadmap outlining ideas for trauma system development in Ohio. This report was subsequently forwarded to Ohio stakeholders and Ohio Trauma Committee members.

## **Information / Qualifications – Principal and Co-investigators**

The core investigators for this research grant are members of Trauma Services within the Division of Pediatric and Thoracic Surgery at Cincinnati Children's Hospital Medical Center.

The principal investigator, Lynn Haas RN, MSN, CNP, is currently the Trauma Program Manager, a position which she held has held for the past 22 years. She has extensive background in trauma system organization and development and during her career, has been involved in many trauma-related state meetings.

Richard A. Falcone, Jr., MD, MPH is the Director of the trauma program and chair of the trauma performance improvement committee at Cincinnati Children's. Dr. Falcone has extensive background in trauma research including epidemiologic studies, quality of care studies and design / evaluation of injury prevention programs.

Margot Daugherty RN, MSN, MEd; is currently the trauma nurse educator at Cincinnati Children's. Ms. Daugherty has extensive experience in both adult and pediatric trauma management. Historically, her background is in emergency department nursing, with previous experience as a paramedic.

Suzanne Moody, MPA is currently the Clinical Research Coordinator for trauma services at Cincinnati Children's. Ms. Moody has extensive experience in trauma data management, data analysis and project management.

Virginia Haller MD is a pediatrician with over 28 years' experience, specializing in Public Health and Preventive Medicine. For many years, Dr. Haller served as the Ohio Department of Health representative to the Ohio Trauma Committee before retiring in 2008. Dr. Haller provided extensive expert opinion and consultative services in writing the pre-review questionnaire document.

### **Historical Perspectives: Trauma Systems at National Level**

Over the past 20 years, a growing appreciation has developed for the complexity of trauma care, shifting the emphasis from stand-alone trauma centers toward trauma system development. In 1992, the Model Trauma Care System Plan was developed for the United States by the Health Resources and Services Administration (HRSA). This document offered a conceptual framework for trauma system design and implementation. The American College of Surgeons Committee on Trauma (ACS-COT) then developed the Trauma Systems Consultation Program in 1996.

The events of September 11, 2001 further expanded this system concept toward the need for a public health model and infrastructure. A conceptual framework and a scientifically-based assessment tool, the Model Trauma System Planning and Evaluation (MTSPE) document was released by HRSA in 2006 and is currently utilized as the foundation for the trauma system consultation process. The global purpose of the ACS-COT Trauma System Consultative Process is to assess and evaluate trauma systems and provide consultative

guidance to states / regions at various stages of development. The pilot consultation was held in 1994, and after refinement of the process, 22 states and 6 regional trauma system consultations have been conducted since 2001.

**Historical perspectives: Ohio Trauma System**

In 1982, the Cleveland Academy of Medicine introduced a resolution to the House of Delegates from the Ohio State Medical Association (OSMA) calling for the establishment of a state-wide trauma system. This action inaugurated the Ohio trauma system development process, which has now continued for over 3 decades.

In 1992, Senate Bill of the 119<sup>th</sup> Ohio General Assembly was signed into law which created the Division of Emergency Medical Services (DEMS) under the Ohio Department of Public Safety (ODPS). The statute within that bill enabled the establishment of an EMS Board and the Trauma Care Advisory Group (TCAG – now Ohio Trauma Committee). It also mandated the formation of a trauma registry, formation of an EMS incident reporting system and a report on the development of a state-wide Ohio trauma system.

Under the leadership of State Representative William Schuck, House Bill 138 of the 123<sup>rd</sup> Ohio General Assembly was signed into law on July 27, 2000 and effective in November 2002. With the signing of HB 138, hospitals cannot represent themselves as trauma centers unless they are verified by the ACS-COT. Regional protocols for the triage and initial stabilization / treatment of seriously injured patients were mandated. Membership of the EMS Board was broadened to include trauma representation. The composition of the Ohio Trauma Committee was revised and written within Ohio statute. This legislation also formally established the Ohio Trauma Committee as an advisory committee under the domain of the EMS Board and ODPS. HB 138 added to the integrity of trauma registry data as risk adjustment parameters and confidentiality protections were added. Lastly, a funding source was established through Ohio seatbelt fines to support the trauma / EMS grants program.

With the advent of the MTSPE document, released by HRSA in 2006, renewed energy

was generated for a state trauma system evaluation. On March 12, 2008, the Ohio Trauma Committee convened a state consensus conference in order to perform an assessment of Ohio's statewide trauma system. Of the 113 indicators evaluated, 68 (60%) were given a score of 1, meaning there were no aspects of that indicator within Ohio's trauma system. Only 21 indicators were given a score of 3 or higher (scale of 1-5).

In February 2009, a workgroup from the Ohio Trauma Committee was established to begin the development of a strategic plan for Ohio's trauma system based on the results of the MTSPE system assessment. The Ohio Trauma Framework document was approved by the EMS Board in October 2010 and is now incorporated into the Ohio EMS 2015 Strategic Plan.

**Project Results:**

In 2012, the EMS / Trauma grant (Priority #2) funded the process for the ACS Trauma System Consultation for the State of Ohio. This consultative process provides a broad perspective on all components of the state trauma system and their integration and function, leading to the identification of opportunities for trauma system development and enhancement. The consultative process was divided into two segments: 1) completion of a standardized self-assessment instrument (i.e. Pre-review Questions = PRQ) which covered 18 topics and 2) an on-site visit by a multidisciplinary team.

The PRQ was forwarded to the site review team 8 weeks before the site review date (Appendix A, provided on a disc due to size of document). The site review took place from May 5-8, 2013 at the Renaissance Hotel in Columbus, Ohio. The first 2 days consisted of ACS-COT reviewers conducting a series of questions / answers from various system participants and key stakeholders. Approximately 90 stakeholders from Ohio participated in the two day event. Listed below is the outline of the first two days along with the names of the subject matter experts who were asked to specifically address that area.

## Subject Matter Experts: Names and Titles

Section	Subject Matter Experts (2)		Date / Time
Statutory Authority	Steve Steinberg MD *❖ Trauma Medical Director Ohio State University Columbus	Vickie Graymire RN *❖ Trauma Director Grant Medical Center Columbus	Sunday May 5th 7:10 - 9:00 PM
System Leadership	Jay Johannigman MD Trauma Medical Director University Hospital Medical Center, Cincinnati	Kathy Haley RN❖ Trauma Program Manager Nationwide Children's Hospital Columbus	
Coalition Building and Community Support	John Crow MD❖ Trauma Medical Director Akron Children's Hospital Akron	Steve Steinberg MD* ❖ Trauma Medical Director Ohio State University Columbus	
Lead Trauma Agency	Kathy Haley RN ❖ Trauma Program Manager Nationwide Children's Hospital Columbus	Jon Saxe MD ❖ Trauma Surgeon Miami Valley Hospital Dayton	Monday May 6th 8:00 - 9:00 AM
Trauma System Plan	Mark Resanovich EMT-P * EMS Coordinator Aultman Green Fire Department Canton	Vickie Graymire RN * ❖ Trauma Director Grant Medical Center Columbus	
System Integration	Ed Michelson MD ❖ Emergency Medicine physician University Hospital Cleveland	Terrie Stewart RN Trauma Program Manager Ohio State University Columbus	
Financing	Mel House * Executive Director Ohio Department of Public Safety, Division of EMS		
Injury Epidemiology	Ryan Frick Trauma Epidemiologist Ohio Department of Public Safety, Division of EMS	Deanna Harris RN * Chief Flight Nurse Metro Health Medical Center Cleveland	Monday May 6th 9:00 - 9:45 AM
Prevention and Outreach	Christy Beeghly Injury Prevention Program Ohio Department of Health Columbus	Anne Moss RN Trauma Program Manager Akron Children's Hospital Akron	

Emergency Medical Services	Mark Resanovich EMT-P * EMS Coordinator Aultman Green Fire Department Canton	David Kesseg MD Medical Director Columbus Division of Fire Columbus	Monday May 6th 10:15 - 11:30 AM
System Coordination and Patient Flow	Howie Werman MD ❖ Emergency Medicine physician Medical Director, MedFlight Ohio State University Columbus	Stuart Chow MD Trauma Medical Director Good Samaritan Hospital Genesis System Zanesville	
Disaster / Emergency Preparedness	Carol Jacobson ❖ Director, Emergency Preparedness Ohio Hospital Association, Columbus		

Indicators as a Tool for System Assessment	Tim Erskine EMT-P ❖ Chief of Trauma Systems and Research Ohio Department of Public Safety, Division of EMS	Patty Wilczewski RN Trauma Program Manager Metro Heath Medical Center Cleveland	Monday May 6th 1:30 - 3:00 PM
System-wide Assessment & Quality Assurance	Bryce Robinson MD Asst. Trauma Medical Director University Hospital Medical Center, Cincinnati	Nancie Bechtel RN Asst. Health Commissioner/Chief Nursing Officer Columbus Public Health	
Trauma Management Information Systems	Barry Knotts MD ❖ Trauma Medical Director St. Vincent Medical Center Toledo	Deb Myers RN ❖ Trauma Program Manager & Registrar Greene Memorial Hospital Xenia	
Research	Diane Simon RN ❖ Trauma Coordinator Defiance Regional Med Center Defiance	Kathy Haley RN ❖ Trauma Program Manager Nationwide Children's Hospital Columbus	

Definitive Care Facilities	Doug Paul DO Trauma Network Director Kettering Health Network Kettering	Ed Michelson MD ❖ Emergency Medicine physician University Hospital Cleveland	Monday May 6th 3:30 – 5:00 PM
Rehabilitation	Cindy Iske RN Rehabilitation Coordinator Nationwide Children's Hospital Columbus	Theresa Berner Ohio State University Columbus	

\* = EMS Board

❖ = Trauma Committee

The third day of the site review was utilized for the ACS-COT team for additional discussion and clarification of issues. A combination of the PRQ plus additional information from the site review provided the ACS reviewers the information to produce the final report for Ohio. On May 8<sup>th</sup>, an exit interview with a general synopsis of findings and recommendations concluded the four day on-site review. The following is the Executive Summary of the Ohio ACS Trauma Systems Consultation Report for Ohio.

### **Executive Summary from Trauma Consultative Report**

The State of Ohio currently has 178 acute care hospitals serving a population of approximately 11.5 million people. Of these facilities, 43 are trauma centers verified by the American College of Surgeons Committee on Trauma (ACS-COT), and 3 others have provisional trauma center status. This network of trauma centers provides access within one hour for 99% of the population and 98% of the state's geographic area. The trauma system was created following an exclusive design, and while all facilities must submit data on injured patients to the state registry, state law requires that all severely injured patients be transported to a designated trauma center. Unfortunately, the term "severely injured" is not uniformly defined. However, the statewide prehospital trauma triage guidelines for EMS providers include several frequently-used exemptions, and a significant number of injured patients are actually transported to non-trauma center facilities. Additionally, all acute care facilities must submit data on injured patients to the state trauma registry. In reality, the Ohio trauma system appears to be more like an inclusive model in actual operation.

Limitations within the current structure of the trauma system have prevented it from growing and improving beyond its current state, leading to stakeholder frustration. The enabling legislation passed in 1992 established the Ohio Department of Public Safety (OPDS) as the lead agency for the trauma system, working through the EMS board, but limited the authority of that agency to the pre-hospital phase of care. As a result, no effective oversight of trauma care occurs at the definitive care facilities or during subsequent phases of patient care. No requirements for trauma center designation exist beyond successful verification by the ACS-COT, creating the potential for maldistribution of trauma centers as new acute care facilities seek to join the trauma system. No standards for clinical performance or system participation by trauma centers exist beyond those established by the ACS-COT. Trauma system coordination and patient

flow across the entire spectrum of trauma care is disjointed, and effective integration between EMS, the trauma centers, rehabilitation, and other areas such as disaster preparedness is lacking at the state level.

This lack of central leadership and vision has led to the organization of regions in an effort to provide an integrative structure, but the success of these grassroots efforts has been variable. The regions have very different compositions, and they have taken very different approaches to the development of a trauma system. The regions have tended toward isolation rather than large-scale integration, leading to a general lack of confidence in the few statewide resources that do exist, such as the statewide trauma registry database. Large scale integration is also impeded by strong public disclosure laws (Open Meetings Act) which have been interpreted in ways that make it difficult to hold statewide meetings and to utilize teleconferencing to reduce travel.

Despite these frustrations, Ohio has a strong coalition of trauma stakeholders. Examples of recent successful endeavors include a system assessment facilitated by the Ohio Society of Trauma Nurse Leaders (OSTNL) and a trauma system performance evaluation tool developed by the Trauma Visionary Committee. Regional trauma systems such as the Central Ohio Trauma System (COTS) and the Tri-State Trauma Coalition (TSTC) have been successful in developing integrated and data-driven processes of trauma care, and can serve as models for a statewide system. A more collaborative effort at the state level produced the recent “Framework for Improving Ohio’s Trauma System,” included as one of the goals of the *Ohio EMS 2015 Strategic Plan*. A rejuvenated enthusiasm to further trauma system development exists within the stakeholder community, along with a willingness on the part of the lead agency and the state government to find a way forward.

The site visit team identified the need to establish a clear, functional leadership model within the lead agency that addresses all aspects of trauma care, from prehospital through definitive care to rehabilitation and restoration of the injured patient into their community. While this will ultimately require significant changes to existing statute, buy-in from stakeholders in all areas appears to be sufficient to enable the lead agency to make substantial progress with system integration on a voluntary basis until statutory change occurs. Such efforts that could proceed most easily include completing the

trauma plan and needs assessment, formalizing cooperation and uniformity between trauma regions, developing more standardized destination protocols for EMS transports with elimination of exemptions, establishing a process to designate trauma centers based upon system need, and working to improve data sharing and analysis.

The site visit team identified the following characteristics of the Ohio system:

### **Advantages and Assets**

1. Ohio has a long history of dedicated participation by trauma system stakeholders.
2. Awareness exists regarding the burden of injury based on injury data analysis and reports.
3. A recent trauma system assessment was performed using the Health Resources and Services Administration (HRSA) Model Trauma System Planning and Evaluation (MTSPE) process.
4. The lead agency for the trauma program has some staff dedicated to trauma.
5. An active trauma advisory committee is present.
6. The *EMS 2015 Strategic Plan* includes the Trauma Framework, and subcommittees have been identified to work on each goal.
7. Legislative support and champions have been identified.
8. The consensus among stakeholders is that change is necessary.
9. The trauma system has some limited and fragile funding, including a grant program for research.
10. Injury prevention is part of the Trauma Framework, and the Ohio Injury Prevention Partnership exists to help promote prevention programs.
11. EMS education has been strong historically.
12. The merger of the EMS Board and Medical Transportation Board will be beneficial.
13. Trauma Centers are externally validated.
14. Trauma triage guidelines exist with pediatric and geriatric modifications.
15. Rehabilitation is represented on the trauma advisory committee.
16. Interagency collaboration exists for disaster preparedness.
17. Performance improvement activities occur within some regions that have regional trauma registries.
18. A scorecard for trauma system evaluation was developed.

19. The Trauma Acute Care Registry (TACR), Trauma Rehabilitation Registry (TRR), and the Emergency Medical Incident Reporting System (EMSIRS) exist. The TACR is undergoing a software update and becoming compliant with the National Trauma Data Standard. The EMSIRS is becoming compliant with the National EMS Information System.

### **Challenges and Opportunities**

1. The trauma system's statutory authority is limited and restrictive as the entire spectrum of trauma care is not addressed.
2. Ohio has no trauma center designation process, and the provisional trauma center process is flawed.
3. The Open Meetings Act requires face-to-face meetings for all trauma system development work.
4. Staffing for the trauma system is limited to data analysis. No trauma program manager, performance improvement coordinator, or trauma medical director positions exist to support trauma system development.
5. There has been limited implementation of the Trauma Framework to date.
6. Minimal system integration occurs, such as between the trauma system within the Ohio Department of Public Safety and the Violence and Injury Prevention Program within the Ohio Department of Health. Additionally the state trauma system has minimal integration with disaster preparedness.
7. Funding is at risk and no trauma specific funding is appropriated.
8. The EMS grant program is not necessarily needs based and has no formal relationship to the trauma committee.
9. The EMS Board has no oversight of EMS agencies. Limited EMS performance improvement initiatives have been implemented.
10. No knowledge exists regarding over- and under-triage rates and issues.
11. The trauma triage guidelines have no destination protocols. Monitoring for compliance with these guidelines does not occur.
12. Resources for trauma rehabilitation are largely unknown.
13. No trauma performance improvement plan exists.
14. The Public Records Act requires risk adjusted data reporting requirements that create challenges for state performance improvement activities.

## **General Themes**

1. Functional leadership is needed for the trauma system. This may require statutory change for the trauma specific agency.
2. The trauma system will benefit from the establishment of more formal collaborative relationships with other organizations such as the Ohio Committee on Trauma, Ohio Society of Trauma Nurse Leaders, the Ohio Violence and Injury Prevention Program, and the Ohio Injury Prevention Partnership.
3. Continue to develop and refine the trauma plan as a component of the EMS 2015 Strategic Plan.
4. A trauma system vision and structure is needed. The presence of trauma centers does not equate with a trauma system. An inclusive trauma system does not mean it is unregulated.
5. Trauma center designation should be based on need using consistent and objective data.
6. The state trauma system program should improve coordination with regional trauma systems, and disseminate successful models to all regions.
7. Relation funding mechanisms for the trauma system need to be established.

The site visit team put forward a total of 76 recommendations, including the following 16 priority recommendations. Additional feedback and recommendations were provided in the response to focus questions.

## **Priority Recommendations**

### **Statutory Authority and Administrative Rules**

1. Seek executive and legislative support to pass enabling legislation for a Trauma System Program with appropriate funding to serve as the lead trauma agency within the Ohio Department of Health.
2. Ensure that enabling legislation provides the authority to set standards and enforce rules for the statewide trauma system including:
  - a. Designation and de-designation of trauma centers,
  - b. Requirement for non-trauma hospitals,
  - c. Establishment and oversight of specific trauma regions,

- d. Establishment of a multi-disciplinary trauma advisory committee that has representation from the trauma regions and each segment of the injury continuum of care,
- e. Management of the State Trauma Acute Care Registry and Trauma Rehabilitation Registry, and
- f. Protection for peer review and similar performance improvement activities (addressing open meeting and public records laws).

### **System Leadership**

1. Improve collaboration between the EMS Board and the State Trauma System Program (or Trauma Committee)
  - a. Conduct joint meetings to enhance two-way communication and exchange of productive ideas related to issues such as triage and transportation protocols, EMS training, data collection and analysis, and performance improvement.
2. Reconstitute and empower the state trauma advisory committee to provide input to the lead agency.
3. Establish and fill the position of Trauma Medical Director to provide clinical expertise and oversight.
4. Explore opportunities to more fully engage existing groups (e.g. the Ohio Society of Trauma Nurse Leaders, Ohio ACS Chapter of the Committee on Trauma, the Ohio Injury Prevention Partnership, and the trauma regions) in specific aspects of trauma system development, such as performance improvement activities.

### **Trauma System Plan**

1. Complete the development of the *Ohio Trauma Framework: 2010* into a fully developed trauma system plan with specific objectives, timelines, responsible parties and resources needed:
  - a. One to use if legislation for a separate Trauma System Program (or program for time critical diagnoses) passes, and
  - b. One as an alternate strategy to move each goal forward in case the legislative effort is delayed or unsuccessful.

## **Financing**

1. Provide funding for fulltime staff positions to support the Trauma System Program (minimally including a trauma program manager, performance improvement coordinator, and trauma registry support positions), as well as a contracted trauma medical director.
2. Establish a stable source of funding to support the Trauma System Program activities.

## **Emergency Medical Services**

1. Ensure that ALL agencies that provide transport for out-of-hospital care (including ground, air medical, and mobile intensive care) are reviewed and compliant with national guidelines.
  - a. Require agency accreditation, such as Ohio licensure, Commission on Accreditation of Ambulance Services (CAAS), Commission on Accreditation of Medical Transport Services (CAMTS), Commission on Fire Accreditation International (CFAI) or International Fire Service Accreditation Congress (IFSAC)
  - b. Perform system-wide monitoring and oversight
2. Ensure competent emergency medical dispatch functions
  - a. Require pre-arrival instructions
  - b. Accredite dispatch centers and certify dispatch personnel
  - c. Perform system-wide monitoring and oversight

## **Definitive Care**

1. Establish a transparent, broadly accepted process for future provisional trauma center designation based upon both facility capacity and trauma system need.
  - a. Work with stakeholder advisory groups to establish criteria for the needs assessment
  - b. Use findings from the needs assessment when considering a facility application for provisional trauma center designation.
2. Establish a transparent, broadly accepted review process for initial full designation of trauma centers and ongoing re-designation based upon trauma system participation, trauma center performance, and participation in performance improvement programs.

- a. Work with stakeholder advisory groups to establish criteria for the initial and ongoing trauma center designation review process.

### **System Coordination and Patient Flow**

1. Monitor compliance with EMS trauma triage guidelines and destination protocols and adjust as indicated.
  - a. Review the existing trauma triage guidelines for currency and limit exceptions.
  - b. Conduct performance improvement on all triage guideline exceptions.
2. Establish regional destination protocols that specify the appropriate facility, in terms of trauma center level and geographic proximity.

### **Rehabilitation**

1. Develop a set of system-wide policies and guidelines related to trauma rehabilitation including:
  - a. Inventory of facility resources and capabilities
  - b. Transfer guidelines
  - c. Treatment guidelines
  - d. Continuity of the unique trauma identifier for data linkage
  - e. Increased compliance with data submission to the Trauma Rehabilitation Registry, and
  - f. Monitored rehabilitation utilization and patient outcomes.

### **System-wide Evaluation and Quality Assurance**

1. Implement the performance improvement (PI) process immediately with the existing data available in the Ohio Trauma Registry while seeking additional protection for the PI process and improved data quality.
2. Establish enabling legislation that authorized trauma system PI activities to include: non-discoverability, confidentiality, removal of risk-adjusted data restrictions, and open meeting requirements.

### **Trauma Management Information Systems**

1. Remove barriers to trauma data collection and analysis:

- a. Modify inclusion criteria for the Trauma Acute Care Registry (TACR) from greater than 48 hours to all admitted patients to facilitate greater understanding of over-under triage rates.
- b. Identify a logical and legal vehicle for the examination of nonrisk-adjusted data contained in the EMS Incident Reporting System (EMSIRS), the TACR, the Trauma Rehabilitation Registry (TRR) and other data sources to support system evaluation and performance improvement processes.
- c. Continue to create a mechanism for deterministic linkage of the EMSIRS, TACR, and TRR, such as the trauma bank currently being evaluated by on trauma region.

### **Conclusions**

Review of the current status of Ohio trauma system development, along with recommendation on the 18 sections is included within the ACS Trauma Systems Consultation Final Report for Ohio (Appendix B, provided by disc due to size of report). In addition, a summary was provided at the conclusion of the site review, broadcasted via the internet to all stakeholders and later posted on the Ohio Department of Public Safety (ODPS) website ([http://www.ems.ohio.gov/ems\\_trauma.stm](http://www.ems.ohio.gov/ems_trauma.stm)). The Powerpoint presentation is attached as Appendix C. A copy of the Trauma System Consultation Report: State of Ohio 2013 was electronically distributed to all attendees and to members of the Ohio Trauma Committee.

**Budget**

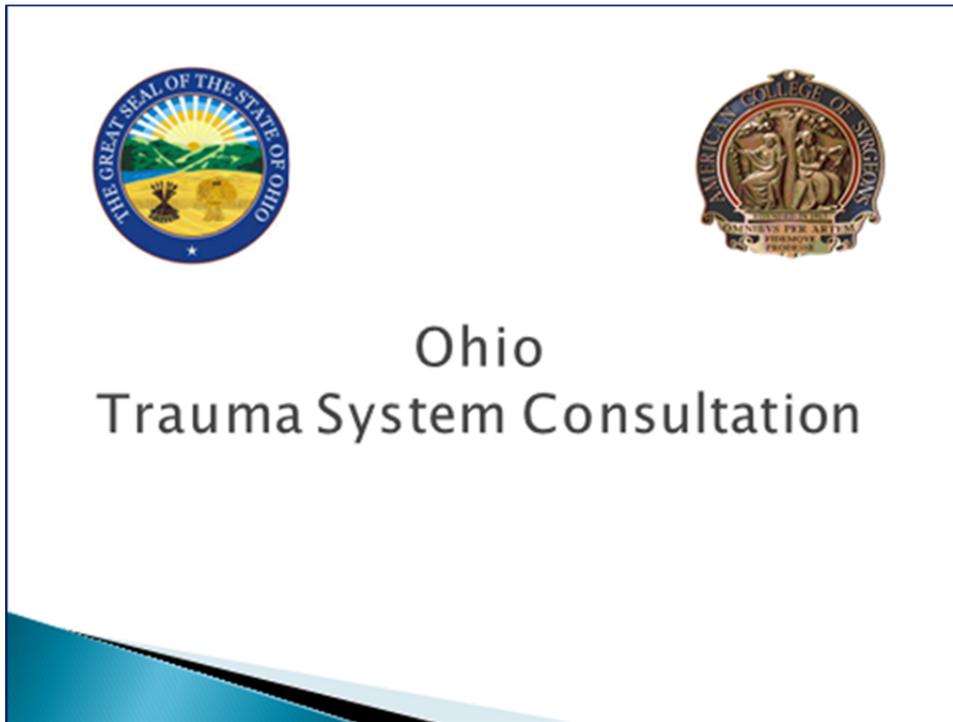
Award Title:	Ohio Trauma System Review by the American College of Surgeons
Sponsor:	Ohio Department of Public Safety
PI:	Lynn Haas RN, MSN, CNP
Budget Begin Date:	7/1/2012
Budget End Date:	6/30/2013

	Total Period Expenses	Grant Funds Available
Regular Salaries - Personnel	\$39,114.22	
Travel	\$687.96	
Computer Software	\$463.94	
Purchased Services - ACS	\$65,000.00	
Purchased Services - Other	\$33,014.28	
<b>TOTAL DIRECT COSTS</b>	<b>\$138,280.40</b>	<b>\$143,760.00</b>
Returned Money to ODPS	\$5,479.60	

**Appendix**

Appendix A: Pre-Review Questionnaire Submitted to the American College of Surgeons (Provided via CD without attachments)

Appendix B: Trauma System Consultation Report: State of Ohio 2013 by the American College of Surgeons (Provided via CD)



# System Consultation



- ▶ Standard is an inclusive trauma system based on public health model (<http://www.facs.org/trauma/hrsa-mtspe.pdf>)
  - Goal is to decrease overall burden of injury
  - Integrate continuum of care
  - Broad-based regional approach
  - Data driven system evaluation and modification

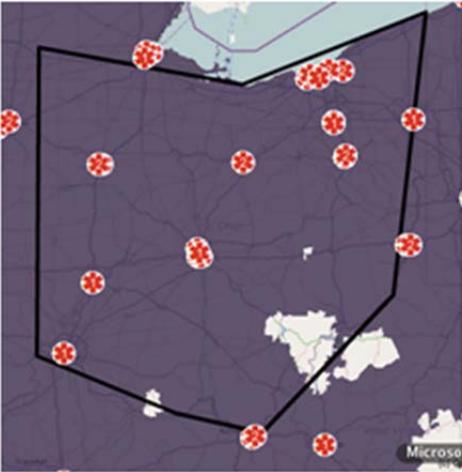
## Ohio





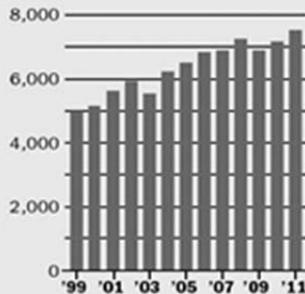
## Current Status

# Current Status



### Injury deaths in Ohio

Between 1999 and 2011, the fatal-injury rate in Ohio soared from 44 to 65 per 100,000 Ohioans. The higher rate has been primarily driven by rising drug-overdose deaths and falls among older adults. The yearly totals:



Note: The data are not adjusted to account for changes in the age distribution of the population.

Source: ODH Office of Vital Statistics

THE COLUMBUS DISPATCH

## Current Status



- ▶ Long history of trauma system development
- ▶ ACS verified trauma centers
  - Located in urban areas
  - Align with majority of population
  - Some underserved areas likely exist
- ▶ Inclusive system functionally
- ▶ Lack of authority and effective leadership
- ▶ Variability in regional efforts
- ▶ Barriers to evaluating performance

## Current Status



- ▶ Planning and development activity slowed
  - Stakeholder frustration
  - Barriers to implementation
  
- ▶ System development at an impasse



Our priority:  
The best interest of the patient

## Advantages and Assets



- ▶ Long history of dedicated participation
- ▶ Awareness of burden of injury
  - ODH injury data analysis and reports
- ▶ Recent trauma system assessment
  - HRSA MTSPE benchmarks
- ▶ Lead agency and advisory committee
  - Staff FTE dedicated to trauma
- ▶ EMS 2015 Strategic Plan
  - Trauma Framework
    - Subcommittees identified for each goal

## Advantages and Assets



- ▶ Legislative support & champions
- ▶ Consensus amongst stakeholders
- ▶ Recognition change is necessary
- ▶ Funded system
  - Grant program
- ▶ Injury prevention
  - Part of the Trauma Framework
  - OIPP coalition

## Advantages and Assets



- ▶ EMS
  - Historically exceptional education
  - Database becoming NEMSIS compliant
  - Statewide 911 coverage
  - Merging of EMS Board and medical transport board
- ▶ Externally validated trauma centers
  - Access for 99% population and 98% land area
  - Collegial & collaborative relationships
- ▶ Trauma triage guidelines
  - Pediatric and geriatric modifications

## Advantages and Assets



- ▶ Rehabilitation represented on trauma committee
  - Several funded projects
  - Part of the trauma framework
- ▶ Interagency collaboration for disaster preparedness
- ▶ Regional performance improvement activities
  - Metric scorecard

## Advantages and Assets



- ▶ Statewide and regional trauma registries
  - Improving institutional compliance
  - Updating software and NTDS compliance
- ▶ Research
  - Grant program
  - TACR, TRR, EMSIRS

## Challenges and Vulnerabilities



- ▶ Statutory authority limited and restrictive
  - Lead agency does not encompass spectrum of trauma
  - No EMS Board/Division jurisdiction over regions
  - Sunshine laws
    - Risk adjusted data reporting
- ▶ Lead agency priorities
  - Leadership changes
  - Staffing for trauma
- ▶ No implementation of trauma framework

## Challenges and Vulnerabilities



- ▶ Coalition building missing representation from other time sensitive diagnoses
- ▶ Minimal system integration
  - Regions vary by overseeing agency
- ▶ Funding at risk
  - No trauma specific funding
  - Grant program not necessarily needs based
- ▶ Lack of collaboration between VIPP/ODH and EMS/ORA
- ▶ Regional efforts not necessarily data based

## Challenges and Vulnerabilities



- ▶ EMS
  - No oversight of EMS agencies
  - Lack of EMS performance improvement initiatives
  - Lack of knowledge about EMS workforce resources
- ▶ No trauma center designation process
- ▶ Lack of needs assessment for future centers
- ▶ Provisional trauma center process flawed

## Challenges and Vulnerabilities



- ▶ No accurate estimates of over-/under-triage
- ▶ No oversight of trauma triage guidelines
  - No monitoring of compliance
  - Lack of specific destination protocols
- ▶ Rehabilitation resources unknown
- ▶ Minimal integration with trauma for disaster preparedness
- ▶ No trauma PI activities at the state level
  - No PI plan
  - Statutory restrictions

## Challenges and Vulnerabilities



- ▶ Lack of confidence in trauma registry data
- ▶ Different data dictionaries
- ▶ Grant program for trauma
  - Minimal trauma representation on resource committee
  - 1-year time frame short
- ▶ Minimal integration between state and academic institutions for research efforts

## Themes



- ▶ Establish functional leadership for a trauma system
  - Statutory change for trauma specific lead agency
  
- ▶ **DON'T WAIT!**
  - Establish collaborative relationships with other organizations (ACS COT, OSTNL, VIPP/OIPP)

## Themes



- ▶ Continue to develop the trauma plan
- ▶ System vision and structure
  - Trauma centers ≠ Trauma system
  - Inclusive system ≠ Unregulated system
- ▶ Trauma center designation should be based on need
  - Consistent and objective data should be used

# Themes



- ▶ Improve coordination with regional systems
  - Disseminate successful models to all regions
- ▶ Establish reliable funding mechanisms
  
- ▶ Good enough isn't good enough
- ▶ There is still a great deal of work to be done
  - DON'T WAIT!
- ▶ Change is painful, but stagnation is worse

# Key Recommendations



# Statutory Authority

- ▶ **Seek executive and legislative support to pass enabling legislation for a Trauma System Program, as well as appropriate funding, to serve as the lead trauma agency within the Ohio Department of Health. Ensure that enabling legislation provides the authority to set standards and enforce rules for the statewide trauma system including:**
  - Designation and de-designation of trauma centers,
  - Requirements for non-trauma hospitals,
  - Establishment and oversight of specific trauma regions,
  - Establishment of a multi-disciplinary trauma advisory committee that has representation from the trauma regions and each segment of the injury continuum of care,
  - Management of the State Trauma Acute Care Registry and Trauma Rehabilitation Registry, and
  - Protection for peer review and similar performance improvement activities (addressing open meeting and public records laws).

## Ohio Revised Code 121.22 (C)

"All meetings of any public body are declared to be public meetings open to the public at all times. A member of a public body shall be present in person at a meeting open to the public to be considered present or to vote at the meeting and for purposes of determining whether a quorum is present at the meeting."

## Ohio Revised Code 3316.05 (Financial Planning and Supervision Committee)

(K) Meetings of the commission shall be subject to section 121.22 of the Revised Code except that division (C) of such section requiring members to be physically present to be part of a quorum or vote does not apply if the commission holds a meeting by teleconference and if provisions are made for public attendance at any location involved in such teleconference.

## System Leadership

- › Improve collaboration between the EMS Board and the State Trauma System Program (or Trauma Committee).
  - Conduct joint meetings to enhance two-way communication and exchange of productive ideas related to issues such as triage and transportation protocols, EMS training, data collection and analysis, and performance improvement.

## Trauma System Plan

- › Complete the development of the *Ohio Trauma Framework: 2010* into a fully developed trauma system plan with specific objectives, timelines, responsible parties, and resources needed.
  - Develop two separate but parallel strategic plans for each goal and objective – one to use if legislation for a separate Trauma System Program passes, and one as an alternate strategy to move each goal forward in case the legislative effort is delayed or unsuccessful.

## Financing

- › Provide funding for fulltime staff positions to support the Trauma System Program (minimally including a Trauma Program Manager, performance improvement coordinator, and trauma registry support positions), as well as a contracted Trauma Medical Director.
- › Establish a stable source of funding to support the Trauma System Program activities.

## EMS

- › Ensure that ALL agencies that provide transport for out-of-hospital care (including ground, air medical, and mobile intensive care) are reviewed and compliant with national guidelines
  - Require agency accreditation (e.g., Ohio licensure, CAAS, CAMTS, CFAI, or IFSAC)
  - Perform systemwide monitoring and oversight
- › Ensure competent emergency medical dispatch functions
  - Require pre-arrival instructions
  - Accredite dispatch centers and certify dispatch personnel
  - Perform systemwide monitoring and oversight

## Definitive Care

- ▶ **Establish a transparent, broadly accepted process for future provisional trauma center designation based upon both facility capacity and system need.**
  - **Work with stakeholder advisory groups to establish criteria for need assessment.**
  - **Utilize findings from the needs assessment when considering a facility application for provisional trauma center designation.**

## Definitive Care

- ▶ **Establish a transparent, broadly accepted process for initial full designation of trauma centers and ongoing re-designation based upon trauma system participation, trauma center performance, and participation in performance improvement programs.**
  - **Work with stakeholder group to establish needs assessment criteria for the initial and ongoing trauma center designation.**

## System Coordination & Patient Flow

- ▶ **Monitor compliance with EMS trauma triage guidelines and destination protocols and adjust as indicated.**
  - Review the existing trauma triage guidelines for currency and limit exceptions (conduct performance improvement on all triage guideline exceptions).
  
- ▶ **Establish regional destination protocols that specify the appropriate facility, in terms of trauma center level and geographic proximity.**

## Rehabilitation

- ▶ **Develop a set of systemwide policies and guidelines related to trauma rehabilitation, including:**
  - Inventory of facility resources and capabilities
  - Transfer guidelines
  - Treatment guidelines
  - Continuity in the use of the unique trauma identifier for data linkage
  - Increased compliance with data submission to the TRR
  - Monitored rehabilitation utilization and outcomes

## System-Wide Evaluation & QA

- ▶ **Implement the performance improvement process immediately with the existing data available in the state trauma registry while seeking additional protection and improved data quality.**
- ▶ **Establish enabling legislation authorizing system performance improvement activities to include: non-discoverability, confidentiality, and deletion of risk-adjusted data restrictions and open meeting requirements.**

## Trauma MIS

- ▶ **Remove barriers to trauma data collection and analysis:**
  - **Modify inclusion criteria for the TACR from >48 hours to >24 hours to facilitate greater understanding of over- under-triage rates.**
  - **Identify a logical and legal vehicle for the examination of nonrisk-adjusted data contained in the EMSIRS, TACR, and TRR and other data sources to support system evaluation and performance improvement processes.**
  - **Continue to create a mechanism for deterministic linkage of the EMSIRS, TACR, and TRR, such as the trauma band currently being evaluated by one trauma region.**

## Observations

- ▶ This is a consultative process
  - The recommendations offered are based on broad general principles and experiences in other regions
  - The solutions will be unique and specific to Ohio
- ▶ Change is always difficult
- ▶ Progress will require a renewed commitment to ongoing collaboration by all stakeholders
- ▶ The solutions will be created by all of you
- ▶ DON'T WAIT!

## ACS Review Team



- |                                |                        |
|--------------------------------|------------------------|
| • Rajan Gupta, MD, FACS        | Team Leader            |
| • Jane Ball, RN, DrPH          | ACS Consultant         |
| • Amy Eberle, RN, BSN, EMT     | Trauma Program Manager |
| • Stephen Flaherty, MD, FACS   | Trauma Surgeon         |
| • Mark Johnson, MPA            | State EMS Director     |
| • Molly Lozada                 | ACS Staff              |
| • Holly Michaels               | ACS Staff              |
| • Melanie Neal                 | ACS Staff              |
| • Kathy J. Rinnert, MD, MPH    | Emergency Physician    |
| • Nels D. Sanddal, PhD, REMT-B | ACS Staff              |
| • Robert J. Winchell, MD, FACS | Trauma Surgeon         |

Appendix D: Letter from the American College of Surgeons

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635 N. Saint Clair St.  
Chicago, IL 60611-3211  
Voice: 312-202-5000  
Fax: 312-202-5001  
e-mail: postmaster@facs.org  
ACS website: www.facs.org

July 26, 2013

Lynn Haas, RN, MSN, CNP  
Trauma Program Manager  
Cincinnati Children's Hospital  
ML 1028, 3333 Burnet Ave  
Cincinnati, Ohio 45229

Dear Ms. Haas,

On behalf of the Trauma Systems Evaluation and Planning Committee (TSEPC) of the American College of Surgeons, I want to take this opportunity to thank you and your team at Cincinnati Children's Hospital for your collaboration in the trauma system consultation process. We value the commitment of the stakeholders of the State of Ohio and your dedication to the continued improvement of the trauma system. We are always glad to answer any questions you may have.

I have enclosed 10 hard copies of the American College of Surgeons trauma system consultation report, which provides a critical analysis of the current Ohio trauma system and includes recommendations for system improvement and enhancement. This consultation, which took place May 5<sup>th</sup>-8<sup>th</sup>, 2013 and the subsequent report were guided by the standards in *Regional Trauma Systems: Optimal Elements, Integration, and Assessment, Systems Consultation Guide*.

Please let us know if you have any questions or need assistance in the future.

Sincerely,

Holly Michaels  
Program Administrator, Trauma Systems Consultation  
American College of Surgeons  
312- 202-5340

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