NASEMSO gratefully acknowledges survey input from the following states and territories:

AR, AZ, CA, CO, CT, FL, HI, IA, KS, KY, LA, MD, ME, MI, MN, MO, MT, NC, NE, NH, NJ, NV, OH, OK, OR, PA, SC, TN, TX, UT, VI, WI, WV, and WY

Rate of Return: 70%

N=36 (33 states plus 2 states who did not self identify and 1 US territory participating)

Composition of respondents:

- 17 State EMS Directors
- 9 State EMS Medical Directors
- 9 State Trauma Program Managers
- 1 Other

1. Does your state have a statewide trauma triage protocol or model trauma triage guideline in place (that addresses patient criteria, i.e. physiologic, anatomic, mechanism of injury, and special considerations?)

- Yes= 28 (78% of respondents)
- No= 8 (22% of respondents)

2. Our state trauma triage protocol/guideline is: (Please check all that apply.)

- Codified in either law or via rules and regulations=17 (36% of responses)
- Described in state EMS protocols=23 (49% of responses)
- We don’t have a trauma triage protocol/guideline=7 (15% of responses)

3. Our state trauma triage protocol/guideline is:

- Enforceable as written=17 (47% of respondents)
- Able to be modified by the local medical director=13 (36% of respondents)
- We don’t have a trauma triage protocol/guideline=6 (17% of respondents)

4. Our state utilized national guidelines (i.e. ACS Trauma Triage Guideline as published in “Resources for Optimal Care of the Injured Patient” or CDC Guidelines for Field Triage of Injured Patients) as a basis for our state protocol/guideline. (Revisions that your state made will be addressed in other questions.)

- Yes, our triage protocol/guideline most resembles the 2006 REVISED VERSION=27 (75% of respondents)
- No, we started “from scratch” to develop our trauma triage protocol/guideline=3 (8% of respondents)
- We don’t have a trauma triage protocol/guideline=6 (17% of respondents)

5. Our state has a state-based trauma center designation process in place. (In other words, the application and survey process is coordinated by or within the state.)

- Yes=29 (80% of respondents)
- No=3 (8% of respondents)
- Not applicable=4 (12% of respondents)

Comments:

- Developing the trauma system. Rules and regulations in place. Start up grants ongoing to Hospitals, EMS Services, EMS training Sites and registry development underway.
- 31 Local Jurisdictions designate trauma centers based on their written trauma plans which must meet state regulations and be approved by us. Most of these plans use triage guidelines based on the 2006 document.
- However, our in state process involves Trauma Centers being ACS verified.
- It is in our administrative rules, but based on funding. We are still attempting to secure funding.
- For Level 1 and 2, the State Bureau of EMS assists in the ACS certification process, but it is a full ACS certification. For Levels 3, 4, and 5, the State does the certification.
- Each island has only one treatment facility so no need for trauma designation.

6. Our state does not have a formal (state-based) trauma center designation process but certain hospitals have voluntarily submitted themselves and been verified as a “trauma center” by an outside organization (such as the American College of Surgeons or other professional group.)

- Yes=5 (14% of respondents)
- No=9 (25% of respondents)
- Not applicable=21 (58% of respondents)
- Other=1 (3% of respondents)

Comments:

- Hospitals are verified by ACS, designated by state.
- Our system is done by our office and outside experts, we use out of state ACS for Level I's
- We have a state designation process and advanced level trauma centers that are verified by the ACS.
- All of our trauma centers must be certified by the American College of Surgeons or obtain "provisional status" through the Department of Health preceding the acquisition of an ACS certification.
- Our state has a formal trauma center designation process for Level's 1 to III.

7. What elements/criteria do you think are “missing” from the national field triage decision scheme? (Please limit responses to a few “key” words.)

- Mode of transport considerations GCS of 14 in physiologic is questionable
- Considerations for pediatric issues were vague, but we're in the process of adopting the new guidelines in rule and are developing a companion guideline for pediatrics.
- State and regulatory processes
- Based on 2009 MMWR Step One: Pediatric BP Less than 60 systolic Step three: Fall three times child's height (not two or three times) Step three: Explosion/ Blast, Roll over without restraint
- Recognition of rural EMS settings
- GCS threshold is too high
- Medical command making the decision when to use air vs ground transport decision.
- Too basic/not aggressive, does not adequately address pediatric/geriatric triage needs.
- Needs better thought on burn issues
- Either language that is less specific than "take to the nearest trauma center" or language that defines an amount of time difference where taking to the closest facility is most reasonable when the nearest trauma center is not geographically feasible. In other words, the draft needs more attention to the logistic and operational details after patient has been categorized by the criteria. I don't find that any specific physiologic/anatomic/mechanism info is missing from the scheme.
- We added "EMS provider judgment" to Step 3

8. How familiar are you with the CDC "toolkit" for implementing the National Trauma Triage Protocol (Decision Scheme)?

- Unfamiliar=4   (12% of responses)
- Somewhat familiar=16 (49% of responses)
- Very familiar=13 (39% of responses)

9. If you do not have a state trauma triage protocol/guideline, what are the greatest barriers in your state for implementing one? (Please check all that apply.)

- Political issues --field providers=4 (23% of responses)
- Political issues—medical directors=1 (6% of responses)
- Political issues --non-trauma centers=0
- Lack of internal support (state health department)=0
- Lack of support or political pressure from legislators=0
- Funding to implement=1 (6% of responses)
- Staffing to implement=3 (17% of responses)
- Other=8 (47% of responses)

Comments:

- Education of the stakeholders and public regarding the trauma system and guidelines
- Local Control - consistent with other aspects of EMS system in our state

- State law
- We have one region of our state opposed to our regulations, we will be using CDC as the ground floor
- No need
- Collaborative leadership & staffing to lead the process

10. If your state has a protocol defining which trauma patients should be bypassed to a trauma center, does your state permit a ground ambulance to bypass the closest hospital to take a patient to a trauma center based on distance, time, or other criteria? (Please check all that apply.)

- Distance=12 (24% of responses)
- Time=22 (44% of responses)
- Our state does not have a protocol or guideline that addresses “bypass”=8 (16% of responses)
- Other criteria-12 (24% of responses)

Comments:

- Preference of patient, availability of resources
- Most appropriate, no specific qualifier
- Trauma transport protocols vary in time, distance and other criteria. Each EMS provider and trauma agency must submit their Trauma Transport Protocols to the state for approval.
- If the patient meets Trauma Decision Tree criterion, they can bypass local EDs by ground or air. Time use for determining mode of transport air vs ground. (30 minutes drive)
- Bad question? We bypass, but do not specify a distance or time limit.
- We allow our Medical Control Authorities to determine the criteria based upon resources available in their area. This is done through protocol approved by the state.
- For ground transport: 30 minutes transport time
- Mechanism of injury
- All patients must be taken directly to a trauma center by EMS unless one of five exclusion criteria exists. The criteria are as follows: 1. It is medically necessary to transport to another hospital for initial assessment and stabilization. 2. It is unsafe or medically inappropriate due to adverse weather conditions or excessive transport times. 3. Would cause a shortage of local EMS resources. 4. No trauma center is able to receive patient and provide care without undue delay. 5. Before transport begins, if the patient or parent request transportation to a particular hospital.
- Hospital and EMS resources, injury severity
- 45 minutes
- Physiologic criteria and mechanism of injury as defined by the protocol.
- Bypass is based on the Field Decision Triage Scheme. The medics use their best judgment to decide if a trauma center is "too far" and then will deliver to the local hospital to be stabilized and transferred. We have substantial air transport resources

that the medics figure into their destination decisions, as well. However, the effort is made to get a trauma patient to a designated trauma facility utilizing the Triage Scheme.
- 30 minutes
- We added "falls down stairs" to the >20 feet criterion. We also, and importantly, added "EMS provider judgment" to this step, i.e., if the EMS provider thinks it's bad, but it doesn't technically meet the criteria, they can bypass to a trauma center.

11. Do you have a state triage protocol/guideline that specifically addresses pediatric patients?

- Yes=16 (57% of responses)
- No=12 (43% of responses)

12. If so, does your state permit a ground ambulance to bypass the closest hospital to take a patient to a pediatric trauma center based on distance, time, or other criteria? (Please check all that apply.)

- Distance=8 (27% of responses)
- Time=11 (37% of responses)
- Other=7 (23% of responses)
- Our state does not have a protocol or guideline that addresses “bypass” for pediatric trauma=4 (13% of responses)

Comments:

- Availability of coverage for the home area of the ground ambulance
- Most appropriate, no specific qualifier
- No pediatric trauma centers
- If the patient meets Trauma Decision Tree criterion, they can bypass local EDs by ground or air. Time use for determining mode of transport Air vs ground. (30 minutes drive)
- Mechanism of injury
- The creation of pediatric trauma criteria is currently in process.
- Hospital and EMS resources, injury severity
- 45 minutes
- Only 1 pediatric center. Bypass is based on the Field Decision Triage Scheme. The medics use their best judgment to decide if a trauma center is "too far" and then will deliver to the local hospital to be stabilized and transferred. We have substantial air transport resources that the medics figure into their destination decisions, as well. However, the effort is made to get a trauma patient to a designated trauma facility utilizing the Triage Scheme.

13. What age cut off do you use to suggest bypass to a pediatric trauma center?

- 11-12 years of age=1 (5% of responses)
- 13-14 years of age=5 (28% of responses)
- 15-16 years of age=5 (28% of responses)

- 17-18 years of age=2 (11% of responses)
- Other=5 (28% of responses)

Comments:

- 14 and under
- Child has not reached fifteenth birthday.
- Pediatric patient is defined in our administrative rules.
- If they fit on the Broslow tape they are a pedi patient
- We have no Pediatric trauma centers, but utilize Level 1 and 2 as pediatric centers
- We don't include a specific age cut-off
- Specifically 14 and below to peds center
- Pediatric defined as < 12 years of age OR <55 Kg

Please indicate your state's utilization of the Field Decision Scheme as described by the national panel/published guidelines:

14. Physiologic Criteria

- Our state has maintained the criteria as described=15 (62% of responses)
- Our state has added physiologic criteria=2 (8% of responses)
- Our state has removed physiologic criteria=1 (4% of responses)
- Our state has modified physiologic criteria=6 (25% of responses)

Comments:

- Step One: GCS equal to or less than 8 , Pediatric BP Less than 60 systolic Step Two: GCS 9 to 14
- 1) Less than "A" on the AVPU scale, vs. GCS. 2) Remove specific vitals and replace with S&S of shock. 3) Added respiratory distress resulting from trauma
- Removed specific references to vital signs. Generalized it to "Sign of Shock"
- Use GCS<13 instead of 14
- GCS score less than 9
- We use GCS motor less than 6 (or does not follow commands) in place of the total GCS score. We removed respiratory rate We modified hypotension to include < 70+ (age x 2) for peds
- Qualified falls as 2 times patient height, added horse-animal rollover-ejection, motorcycle/snowmobile/ATV greater than 20 mph, added hanging, added multiple patients and assault with changed in loss of consciousness.

15. Anatomic Criteria

- Our state has maintained the criteria as described=16 (73% of responses)
- Our state has added anatomic criteria=2 (9% of responses)
- Our state has removed anatomic criteria=2 (9% of responses)

- Our state has modified anatomic criteria=2 (9% of responses)

Comments:

- Step Two: Combination Trauma and Burns
- Removed crushed/degloved/mangled extremity, amputation.
- Added (unless obviously superficial) to penetrating chest, neck, torso trauma. Changed flail chest to "Chest trauma with respiratory distress (e.g. flail chest)." Removed open or depressed skull fracture (how would prehospital providers know - GCS motor is more sensitive.
- We have no burn centers in our state. We've moved major burns up under anatomic criteria.

16. Mechanism of Injury (MOI) Criteria

- Our state has maintained the criteria as described=14 (61% of responses)
- Our state has added MOI criteria=3 (13% of responses)
- Our state has removed MOI criteria=2 (9% of responses)
- Our state has modified MOI criteria=4 (17% of responses)

Comments:

- Step Three: Fall three times childes height, Explosion/ Blast, Roll over without restraint
- Keep these criteria but say it differently
- Removed automatic crash notification information
- Less weight on the MOI criteria.

17. Special Considerations

- Our state has maintained the criteria as described=15 (57% of responses)
- Our state has added special considerations=3 (11% of responses)
- Our state has removed special considerations=3 (11% of responses)
- Our state has modified specific considerations=5 (19% of responses)

Comments:

- Removed "Time sensitive extremity injury" (covered under Step Two) Moved "Burns plus trauma" to Step Two
- We say these a little differently, removed extremity injuries and provider judgment. Patients fitting these criteria only may go to the closest local hospital first, with EMS recommendation of trauma team activation at that hospital.
- Anticoagulation defined as on Coumadin or Heparin Removed end-stage renal disease requiring dialysis Removed time sensitive extremity injury (retained anatomical info on crush/degloving/ amputation) Removed EMS provider judgment Changed ages to >55 or <5 y/o

- More specific considerations for use of air medical transport added
- "Second or third degree burns >10 - 20%" was specified. We deleted the discrimination between burns with or without trauma, since our only burn center is a level 1 trauma center also.

18. How does your state evaluate compliance with your trauma triage protocol/guideline? (please check all that apply)

- Through our state quality improvement process=10 (27% of responses)
- Through local/regional quality improvement process=9 (24% of responses)
- Random sampling of run reports=4 (11% of responses)
- We do not evaluate compliance with our trauma triage protocol/guideline=6 (16% of responses)
- Other=8 (22% of responses)

Comments:

- Will be evaluated through TRAC system on a regional level
- Our QA process is not well established. We analyze statewide trauma /ED/ and discharge registry.
- We generally find compliance issues as a part of our other regulatory activities and when identified, move as appropriate to correct the issue.
- Office of Trauma's Trauma Center Site Survey Process, the Bureau of EMS' Emergency Medical Review Committee, Trauma Agency regional evaluation process, and the Trauma Registry/Research and Quality Improvement Planning Teams and data committees.
- Our criteria go into effect on July 1, 2010. We plan to track via state and regional QI (which will likely involve auditing run reports).
- This is the responsibility of the Regional Trauma Advisory Councils
- Linked Outcomes Data System
- Through state investigations of complaints
- With recent change to Electronic Data Reporting we will be providing a State QI Process to assess this area.
- Complaints from trauma centers or EMS providers.
- We are currently developing our Trauma PI process. So, we currently are NOT evaluating trauma triage compliance (which is voluntary), but we intend to do so in the future

19. Please provide any other comments you wish to share.

- Protocols are being developed based on the Field Triage Decision Scheme but the system is still in development phase and the training for the Field Triage Decision Scheme will be part of the EMS transitional course for filling the gap between the old DOT NSC and the new DOT Educational standards.

- Our state is in the process of officially adopting the new triage criteria, with some additional modifications, through our rule promulgation process. We expect to have the new criteria in place no later than December, 2010.
- Fifteen years ago, our state developed our own adult and pediatric triage criteria. These criteria were based on studies and trauma system research. Updated studies were done in 2000 and 2004 (published in 2005) related to the statewide trauma triage criteria. Since our trauma system has evolved into a mature and effective statewide, integrated and continuum of care system over the last 15 years, these questions were difficult to answer. Our strategic planning and implementation processes encourage participation at the local, regional and state levels in the development of our criteria, guidelines, rules, and statutes. This process has been very effective to ensure buy-in by the local and regional providers, facilitate continuous quality improvement efforts, and the successful implementation of our strategic planning goals and objectives.
- Unable to evaluate compliance because trauma registry is not functioning at this time.
- The CDC guidelines are not useful to us as the criteria and scope fall well below what our state implemented over 10 years ago or what states should be doing now. It also fails to adequately address pediatric, geriatric, or special needs populations.
- We are in initial stages of working this into trauma system activities, but do not have statewide implementation yet nor is it within any regulatory approach.

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