Southeast Regional Trauma Council
General Membership Meeting
Via Christi Hospital
Centennial Conference Room
Pittsburg
Thursday, September 29, 2011
10:00am-2:00pm

Call to Order, Welcome and Open Remarks
Dr. Robert Dodson, chairman, called the 2011 SERTC General Membership Meeting to order at 10:00am. Dr. Dodson “thanked” Via Christi Hospital for hosting the meeting. He asked all members to introduce themselves and the organization that they represent. Dr. Dodson reminded the members to complete their evaluations throughout the day, sign the sign-in roster, and complete their statement of attendance for continuing education credits.

Trauma System Development
Rosanne Rutkowski, Kansas Trauma Program Director, provided the presentation. Her presentation provided information on the program’s achievements, current projects, and future goals. Click here to view her presentation

Response to Joplin Tornado—Lessons Learned
Dr. Dodson provided a presentation on the healthcare response to the Joplin Tornado. His presentation highlighted lessons learned throughout the response and recovery process.

Interpreting Trauma Registry Data
Dee Vernberg provided the presentation. Dee’s presentation included data analysis of the SE CDC field triage project. Click here to view her presentation.

Lunch
Janelle Dimond presented the fall prevention PSA that the executive committee has developed. There were no objections to the PSA. Janelle advised that she is developing a brochure that will be companion to the PSA. The brochure will be distributed to physician offices and senior centers in the SE region.

Dr. Dodson “thanked” Janelle Dimond and Teresa Star for all of their work on the fall prevention project.

CDC Field Triage Pilot Project Results
Dr. Dodson reviewed the highlights of Dee’s presentation earlier on the SE CDC field triage data collection project. Discussion held included:

- The need for community hospital involvement
- Is EMS providing same stabilization care as a community hospital—is it appropriate for EMS providing same level of care to stop at community hospital?
- Real-time Communication with trauma physician/surgeon
- Real-time direction versus development of protocols
- Education is key
- Air Medical is called for expertise, not necessarily for quickness of transport
- Education/protocols—key, but how do you maintain skills
Regional system problems-EMS sometimes may be the case—but hospital acceptance is an issue too

SE Regional Emergency Preparedness Update
Kerry Moore, SE Kansas Hospitals All Hazard Coordinator, presented the presentation. Karry’s presentation included information on the region’s response to Joplin, current regional activities, and projected future projects. Click here to view her presentation.

Business Meeting

Bylaws:

Page 3: Executive Committee Membership
- Change in language/procedure

Page 4: ACT Representative
- Addition of language

Dr. Dodson presented the bylaws for review, discussion, and vote.

Discussion was held regarding the change in language for voting procedures for executive committee members. The proposed language clarifies the voting process. Interpretation of current language is that each discipline (hospital administrator, nurse, physician, EMS, health department) votes for their own peers/colleagues/discipline. Proposed language allows for the whole general membership to vote for all the disciplines.

Rod Pace advised that Region VI EMS Council is not in favor of the general membership voting for EMS executive committee members. Rod voiced concern that the EMS representative elected may not be aware of regional EMS activities and may not be actively involved in the region. There was concern expressed representatives might be elected based on political reasons or popularity and not as a representative for their respective profession.

Discussion included the following topics:
- Each discipline has opportunity to provide nominations for the ballot
  - Region VII EMS holds regional meetings and have the capacity to nominate members
  - Health Departments hold regional meets and have the capacity to nominate a members
  - Nurses, physicians, and hospital administrators do not hold regional meetings and don’t have an avenue to submit a slate of nominees.
- Suggestion was made to identify a nomination committee (from current executive committee members) to present a slate of nominees to be voted on
  - If nomination committee provides slate of nominees, there is still an opportunity to accept nominations from the floor at each general membership meeting.

After discussion, Drew Talbott made the following motion. Rod Pace seconded the motion. The motion passed.

Motion for bylaw language: The Executive Committee of the SEKRTC shall be a 10-member committee. Each of the following disciplines will have two representatives serving on the Executive Committee and voted on by the general membership. The chairman of the executive committee will appoint a nomination committee prior to the general membership meeting who will develop a slate of nominees. The slate of nominees will be presented for approval to the executive committee. Upon
executive committee approval, the slate of nominees will be presented at the general membership
meeting for vote:
1. Physician
2. Nurse
3. EMS
4. Hospital Administrator
5. Local Health Department

**ACT Representative Language**
Dr. Robert Huebner made the motion to approve the language as presented. Tereasa DeMeritt
seconded the motion. The motion passed.

**Executive Committee Elections (ACTION)**
Dr. Dodson referred to the voting ballot in the meeting materials.

Dr. Dodson introduced the nominations on the voting ballot:

**EMS Representative**
Hal Bumgarner, Neosho Memorial Regional Medical Center EMS, Chanute

Ross Varone, Crawford County EMS, Pittsburg

Dr. Dodson asked for nominations from the floor for EMS representatives.

Drew Talbott nominated Chris Way for EMS representative.

**Nurse Representative**
Tereasa DeMeritt, Labette Health, Parsons

Dr. Dodson asked for nominations from the floor for Nurse representative. No
nominations were received.

**Physician Representative**
Dr. Robert Dodson, St. Johns Maude Norton Medical Center, Columbus

Dr. Dodson asked for nominations from the floor for Physician representative. No
nominations were received.

**Administrator Representative**
Drew Talbott, Via Christi Hospital-Pittsburg

Dr. Dodson asked for nominations from the floor for Administrator representative. No
nominations were received.

**Health Department Representative**
Todd Durham, Wilson County Health Department, Neodesha

Dr. Dodson advised that Betha Elliott, Cherokee County Health Department
has declined re-nominations. Dr. Dodson “thanked” Betha for her
participation.
Dr. Dodson asked for nominations from the floor for Health Department representative. No nominations were received.

Drew Talbott made the motion to close nominations. Janelle Dimond seconded the motion. The motion passed.

With nominations complete, Dr. Dodson asked the voting members to complete their ballots.

**Election results:**
EMS representative  Ross Varone, Crawford County EMS
Nurse representative  Tereasa DeMeritt, Labette Health
Physician representative   Dr. Robert Dodson, St. John’s Maude Norton Memorial Hospital
Hospital Administrator  Drew Talbott, Via Christi Hospital-Pittsburg
Health Department Representative  Todd Durham, Wilson County Health Department

**Subcommittee Reports**

**Education**
Tereasa DeMeritt, education subcommittee chair, provided the report. Click [here](#) to view her report.

**Injury Prevention**
Janelle Dimond, injury prevention subcommittee chair, provided the following report:
- Janelle asked for responses/critique of the fall prevention PSA presented at lunch. There were no comments.
- Janelle advised that she is working on developing a brochure that will be a companion to the PSA. It will be distributed to physician clinics and senior centers in the SE region.
- Seatbelts Are For Everyone (SAFE) is well integrated in the region. Janelle advised that the program staff have asked for additional funding to continue the programming.

**Regional Trauma Plan Review**
Dr. Robert Dodson “thanked” everyone for reviewing the regional trauma plan by email.

Dr. Dodson advised that the regional trauma plan was presented and reviewed by the ACT regional trauma plan subcommittee and the following recommendations were made:
- Make plan more specific-identify timelines and who is accountable
- Identify priorities for year 1 and year 2
- RTCs are to report fiscal budget updates quarterly to ACT
- Monitor progress by using a project management tool (i.e. dashboard
Dr. Dodson advised that the executive committee will be working on the recommendations and encouraged the general membership to participate in regional planning and activities.

**In closing:**
- Dr. Dodson encouraged the participants to complete their meeting evaluations and statement of attendance and turn them.
- Dr. Dodson "thanked" everyone for attending.

**Announcements:**
- Short executive committee meeting immediately following.

**Closing/Adjournment**
Meeting adjourned at 2:45pm.
Kansas Trauma System Update
2011

Rosanne Rutkowski, RN, MPH
Kansas Trauma Program
Objectives:

- **2010 Program Highlights**
  - Trauma Registry
  - CDC Field Triage Project
  - Trauma DVD 2011
  - Regional Trauma Plans

- **Special Projects**
  - Level IV Designation
  - Regional performance improvement
2010-11 Highlights

• Trauma Registry:
  – Updated the benchmark report
  – Electronic linkage w/ EMS data
  – Outsourcing hosting of registry
  – On-line access for data reports

• Grants Received:
  – CDC Field Triage Project
  – NHTSA Grant

• Updated 2011 Trauma DVD
• Updated Regional Trauma Plans
• Peer Review Protection Law passed*
• Level IV Trauma Center Regulations*
Trauma systems need lead trauma Centers:

- Hays Medical Center
- Salina Regional Health Center
Level IV Trauma Center Criteria:

- Current regulations did not include Level IV
- Criteria developed & approved – August 2010
- ACT approved final revisions- May
- 10 Step Process
  - Step 1: KDHE agency approval - June
  - Step 2: Rules & Regulations - August
  - Step 3: Regulations to Secretary of Administration - August
  - Step 4: Attorney General - waiting review
PROCEDURE FOR APPROVAL OF REGULATIONS

1. Agency
2. Rule or Regulation
3. Secretary of Administration
4. Attorney General
5. Kansas Register
6. Joint Committee on Rules and Regulations
7. Open Hearing
8. Agency Approval
9. Secretary of State
10. Kansas Register
   15 days after publication
**Level IV Requirements:**

### INSTITUTIONAL ORGANIZATION

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trauma team¹</td>
<td>IV</td>
</tr>
<tr>
<td>Trauma team leader on call and available within 30 minutes of call notification</td>
<td>E</td>
</tr>
<tr>
<td>Trauma Team Activation policy</td>
<td>E</td>
</tr>
</tbody>
</table>

¹ Members are certified in ATLS, TNCC or other national/state verified trauma course

### CLINICAL CAPABILITIES

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Published on-call schedule for team leader²</td>
<td>E</td>
</tr>
</tbody>
</table>

² Team leader coverage to be provided 100% of the time by a team leader certified in advanced trauma life support. If less than 90% for the initial designation, a plan needs to be submitted for achieving 100% advanced trauma life support call coverage within 1 year.

### CLINICAL QUALIFICATIONS OF TEAM LEADER

<table>
<thead>
<tr>
<th>Role</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>E</td>
</tr>
<tr>
<td>ATLS completion or other national/state verified trauma center course.</td>
<td>E</td>
</tr>
<tr>
<td>Physician Assistant (delegated authority to provide trauma care by a physician who is current in trauma life support)</td>
<td>E</td>
</tr>
<tr>
<td>ATLS completion or other national/state verified trauma center course.</td>
<td>E</td>
</tr>
<tr>
<td>Nurse Practitioner (scope of practice entails care for trauma patients)</td>
<td>E</td>
</tr>
<tr>
<td>ATLS completion or other national/state verified trauma center course.</td>
<td>E</td>
</tr>
</tbody>
</table>

### FACILITIES/RESOURCES/CAPABILITIES

<table>
<thead>
<tr>
<th>Facility</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Department (ED)</td>
<td>E</td>
</tr>
<tr>
<td>Equipment for resuscitation for patients of all ages and includes:</td>
<td>E</td>
</tr>
<tr>
<td>Airway control and ventilation equipment² including laryngoscopes⁴ and ET tubes⁴, oxygen and pocket masks</td>
<td>E</td>
</tr>
<tr>
<td>Pulse oximetry</td>
<td>E</td>
</tr>
<tr>
<td>Suction devices</td>
<td>E</td>
</tr>
<tr>
<td>Electrocardiograph-Oscilloscope-defibrillator</td>
<td>E</td>
</tr>
<tr>
<td>Standard IV fluids and administration sets</td>
<td>E</td>
</tr>
<tr>
<td>Large-Bore intravenous catheters including I/O</td>
<td>E</td>
</tr>
<tr>
<td>Sterile surgical sets for:</td>
<td>E</td>
</tr>
<tr>
<td>1) Airway control/cricothyrotomy</td>
<td>E</td>
</tr>
<tr>
<td>2) vascular access</td>
<td>E</td>
</tr>
<tr>
<td>3) chest decompression</td>
<td>E</td>
</tr>
</tbody>
</table>

August 25, 2010
Level IV Designation Process

• Proposed Process
  – Application form submitted
  – Reviewed by Trauma Program
  – Recommendation made to Secretary of KDHE
  – Awarded 3 year designation
  – Site visit scheduled w/in 3 year period of time
Key Components – Level IV

- **Trauma Team**
  - 1) Team Leader: ATLS  
  - 2) Nurses: TNCC

- **Resource Capabilities**
  - Basic equipment

- **Performance Improvement**
  - PI program- proposed audit filters
  - Participation in RTC

- **Trauma Transfers**
  - Protocols

- **Prevention**
  - Participation in community injury prevention
What are the Benefits of Designation?

• Best of care for the injured
• Morale booster for staff & community
• Provides the infrastructure for other time critical diseases & disaster preparedness.
• Provides “halo” effect for other services
  – Leader for PI, protocols etc.
• Reimbursement for “trauma activation fees”
  a) pre-arrival notice  b) verified trauma center
Trauma System Performance Improvement:

- **Problem:**
  - Current trauma statutes did not provide protections for discussions of trauma system care.

- **Solution:**
  - Update current trauma statutes
  - Provide Peer Review Protections
    - Advisory Committee on Trauma
    - Regional Trauma Councils
  - SB- 139- Effective July 1, 2011
Rationale for System PI:

• Alleviate unnecessary death/ disability
  – Reduce inappropriate variation in care
  – Improve patient care practices
  – Target injury prevention

• Optimize trauma care & outcomes

• Promote efficient, cost effective care
Trauma System Performance Improvement:

- Involves all levels of care
  - 911 dispatch
  - EMS
  - Hospital
  - Rehab.

- Includes other data sources such as
  - VS-death records, coroner report
  - KDOT: crash records
State/Regional PI Committee

- Multidisciplinary
- State/Region-wide representation
- Chaired by physician
- Leadership & expertise from trauma centers
- ACT/KDHE provides oversight & guidance
Responsibilities:

- Establish expectations and system standards for optimal trauma care
- Evaluate trauma care processes & outcomes
- Identify injury causes & prevention needs
- Develop & implement system improvement initiatives
- Monitor effectiveness of the system
Performance Improvement......

Not everything that counts can be counted, and not everything that can be counted counts.

~Albert Einstein

BUT...

You cannot improve what you do not measure
Trauma System Performance Improvement

Regional Trauma System

- Injury
- Emergency Medical Services (Pre-hospital)
  - Triage
  - Stabilization
  - Communication
  - Transportation
- Trauma Center
  - Typical Patient Injuries Treated:
    - Multiple Fractures
    - Paralysis
    - Punctured Lung
    - Stab Wound
    - Brain Injury
- Interfacility Transport
  - If injuries cannot be addressed by resources at hospital emergency department
- Hospital Emergency Department
  - Typical Patient Injuries Treated:
    - Broken Leg
    - Back Spinal
    - Broken Rib
    - Laceration
    - Concussion

- Are patients being treated in trauma center who need to?
- Are procedures appropriate & timely?
- Are procedures occurring in ED e.g. airway, chest tube?
- How fast are transfers occurring?
- Trauma team leader timely?
THANK YOU FOR YOUR SUPPORT!

www.kstrauma.org
Rosanne Rutkowski, RN, MPH
Kansas Trauma Program
rrutkowski@kdheks.gov
785-296-1210
SE Kansas CDC Field Triage Decision Scheme Data Project

SE Regional Trauma Council
September, 2011
• Describe data collection design
  – EMS data collection form
  – Trauma Registry
• Describe patients meeting
  – Steps 1, 2
  – Steps 3
  – Steps 4
• Summarize Findings
SE Kansas CDC Field Triage Decision Scheme

• **Overall Goals**
  
  • Ensure patients have timely access to APPROPRIATE trauma care
  
  • Provide valuable feedback to the State and CDC
  
  • Adapt the guidelines locally and regionally
  
  • Move project statewide WHEN successful
Project Description

• Time period
  – October 1, 2010 – March 31, 2011

• EMS transporting pts injured in SE Kansas
  – Implement field triage decision scheme
  – Complete data collection form and send to registrars
  – Make recommendations to leadership for changes
Hospital Trauma Registrars

• Complete the data collection form
• Send completed data form to the Kansas trauma program
Study Context

Persons/sq. mile:
- <6
- 6-19
- 20-39
- 40-149
- 150+
Data Collection Flow
Purpose of Pilot Data Collection

• Describe Patients meeting field triage criteria
• Link project data with trauma registry data to describe outcome of patients
• What can we learn about Field Triage Decision Scheme?
Our Vision - Healthy Kansans living in safe and sustainable environments

Step 1: Physiologic Criteria

Step 2: Anatomic Criteria

Step 3: Mechanism of injury Criteria

Step 4: Special considerations
EMS Forms
Trauma Registry Records

• Asked Registrars to send in EMS forms as soon as possible
  – Add a trauma record for each patient with an EMS form if patient met trauma criteria
  – Send in entire trauma record at submission time.
Trauma Registry
Who is included in Registry?

**Diagnosis Criteria**
- 800-904.9, or
- 925-929.9, or
- 940-959.9, or
- 994.0 (lightning, or
- 994.1 (drowning), or
- 994.7 (hanging), or
- 994.8 (electrocution)

**Status Criteria:**
- Dead
- DOA, or
- Dead in ED, or
- Dead on eval., or
- Transfer
  - ANY Acute Transfer
- Length of Stay
  - For adults: LOS > 48 hrs.
  - For kids (age 0-14): ANY LOS or observation visit

**Exclusionary Test:**
- Hip Fracture 820-820.9, or 808.0-808.1
  - AND
- Same Level Fall E885-E885.9
  - E888-E888.9

Fractures
Brain/spinal cord Injuries
Internal Injuries
Lacerations
Burns, etc.
# Trauma Registry Submissions

<table>
<thead>
<tr>
<th>Patient Discharged In</th>
<th>Submission Due Date</th>
</tr>
</thead>
</table>
| 1<sup>st</sup> quarter, 2011  
Jan, Feb, March | May 31, 2011 |
| 2<sup>nd</sup> quarter, 2011  
April, May, June | August 31, 2011 |
| 3<sup>rd</sup> quarter, 2010  
July, August, September | November 30, 2010 |
| 4<sup>th</sup> quarter, 2010  
October, November, December | March 1, 2011 |

**Time period**  
October 1, 2010 – March 31, 2011
Participation

- EMS service agencies
  - 18/19 EMS Services in SE Region participated
  - 3 Air Medical Services – all participated
    - EagleMed
    - Arch MedFlight
    - Midwest Lifeteam
- Hospitals 12/13 SE Hospitals returned forms
Forms Received at KDHE

n= 224 Forms received

n= 199 pts.
EMS Forms

• SE Region Hospitals
  – 133 forms

• Out-of-State Hospitals
  – 57 Missouri
  – 6 Oklahoma (sent into KDHE from EMS)

• Kansas Hospitals– other regions
  – Trauma Centers -24 forms
  – Community Hospitals – 4
Data Forms & Patients

n=199 patients
224 Forms

175 Pts – one form
- 163 Land
- 12 Air

23 forms

46 forms = 23 patients

1 form

3 forms = 1 patient

23 forms

Trauma Center or Community Hospital

Preliminary Results
August, 2011
Findings

Step 1: Physiologic Criteria
- 34 patients

Step 2: Anatomic Criteria

Step 1 & Step 2
- 59/199 (30%) patients

Step 3: Mechanism of injury Criteria
- 42/199 additional Pts. (21%) N=75  step3

Step 4: Special considerations
- 98/199 additional Pts. (49%) N=98  step4
Trauma Registry has Step 1 data
Did we get all forms?

Step 1

- SE Trauma Registry during time period
  - 318 total trauma patients
  - 185 trauma patients transported from scene by EMS
    - 24 patients in SE trauma registry met Step1
      » 10 of these had forms (missing 14 forms?)
- Data Collection Forms sent in by SE Hospitals
  - Step1 = 17 patients
    - 7 patients did not meet trauma criteria (could not be matched with form with registry data)
    - 10 patients that matched registry
84 pts. Matched with Trauma Registry (42.1%)

25 pts. Unable to match TR_num in Trauma Registry (12.5%)

90 pts. Did not meet trauma criteria (45%)
Purpose of Pilot Data Collection

• Describe pts meeting field triage criteria
  – Meeting Steps
  – Ages

• Link project data with trauma registry data to describe outcome of patients

• What can we learn about Field Triage Decision Scheme?
Step 1: Physiologic Criteria

Measure vital signs and level of consciousness

- Glasgow Coma Scale <14 or
- Systolic blood pressure <90 or
- Respiratory rate <10 or >29 (<20 in infant < one year)

**YES**

Take to a trauma center. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the trauma system.

**NO**

Assess anatomy of injury

Our Vision - Healthy Kansans living in safe and sustainable environments
Step 1 – Physiologic Criteria

6. Initial Total GCS Score
7. Initial Systolic Blood Pressure
8. Initial Respiratory Rate

All patients should have vital signs
Step 2: Anatomic Criteria

- All penetrating injuries to head, neck, torso, and extremities proximal to elbow and knee
- Flail chest
- Two or more proximal long-bone fractures
- Crush, degloved or mangled extremity
- Amputation proximal to wrist and ankle
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis

**Take to a trauma center.** Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the trauma system.

**Assess mechanism of injury and evidence of high-energy impact**
Step 2 – Anatomic Criteria

9. What anatomic injuries were identified?

Mark [ ] one or more injuries below

- [ ] Penetrating injury to head, neck, torso, or extremity proximal to elbow or knee
- [ ] Flail chest
- [ ] Two or more long bone fractures
- [ ] Crushed, degloved, or mangled extremity
- [ ] Amputation proximal to wrist or ankle
- [ ] Pelvic fracture
- [ ] Open or depressed skull fracture
- [ ] Paralysis
- [ ] None of the above
Steps 1 & 2

59 patients

66.1% n= 39
Mean time to trauma center 69.0 minutes (n=37) Median 66 min.
Min – 20 minutes
Max – 238 minutes

33.9% n=20
Mean time to community hospital 29.3 minutes
median 27.5 minutes
Min – 9 minutes
Max – 52 minutes

All records linked to community hospital trauma registry
N=12
Mean time from EMS dispatch to discharge from community hospital
155.4 minutes. (n=12)
Minimum 70 minutes
Maximum 242 minutes

39 patients
- 8 Discharged Home/w health care
- 1 Death in ED
- 1 transferred to other TC
- 1 Rehab center
- 2 Skilled Nursing
- 14 Did not meet trauma criteria (9 out state)
- 12 Could not be linked (11 out-state)
- 20/39 out-of-state-trauma center

5/12 out-of-state trauma centers
7/12 Kansas trauma centers

20 patients
- 3 Discharged Home
- 3 DOA
- 12 transferred to trauma center (60%)
- 2 Did not meet trauma criteria

Preliminary Results
September, 2011
Step 3: Mechanism of Injury Criteria

Our Vision - Healthy Kansans living in safe and sustainable environments
Step 3 – Mechanism of Injury

13. What was the mechanism of injury?
Mark one or more mechanisms

- Falls
  - Adults > 20 feet (one story = 10 ft.)
  - Children > 10 feet (or 2-3 x height of child)

- High-Risk Motor Vehicle Crash
  - Intrusion > 12 in. occupant site; > 18 in any site
  - Ejection (partial or complete) from automobile
  - Death in same passenger compartment
  - Auto vs Pedestrian or Bicyclist
    (Thrown, run over or with significant (>20 mph) impact)
  - Motorcycle Crash > 20 mph

- None of the above
Step 3

42 patients
Step 3

73.8% n= 31
Mean time to trauma center 65.7 minutes
Min – 30 minutes
Max – 140 minutes

33 Step 1 or 2 were coded as Step 3 too.

26.2% n=11
Mean time to community hospital
38.7 minutes
Min – 17 minutes
Max – 90 minutes

All records linked to community hospital trauma registry
N=3
Mean time from EMS dispatch to discharge from community hospital
116.6 minutes. (n=3)
Minimum 65 minutes
Maximum 155 minutes

Community Hospital

Mean time in hospital for transferred patients
89.33 minutes (n=3)

31 patients
• 12 Discharged Home/Health Care
• 3 transferred to other trauma center
12 Did not meet trauma criteria
4 not linked to registry

11 patients
• 2 Discharged Home
• 3 transferred to trauma center (27%)
6 Did not meet trauma criteria

1/3 out-of-state trauma centers
2/3 Kansas trauma centers

Preliminary Results September, 2011
Steps 1, 2, 3

101 patients
Steps 1, 2 & 3

69.3% n= 70
Mean time to trauma center 65.3 minutes
Min – 20 minutes
Max – 238 minutes

30.69% n=31
Mean time to community hospital 32.6 minutes
Min – 9 minutes
Max – 90 minutes

42 Additional Pts. In Step 3

All records linked to community hospital trauma registry
N=15
Mean time from EMS dispatch to discharge from community hospital 147.66 minutes. (n=15)
Minimum 65 minutes
Maximum 242 minutes

70 patients
• 20 Discharged Home/Health Care
• 1 Death in ED
• 4 transferred to other trauma centers
• 2 Skilled Nursing
• 1 Rehabilitation Center
• (Average LOS 5.3 days [n=26])
26 Did not meet trauma criteria
16 not linked to registry

31 patients
• 5 Discharged Home
• 3 DOA
• 15 transferred to trauma center (48%)
• 8 Did not meet trauma criteria

Mean time in hospital for discharged patients 116.4 minutes. (n=15)

Community Hospital

Preliminary Results September, 2011
Step 4: Special Patient or System Considerations

Age
- Older Adults: Risk of injury death increases after age 55
- Children: Should be triaged preferentially to pediatric-capable trauma centers

Anticoagulation and Bleeding Disorders

Burns
- Without other trauma mechanism: Triage to burn facility
- With trauma mechanism: Triage to trauma center

Time Sensitive Extremity Injury
End-Stage Renal Disease Requiring Dialysis
Pregnancy > 20 Weeks
EMS Provider Judgment

Contact medical control and consider transport to trauma center or a specific resource hospital.

Transport according to protocol
Step 4

“In Step 4, EMS personnel must determine whether persons who have not met physiologic, anatomic or mechanism of injury criteria have underlying conditions or comorbid factors that place them at higher risk for severe injury.

Persons with such underlying conditions might require trauma center care.”

Source: Guidelines for Field Triage of Injured Patients
Recommendations of the National Expert Panel on Field Triage
Findings

Step 1: Physiologic Criteria

Step 2: Anatomic Criteria

Step 3: Mechanism of injury Criteria

Step 4: Special considerations

Step 1 & Step 2 59/199 (30%) patients

Step3 - 42/199 additional Pts. (21%) N=75 step3

Step4 - 98/199 additional Pts. (49%) N=98 step4
## Step 4 - Co-morbidities

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Burns (3 without other trauma)</td>
</tr>
<tr>
<td>5</td>
<td>Anticoagulant or Bleeding Disorder</td>
</tr>
<tr>
<td>3</td>
<td>Other time sensitive extremity injury</td>
</tr>
<tr>
<td>0</td>
<td>End Stage Renal Disease</td>
</tr>
<tr>
<td>0</td>
<td>Pregnancy &gt;20 weeks</td>
</tr>
<tr>
<td>49</td>
<td>Age &gt; 55 years old</td>
</tr>
<tr>
<td>3</td>
<td>Children &lt; 15 years old</td>
</tr>
<tr>
<td>42</td>
<td>EMS Judgment</td>
</tr>
</tbody>
</table>
Step 4

Community Hospital

98 patients

48% n= 47
Mean time to trauma center 44.3 minutes
Median 39.5 minutes
Min – 0 minutes
Max – 108 minutes

52%  n=51
Mean time to community hospital 42.8 minutes
Min – 17 minutes
Max – 114 minutes

All records linked to community hospital trauma registry
N=7
Mean time from EMS dispatch to discharge from community hospital 173.0 minutes. (n=7)
Minimum 56 minutes
Maximum 304 minutes

2/8 out-of-state trauma centers
6/8 Kansas trauma centers

51 patients

• 9 Discharged Home
• 1 Discharge to other community hospital
• 2 Skilled Nursing
• 7 transferred to trauma center (16%)
29 Did not meet trauma criteria
3 could not match

28 Did not meet trauma criteria
6 not linked to registry

Preliminary Results  September, 2011
Step 4: EMS Provider Judgment

Age
- Older Adults: Risk of injury death increases after age 55
- Children: Should be triaged preferentially to pediatric-capable trauma centers

Anticoagulation and Bleeding Disorders

Burns
- Without other trauma mechanism: Triage to burn facility
- With trauma mechanism: Triage to trauma center

Time Sensitive Extremity Injury

End-Stage Renal Disease Requiring Dialysis

Pregnancy > 20 Weeks

EMS Provider Judgment

YES
Contact medical control and consider transport to trauma center or a specific resource hospital.

NO
Transport according to protocol
Step 4: EMS Judgment

“EMS providers make triage decisions on a routine basis and have the expertise and experience needed to make judgments regarding atypical situations.”

CDC Guidelines for Field Triage of Injured Patients

• 42/199 (21%) All Patients – EMS Provider Judgment
Older Age

“Age places trauma patients at increased risk for other comorbidities associated with more severe injury and poor outcomes. Advanced patient age should lower the threshold for field triage directly to a trauma center.”

CDC Guidelines for Field Triage of Injured Patients

- 49/199 (24.6%) all pts >55 years old
- 50% Step 4 > 55 years old
Strengths of Pilot Study

• Good Hospital Participation
  – 12/13 SE Hospitals completed forms
  – 2 out-of-state Missouri Hospitals completed forms

• Good EMS Participation
  – 18 SE EMS agencies completed forms
  – 3 Air Ambulance Services completed forms
  – Some EMS agencies made changes to protocols, others did not
Strengths

• Data allows us to ask questions that may facilitate discussions about implementing field triage decision scheme.
Weaknesses of Pilot Study

• Small sample size
  – Subgroup analysis #’s small

• Not all data could be linked to Registry
  – Missing Registry Data
  – Out-of-State Data
    • Registry software vendors need better methods for hospitals to share registry data with other systems.
    • Data sharing among states needs to be developed
  – Some cases did not meet trauma inclusion criteria
Weaknesses

• No way to know how many data collection forms we should have gotten.
  – Analysis of Step1 in registry suggests we did not get all forms from EMS
Lessons Learned

• Some types of rural injuries are not captured by mechanism of injury
  – Farm injuries
  – ATV injuries
  – (these are captured in Step 4 if did not meet other steps)
Lessons Learned

• 45% of patients did not meet trauma inclusion criteria
  – Did not capture on data collection form
    • Reason did they not meet criteria
    • Types of injuries
    • External cause of injury
Summary

• Study is a descriptive study suggesting current triage practices in SE area
  – About 2/3 patients transported first to trauma center (Steps 1,2,3)
  – About 1/3 transported to Community Hospital first (Steps 1,2,3)

• SE EMS agencies (Step 1,2,3 patients)
  – Agencies that transport patients to TC first
  – Agencies transport to community hospital first
    • Most prevalent reason: closest facility
Summary

• If transported to Community Hospital 1st
  – About ½ patients transferred onto TC if meet Steps 1,2,3
    • Time to definitive care increases by at least 2 hours
    • Important group for PI

• Shows need for Level IV trauma centers

• Step 4 accounted for 50% of forms
Trauma Registry

• Data project illustrates
  – Trauma registry captures a subset of injured patients
    • ~1/3 of patients in Steps 1,2,3 do not meet trauma inclusion criteria
  – Trauma registry not always complete or timely
Where do we go from here?
Thank You!
Sample- EMS Forms

Frequency of Field Triage Pts by Age

- Female
- Male
Steps 1, 2, 3

101 patients
Steps 1, 2 & 3

69.3% n= 70
Mean time to trauma center 65.3 minutes
Min – 20 minutes
Max – 238 minutes

42 Additional Pts. In Step 3

30.69% n=31
Mean time to community hospital 32.6 minutes
Min – 9 minutes
Max – 90 minutes

All records linked to community hospital trauma registry
N=15
Mean time from EMS dispatch to discharge from community hospital 147.66 minutes. (n=15)
Minimum 65 minutes
Maximum 242 minutes

70 patients
• 20 Discharged Home/Health Care
• 1 Death in ED
• 4 transferred to other trauma center
• 2 Skilled Nursing
• 1 Rehabilitation Center
• (Average LOS 5.3 days [n=26])
26 Did not meet trauma criteria
16 not linked to registry

Mean time in hospital for discharged patients 116.4 minutes. (n=15)

6/15 out-of-state trauma centers
9/15 Kansas trauma centers

31 patients
• 5 Discharged Home
• 3 DOA
• 15 transferred to trauma center (48%)
• 8 Did not meet trauma criteria

Preliminary Results September, 2011
Transferred to trauma Center

• 15 patients transferred from Community Hospital
  – 6 out-of-state trauma centers
  – 9 Kansas Trauma centers
    • Outcomes of 9 patients
      – 1 death in hospital
      – 3 Home or home with health care
      – 2 Rehabilitation Center
      – 3 records not in trauma registry
SE KS Regional Hospitals
All Hazards Preparedness Coalition

Karry Moore KS-SE Region
Hospital All Hazards Preparedness Coordinator
Via Christi Hospital-Pittsburg

karry.moore@viachristi.org
620.704.7200 cell
Via Christi Hospital - Pittsburg

Mission Statement:

*We serve as a healing presence*

*With special concern for our neighbors who are vulnerable*
“...On a Sunday afternoon in May, our world turned upside down. Time stood still and nothing would ever be the same again...The forces of nature passed through Joplin, passed through history and in the days that followed Joplin and the four states formed an unbreakable bond beyond time, beyond tragedy, beyond comprehension...”

Advertisement: Zimmer Radio Group
This presentation will address:

• Survey Monkey results
• Regional Newsletters
• Regional HVA – Hazard Vulnerability Analysis
• 3 Year Strategic Plan
• Regional and Hospital Exercises-teamed up with Homeland Security and Health Departments for the first time!
• Expansion of EMResource system-risk of funding
• Questions/Discussion
Survey Monkey 1 Year Snapshot

Participating Hospitals:
1. Neosho Memorial RMC
2. Coffeyville Reg. Medical Center
3. St. Johns Maude Norton Memorial Hospital
4. Greenwood County Hospital
5. Mercy Health Center
6. Fredonia Regional Hospital
7. Girard Medical Center
8. Mercy Hospital
9. Allen County Hospital
10. Wilson Medical Center
11. Oswego Community Hospital
12. Labette Health
13. Via Christi Hospital-Pittsburg
14. Sedan City Hospital
# of times Incident Command was stood up
# of times FEMA/NIMS paperwork utilized
Regional HVA
Hazard Vulnerability Assessment

Summary of Results: (in descending order)
1. Tornado
2. Winter Storm
3. Severe Thunderstorm
4. Disease Outbreak
5. Mass Casualty Incident
6. Hazmat Exposure
7. Workplace Violence
8. Power Outage
9. Fire
10. Flood
3 Year Strategic Plan

• 3\textsuperscript{rd} year of strategic plan
• Updated annually in January
• Partners invited each year
• Compared to other region’s plans
• Similarities identified? Combine forces/resources
One Deliverable....

• Regional flipchart
• Approximately $50 each
• Will be expanded-to include Homeland Security information for emergency managers and other agencies
• To be completed this calendar year
Exercises

• This is the first year that Regional Homeland Security, KDHE grant deliverable and Public Health Departments will have an opportunity to do 1 exercise to meet all needs!

• Reduces cost, meets needs of many coalitions, puts less stress on the partners required to attend.
EMResource/EMSystem

- Funding at RISK
- High priority
- Most plans include the system in response
- Essential to the communications component
- NOW ENHANCED
- Includes agency emergency operation plans
- Job action sheets
- Can view and share each other’s plans
EMResource

• Under utilized in SE KS
• 70% or better results required to keep the grant that funds it
• SE KS average results have plummeted from 90% to 50%
• Proved to be essential during the Joplin tornado
• Must have more people in each facility trained for use
• Now includes mass messaging/voice service
U2 - Where the Streets Have No Name – Joplin Tornado Version
KillBoxFilms
Released June 9, 2011
Viewed 308 times June 9, 2011
Viewed 38,274 times June 24, 2011
“When I look at this tornado, it wasn't an unusual tornado by any means. We get very strong tornadoes like this all of the time. In fact the Picher, OK tornado in 2008 was almost as strong as this tornado.

What makes this tornado stand out, is because it tore through a very populated area, which is rare. Chances are it will be in a field or glance towns. But the chances of actually plowing through a city aren't that great. That is what made this tornado stand out.

Besides that, I was amazed how fast the tornado developed. Most tornadoes take a good 4 or 5 minutes to go from the beginning stages into a monster, at least 5 minutes. This one was just ready to go and went to a monster in under 60 seconds.

This was a big tornado. It was about 3/4 of a mile wide. St. Johns did get hit, but they were on the side of the tornado. If it went directly over the building, I think it would have had even more damage. I hope all of this helps,”

Doug

DOUG HEADY, CHIEF METEOROLOGIST
KOAM TV, JOPLIN MO http://www.koamtv.com/
Meanwhile across the state line:

• Incident command set up
• Patients begin to arrive in personal vehicles
• Triage set up at all 3 main entrances
• Registration set up (moved servers)
• Food set up for staff/EMS/ED
• PSU police set up car and flashers at end of ambulance entrance
• Call backs for needed clinicians
By 7 p.m., Sunday, May 22, it was all hands on deck at Via Christi Hospital.

An hour and a half earlier an EF5 tornado hit Joplin, Missouri.

The storm cut a swath of damage nearly a mile long.

Via Christi Hospital activated its Incident Command Center and prepared for a medical surge.
Via Christi Tornado Response

- More than 140 Via Christi employees voluntary showed up to help care for patients currently at the hospital and arriving from Joplin.

- Initial reports were unclear about how many patients the Emergency Dept. should expect.

- Incident Command discussed logistically how many helicopters and ambulances could deliver patients at one time.
Via Christi Tornado Response

• Once word about the severity of the situation in Joplin and news of the devastation spread, it was clear Via Christi Hospital would have a part in caring for those injured in the storm. The mission of Via Christi came to life, as it was a time to serve as a healing presence with special concern for our neighbors who are vulnerable.
Via Christi Tornado Response

• After the initial medical surge from Sunday night into Monday morning, additional patients were treated at our ministry throughout the course of the week.

• More than 100 patients who were directly affected by the tornado were treated at Via Christi Hospital.

• Nine had been patients at St. John’s Regional Medical Center when the tornado hit.
Via Christi Tornado Response

- Via Christi Hospital helped gather and arrange for donations for victims, including hospital patients who arrived with only the clothes they were wearing.
- A number of businesses and organizations put together impromptu clothing and supply drives.
- Via Christi staff took sizes of clothing of tornado patients to ensure they had clean clothes when returning home, and also put together care packages for them.
“It’s like staying in a hotel,” one patient from Joplin said. “That’s what it feels like to me; the way everyone looks after me and makes sure I have what I need. I’ve never been treated this well before.”
Lessons Learned
Via Christi Hospital-Pittsburg

3 things we did well:

1. Stood up Incident Command
2. Staff worked where needed
3. Planned for physician rotation should the event be on going
Lessons Learned
Via Christi Hospital-Pittsburg

3 opportunities for improvement:
1. Failure to use job action sheets.
2. Assessing the location of the current selected triage areas-bottleneck issue, needs to have a specific nurse or doctor assigned to triage only-so not to slow down the process by providing treatment.
Continued...

3. Identification of volunteers and specific positions by vests – beyond those in the ICS (Incident Command System) vest kit we currently own. Identification of patients using standardized triage tags.
Neither Good Nor Bad….

We did not implement a formal call back system for hospital staff. We had no idea what to expect. We were anticipating a surge of 300 people at one point. As it turned out the right number of staff arrived…the right number of volunteers arrived…it just worked out!
Preliminary Lessons Learned
Crawford County, KS

3 things that went well:

1. Hospital emergency coordinator received a call from the County Emergency Manager
2. Hospital emergency coordinator received a call from the Crawford County Health Department
3. EMS responded to the call for mutual aid

Note: Hotwash not yet conducted, scheduled Oct. 13, 2011
Preliminary Lessons Learned
Crawford County, KS

3 opportunities for improvement:

1. Failure to do an initial assessment of the scene and anticipate cascading events.

2. Cell towers were sparse we failed to stay in contact with county emergency manager by 800 MHz radio.

3. ..... 

Note: Hotwash not yet conducted
Preliminary Lessons Learned
Crawford County, KS

3 opportunities for improvement:
3. Vulnerability of the hospital had the incident escalated. Red Cross, Salvation Army, Emergency Manager not available to support medical surge.

Note: Hotwash not yet conducted
Ways to help Joplin:

• http://rebuildjoplin.org/donate
• http://brightfuturesjoplin.org/adopt-an-eagle
• http://brightfuturesjoplin.org/adopt-a-classroom/
Lessons Learned
SE KS Regional Hospitals

3 things we did well:
1. Updating of EMResource (online bed availability system).
2. Volunteered and supported surrounding KS medical surge hospitals.
3. Coordination with EMS
Lessons Learned
SE KS Regional Hospitals

3 opportunities for improvement:

1. Self deployment, self deployment, self deployment!
   A. Vulnerability
   B. Accountability
   C. Liability
Vulnerability:

The town/county with the receiving hospital who experienced a medical surge were often left unprotected while medical teams and emergency partners were in the town of the disaster.

Towns were also left unprepared for an additional disaster in their own area.
Accountability:

Volunteers such as physicians are not trained in search and rescue, and can often become victims. Gas leaks and loss of power (lights) made rescue efforts extremely difficult.

Lack of communications as most phone, cell, radio systems were down, difficult to track good intentioned rescuers.
Liability:

Licensure and out of state issues
Represent the hospital you are employed at whether intentional or not
Represent the hospital you are employed at whether approved by administration or not
Lessons Learned
SE KS Regional Hospitals

3 opportunities for improvement:

2. Grantees understood the protocol for requesting resources and staff – not to self deploy. Administrators did not. We need to develop a flow chart to explain this process and disaster declarations. Something standardized across the state.
Lessons Learned
SE KS Regional Hospitals

3 opportunities for improvement:

3. Have more MOUs (Memorandums of Understanding) in place across the state lines. Advance understanding of reimbursement process.
Karry Moore KS-SE Region Hospital All Hazards Preparedness Coordinator Via Christi Hospital-Pittsburg
karry.moore@viachristi.org
620.704.7200 cell

Michael Hayslip, Public Relations Director, PIO Via Christi Hospital-Pittsburg
michael.hayslip@viachristi.org
620.232.0153

Adele Orgeron Siler