Triage Report

A Brief Assessment of Florida's Pre-hospital Triage Strategy

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INTRODUCTION

The State of Florida Department of Health continues to prepare for a number of disaster scenarios including incidents involving bombs, burns, blasts, chemical agents, biological agents, radioactive materials, nuclear materials, pandemic influenza, and other potential mass casualty situations. One element of response that all of these situations have in common is the need for pre-hospital triage. With the State's excellent record of jurisdictional sharing of resources and mutual aid response, it makes great sense to have a standardized plan for triage in place. This allows for patient triaging at the scene and at alternative medical treatment sites (AMTS) in a standardized manner that meshes with hospital emergency departments and enhances the continuity of care. It also helps achieve the goal of ensuring that hospital emergency departments (ED) remain available for more critical patients. While the State has standardized to the START and JumpSTART systems of triage (with field procedures detailed in the Florida Incident Field Operations Guide), a catastrophic disaster, with an overwhelming number of casualties, will present significant challenges in the triaging of patients.   It is helpful, therefore, to assess the status of our triage practices in the pre-hospital disaster response strategy to

1) ensure that the strategy is valid and is being maintained,

2) clarify the strategy for personnel in a wide variety of pre-hospital disaster medical positions, and

3) formulate recommendations on how to enhance the strategy.

PURPOSE

The purpose of this document is to:

1) briefly summarize the **status of pre-hospital triage** in the State of Florida,

2) delineate some of the **terminology / standardized methods** of pre-hospital triage and trauma score systems in use throughout the State,

3) differentiate between **"conventional" triage and "catastrophic" triage** to foster more effective triage practices in "true" mass casualty events and,

4) make recommendations on how to **maintain and enhance the triage strategy.**

1) **Large medical emergencies and disaster situations will require triage** in order to prioritize patient care.

2) Most response agencies throughout Florida (as well as many agencies worldwide) have standardized to the **Simple Triage and Rapid Treatment (START) and JumpSTART methodologies** of triage.

3) The **START and JumpSTART** systems of triage have been **adopted** by the State and are codified in Section 14 of the Florida Incident Field Operations Guide (FOG).

4) Many hospitals throughout Florida have standardized to the "**Start 2 Finish" disaster triage methodology of triage for hospital emergency departments** and more are receiving training on the method this year.

5) In referencing past major disasters, it is likely that more **people will transport themselves** to a hospital following a major incident than will be transported by the emergency medical system.

6) **Non-critical casualties** will arrive at the emergency department first which can lead to the inundation of facilities and depletion of resources.

7) Non-critical disaster patients will out-number critical patients in ratios from **4:1 to 25:1,** depending upon the particular scenario at hand.

8) Triage may need to be done **multiple times** during an event.

9) **Venues of disaster triage** include the scene, alternative medical treatment sites, the area immediately outside hospital emergency departments, and inside hospital emergency departments.

10) In true mass casualty situations (ones that generate a large number of patients which overwhelms hospitals), a shift needs to be made from focusing on the greatest good for each individual to the **greatest good for the greatest number**.

11) **A key goal in mass casualty triage** is to keep "green tagged" (minor) classified patients out of the emergency department so hospitals can focus on the "red tagged" (immediate) and "yellow tagged" (delayed) patients.

12) Based on studies of past major disasters, **many available hospitals will be underutilized** in a disaster with patients being transported (or self-transporting) to the closest hospital or just a few of the more well-known facilities.

13) A **standardized color coding system** for triage has been identified and is used worldwide.[1] The colors utilized are:

- **IMMEDIATE** - Red
- **DELAYED** - Yellow
- **MINOR** - Green
- **EXPECTANT** - Black

14) A **standardized triage tag** has been adopted by the State and is based on the START and JumpSTART systems. The tags utilize the color coding system identified above.

15) Grant-funded **triage tools,** including color coded vests, tarps, and triage "kits" (which include bundles of standardized triage tags) have been purchased and distributed throughout the State.

16) Different specialty areas have developed **triage schemes for specific types of patients.**

17) **Over-triaging of children** can lead to delayed care for more seriously injured adult patients.

18) The system of **triage at the first responder level** needs to be fairly **simple and standardized** so that training is sustainable.

19) There are **lessons to be learned** about triage practices from those who have responded to **recent catastrophic disasters**. This includes Israelis, who have had to respond to a number of terrorist incidents.

20) Given the large turnover of personnel in the emergency medical services, **sustained triage training will be needed** to educate new responders and to keep tenured people current.

21) **Simplicity** in triage methods is a major key to the success of field triage.

[1] Note: There may be a change coming to the color scheme that will utilize combined colors. Ex. "green and white (green with white stripes) to signify "no medical care needed but behavioral health care required", and "black and white to signify "expectant", etc.

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To help clarify triage vernacular and to aid in the understanding of reference materials on the subject, it is helpful to review triage terminology, triage systems (and acronyms), and trauma scoring systems that relate to triage.

Triage Terminology

Primary Triage – Primary triage is the first triage of patients, which usually occurs in the pre-hospital setting. Patients are assigned an acuity level based on the severity of their injury, illness, or disease.

Secondary Triage – Secondary triage is a re-evaluation of a patient after initial medical care. This may occur at the scene, at an alternative medical treatment site, or at a hospital.

Tertiary Triage – Tertiary triage is the re-evaluation of a patient's condition after further medical care and is ongoing during the patient's stay at an alternative medical treatment site or hospital.

Under-triage – Under-triage involves patients not being sent to trauma centers and other emergency department facilities when they are actually in need of specialized care. Under-triage occurs because patients are assessed as having minor injuries when in fact they have serious injuries.

Over-triage - Over-triage involves sending patients to trauma centers and other emergency department facilities when they do not need such specialized care. Over-triage occurs because patients are assessed as having serious injuries when in fact they have only minor injuries.

Triage efficiency – Triage efficiency is the extent to which over-triage and under-triage are minimized.

Altered Triage/Treatment Standards – Altered standards is a shift in providing triage (and patient care) that focuses on saving the largest number of lives in contrast to the traditional focus of focusing on maximum care for individuals regardless of the severity of their condition.

Triage Systems and Acronyms

ACT – This is an acronym for a non-physiologic rapid sorting system of triage, which stands for Ambulatory, Continuing care and Terminal. It is a rapid "initial assessment" system that can be used even by non-medical personnel to sort patients.

START – START is an acronym for Simple Triage And Rapid Treatment. This four-category system is used worldwide and utilizes color-coding to differentiate between categories of triaged patients. (Red for "Immediate", Yellow for "Delayed", Green for "Minor", and Black for "Expectant") It is used by a majority of pre-hospital emergency medical response agencies throughout Florida and aligns with standardized triage tags. The system meshes with the "START 2 Finish" triage system, which is used in an increasing number of hospitals throughout Florida.

SLUDGEM – SLUDGEM is an acronym (included on the adopted Florida Triage Tag) which stands for Salivation, Lacrimation, Urination, Defecation, G.I. distress, Emesis, and Miosis. It allows for identification of nerve agent effects.

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JumpSTART – JumpSTART is an objective tool developed for the triage of children in a multi-casualty / disaster setting. It parallels the START system of triage detailed above. The objectives of this tool are, 1) to optimize the primary triage of injured children in the MCI setting, 2) to enhance the effectiveness of resource allocation for all MCI victims and, 3) to reduce the emotional burden on triage personnel who may have to make rapid life-or-death decisions about injured children in a chaotic setting.

SAVE – SAVE stands for Secondary Assessment of Victim Endpoint, which is a system of triage that serves to direct limited resources to the subgroup of patients expected to benefit most from their use. The system assesses survivability of patients with various injuries and, based on trauma statistics, matches resources with those patients who will benefit most from their use.

START 2 Finish – START 2 Finish is a resource management tool for hospitals to optimize usage of three resources existing in a hospital at all times: labor, space, and supplies. While this is not a pre-hospital triage system, it is important to mention because it meshes with the START and JumpSTART systems of triage, which *are* field triage tools used worldwide.

Sacco Triage Method – "The Sacco Triage Method (STM), developed by Dr. Bill Sacco, is an evidence-based and outcome-driven triage and resource management system that maximizes the lives saved in multiple and mass casualty incidents (MCIs). Using a simple physiological score that predicts survival, patients are triaged based on expected outcome in consideration of the timing and availability of transport and treatment resources."

Canadian Triage and Acuity Scale (CTAS) – The CTAS is a five-category triage scale, which includes classifications of resuscitative, emergent, urgent, less urgent, and non-urgent.

Emergency Severity Index (ESI) – "The ESI is a five-level emergency department algorithm that provides clinically relevant stratification of patients into five groups, from 1 (most urgent) to 5 (least urgent), on the basis of acuity and resource needs".

MASS – MASS stands for Move, Assess, Sort, and Send. This disaster triage system uses military triage categories to handle a large number of patients generated by a mass casualty incident. This system is used in the National Disaster Life Support Foundation "Basic Disaster Life Support" classes taught in Florida.

SALT – SALT stands for Sort, Assess, Life-saving interventions, Treatment and/or Transport. The development of this methodology, that seeks to use aspects of existing triage systems, is an attempt to create a national standard for mass casualty triage. It is promoted as a system "designed to allow agencies to easily incorporate it into their current MCI triage protocol through simple modification." This initiative is sponsored by the Centers for Disease Control and Prevention (CDC) and the National Highway Traffic Safety Administration (NHTSA).

PSYSTART – PSYSTART is "a model children's disaster system of care and an integrated rapid triage/behavioral health incident management system."

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Trauma Scoring Systems related to Triage

Abbreviated Injury Scale (AIS) – The Abbreviated Injury Scale is an anatomical scoring system that ranks a patient's injuries on a scale of 1 to 6 that includes the values of 1= minor, 2= moderate, 3= serious, 4= severe, 5= critical, and 6= not survivable.

Glascow Coma Scale (GCS) – The Glascow Coma Scale is the most widely used scoring system for assessing the level of patient consciousness. It consists of three parameters - eye opening, verbal response, and motor response.

Injury Severity Score (ISS) – The Injury Severity Score is an anatomical scoring system that provides an overall score for patients with multiple injuries. It rates particular regions of the body including the head and neck, face, chest, abdomen, extremities, and other external areas of the body to provide an overall score. It makes use of the Abbreviated Injury Scale (AIS).

Pediatric Trauma Score (PTS) – The Pediatric Trauma Score is a trauma scoring system for children using the six parameters of size, airway, systolic blood pressure, level of consciousness, wounds, and musculoskeletal/fractures as determining factors.

Revised Trauma Score (RTS) – The Revised Trauma Score is a physiological scoring system with high demonstrated accuracy in predicting death. It consists of a Glasgow Coma Scale rating, systolic blood pressure, and respiratory rate to arrive at a coded value.

Trauma and Injury Severity Score (TRISS) – The Trauma and Injury Severity Score was designed to evaluate trauma care, evaluating expected survival based on patient characteristics. This system uses the Revised Trauma Score, the Injury Severity Score, a score for the patient's age, and coefficients based on blunt versus penetrating trauma.

Trauma Score (TS) – The Trauma Score system assesses physiologic parameters after an injury to help in triaging patients. The parameters it uses include the respiratory rate, respiratory expansion, systolic blood pressure, capillary return, and the Glasgow Coma Scale.

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TRAUMA SURGEON PERSPECTIVE

Dr. Eric Frykberg, M.D. is a Professor and Division Chief of Surgery at the University of Florida, College of Medicine at Shands Hospital in Jacksonville, Florida. He is also a recognized expert in trauma and has authored a number of articles on medical response to terrorism events. Several have analyzed the medical response to specific terrorism events around the world. In his articles (a partial list can be found in the "Reference" section on Page 20 of this report) he makes the following points that relate to disaster triage, especially for *catastrophic* incidents:

- o Need *"orderly triage, stabilization and evacuation of casualties through a **chain of treatment stations** and hospitals."*

- o Need to *"shift from focusing on the greatest good for each individual to the **greatest good for the greatest number**."*

- o *". . . Disasters typically result in **large numbers of casualties** who are **not critically injured**."*

- o *"The challenge in a mass casualty situation is in **keeping most patients out of the hospital**, not bringing them in."*

- o Need to emphasize *"preventing as much as possible the arrival of so many non-critical victims to a definitive care hospital by performing **triage first at outside sites** before allowing them to inundate the hospital."*

- o *"**Bombings and shootings** are the most common forms of terrorist violence."*

- o In catastrophic disasters, *"Injuries of **moderate severity rather than greatest severity** should take priority."*

- o *"**Mortality** among critically injured survivors of terrorist bombing disasters is **directly related to the magnitude of over-triage**."*

- o *". . . **A basic change in mindset** is necessary in our approach to medical care of these [terrorism] victims to maximize the salvage of life."*

CONVENTIONAL TRIAGE AND CATASTROPHIC TRIAGE

When looking at triage for disaster situations it is critical to make a distinction between *conventional triage* and *catastrophic triage*. The vast majority of responders have never been involved in a truly "catastrophic" disaster situation, one that generates an overwhelming number of patients. This makes it even more important to identify the differences between the two, train response personnel how to make a change in triage attitude and procedures when confronted with a *catastrophic* disaster, and to create a mindset for this elevated mass casualty situation that will result in lives being saved.

In a document promulgated by the Agency on Healthcare Research and Quality titled, *"Altered Standards of Care in Mass Casualty Events",* the following two points are made about catastrophic disaster triage, using explosion and biological incidents as examples:

"At their peaks, both the explosive and biological mass casualty scenarios are likely to involve:

Triage efforts that will need to focus on maximizing the number of lives saved. Instead of treating the most injured first, triage would focus on identifying and reserving immediate treatment for individuals who have a critical need for treatment and are likely to survive. The goal would be to allocate resources in order to maximize the number of lives saved. Complicating conditions, such as underlying chronic disease, may have an impact on an individual's ability to survive.

Triage decisions that will affect the allocation of all available resources across the spectrum of care from the scene to hospitals to alternate care sites. For example, emergency department access may be reserved for immediate-need patients; ambulatory patients may be diverted to alternate care sites (including non-medical space such as cafeterias within hospitals or other non-medical facilities) where "lower level" hospital ward care or quarantine can be provided. Intensive or critical care units may become surgical suites and regular medical care wards may become isolation or other specialized response units."

One way to view the distinction between conventional triage and catastrophic triage is to compare differences in a table as seen below:

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DISASTER MASS CASUALTY TRIAGE

PARAMETER	CONVENTIONAL TRIAGE	CATASTROPHIC TRIAGE
MOST LIKELY METHOD OF TRANSPORT TO THE HOSPITAL	EMS System	Self report
MODE	Static	Dynamic
INITIAL TRIAGE TAGGING	Colored ribbons ,triage tags	Sorting areas, colored ribbons, triage tags
ASSUMPTION	EMS system intact	EMS system overwhelmed or non-functional
SCOPE	Localized or small disaster	Regional or large disaster
FOCUS	Greatest good for individuals	Greatest good for the greatest number
TRIAGE VENUES	Scene, hospital ED (possibly AMTS)	Scene, AMTS, outside hospital ED, inside hospital ED
NUMBER OF PATIENTS	Small to medium – MCI Levels 1-3 (5 to 100 victims)	Large – MCI Levels 4-5 (101 to over 1000 victims)
PATIENT LOAD	Manageable	Overwhelming
HOSPITAL ED TRIAGE PERSON	ED staff	Physician (Possibly a trauma surgeon)
ED TREATMENT PRIORITY	Red/Yellow/Green	Red/Yellow (no Greens admitted to ED)
PRIORITY OF MOST SEVERELY INJURED	Greatest severity then moderate severity	Moderate severity then greatest severity (salvageability issue)

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In summarizing the "lessons learned" from the table above, modification of triage in a catastrophic situation (vs. a conventional situation) includes:

1) recognition that there is a **significant difference between conventional triage and catastrophic triage**,

2) a mindset shift from doing the **greatest good for an individual to the greatest good for the greatest number**,

3) prioritizing according to **survivability**,

4) keeping "green tagged" or minor patients and "black tagged" or expectant patients out of hospital emergency departments to allow the facilities to **deal with the "red tagged" or immediate and "yellow tagged" or delayed patients,**

5) quickly establishing **triage and treatment areas for the "green tagged" patients** to keep emergency departments from becoming overwhelmed with "green" or minor classified patients, especially from "self-transports",

6) the use of a **physician or possibly a trauma surgeon for triage** at hospital emergency departments (this being a *hospital* rather than pre-hospital triage decision) , and

7) making use of **alternative medical treatment sites** to reduce hospital surge.

TRIAGE IN RURAL AREAS FOR TRAUMA PATIENTS

One area of concern in the Florida triage picture is triage in rural areas. Improvement in triage, especially in the area of assessing victims of traumatic accidents, is needed to ensure that patients are being properly assessed and are being sent directly to a trauma center when necessary rather than being sent first to small local hospitals or clinics. Dr. Joe Nelson and his working group have assessed this issue to foster improvements. A CD titled *"Improving EMS Trauma Triage"* has been produced through HRSA grant funding and is being distributed to educate personnel, especially in rural service areas, about trauma triage.

SPECIFIC PATIENT-TYPE TRIAGE

To refine the triage process even more, a number of groups are developing triage for their particular specialty areas. Examples include "burn patient" triage and "behavioral patient" triage. While these are generally "in-hospital" triage protocols rather than scene protocols, they would be applicable at alternative medical treatment sites and thus should be studied for their value in the pre-hospital environment. Generally, these are secondary or tertiary triage procedures designed to *further* triage patients. As more are developed, it would be helpful if they would build on the standardized triage systems.

As a side note, it will be important to triage patients in the "behavioral" category at disaster scenes since, 1) there may be a significant number of patients whose primary issue is psychological in nature, 2) early intervention can enhance patient outcomes and, 3) it is important to separate these patients from others to reduce the contagion of anxiety among other patients. PsySTART is currently being evaluated for use in behavioral triage situations.

At some point in the future, it may also be necessary to address more specific triage practices for large numbers of patients that have been exposed to chemical, biological, or radiological agents.

HOSPITAL EMERGENCY DEPARTMENT (ED) TRIAGE

While a full assessment of triage in the ED is beyond the scope of this report, it is important to briefly mention it because of its link with field triage. Many hospitals in Florida have adopted the "Start 2 Finish" system of ED triage which incorporates the field utilized START and JumpSTART methodologies. However, ED triage is more definitive with many hospitals using some variation of a five level triage system. As mentioned earlier, a shift in thinking and procedure will be needed in hospital EDs when an event moves from the realm of conventional triage to one necessitating catastrophic triage. One of the most significant changes that results in an ED is the increased importance of the triage officer. Consensus among experts seems to be that in a catastrophic incident the responsibility should shift from the ED staff to a physician. Some even feel that in such incidents a trauma surgeon should fill the role. Some controversy on this exists because of the limited number of trauma surgeons available. Many question the rationale of assigning a trauma surgeon these duties at a time when they might be most needed for surgery. This practice of using a physician or trauma surgeon, however, has proven itself in previous catastrophic events and is routinely used successfully in Israeli hospitals, which have had extensive experience in dealing with terrorism incidents.

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Through the work of the EMS Advisory Council, a standardized triage tag has been adopted for use throughout the State of Florida. Using grant funding, bundles of these tags have been supplied to EMS providers across the State. They work well but one area that needs to be addressed is "patient tampering" with the tags. In one recent mass casualty incident, patients tore off a portion of the tag to elevate their priority of transport.

POCKET "START / JumpSTART" TRIAGE CARD PROGRAM

Under a Florida Department of Health grant, 100,000 pocket triage cards, which can be clipped to identification badges, have been distributed to EMS responders statewide. These cards allow personnel to make quick reference to the START and JumpSTART triage criteria as needed.

Based on a study of current triage practices, experiences of jurisdictions who have sustained a true mass casualty disaster situation, the increased threat of terrorism and the progress made in the State of Florida to standardize triage practices, the following are some conclusions and recommendations of this brief triage study:

1) **EMERGENCY RESPONSE AGENCIES THROUGHOUT FLORIDA SHOULD CONTINUE TO STANDARDIZE TO THE START AND JUMPSTART METHODS OF PRE-HOSPITAL TRIAGE.**

Rationale: These systems are recognized worldwide, match triage tags in use, mesh with the "Start 2 Finish" triage system being utilized in hospitals and are simple and easy to use. Additionally, these systems have been sanctioned for use throughout the State and are part of the Florida Incident Field Operations Guide (FOG). <u>However</u>, new and emerging triage systems should be assessed for their value in improving triage practices during emergencies and disasters.

2) **HOSPITALS THROUGHOUT FLORIDA SHOULD CONTINUE TO STANDARDIZE TO THE "START 2 FINISH" SYSTEM OF EMERGENCY DEPARTMENT TRIAGE.**

Rationale: Over one hundred hospitals have been instructed in the use of this system and it is gaining wide acceptance because it is easy to use, provides visual color coded direction on the sorting of patients, can be established quickly, and meshes with the field methodologies (START and JumpSTART) currently in use. An additional one-hundred hospitals are receiving training on this methodology in the current year. As new and emerging triage systems come online, they should be evaluated for possible improvement in hospital triage practices.

3) **A CLEAR DISTINCTION SHOULD BE MADE BETWEEN _CONVENTIONAL_ TRIAGE AND _CATASTROPHIC_ TRIAGE WITH PERSONNEL BEING TRAINED IN QUICKLY CHANGING FOCUS WHEN A CATASTROPHIC DISASTER INCIDENT OCCURS.**

Rationale: Most emergency response personnel have never dealt with a true catastrophic disaster. In such incidents, the number of patients will be overwhelming and in order for the greatest good to be done for the greatest number, a shift in triage thinking and methodology needs to occur. Routine or "conventional" triage will have to be adjusted in catastrophic incidents to process the overwhelming number of casualties that will likely result. Other changes (highlighted in the Disaster Triage Table on page 10) are needed to successfully triage patients in catastrophic disasters.

4) **IN ORDER TO KEEP HOSPITAL EMERGENCY DEPARTMENTS FROM BECOMING INUNDATED WITH NON-CRITICAL PATIENTS, ALTERNATIVE MEDICAL TREATMENT SITES SHOULD BE USED FOR TRIAGING PATIENTS IN DISASTER SITUATIONS, ESPECIALLY IN CATASTROPHIC INCIDENTS.**

Rationale: It is essential to reserve emergency departments for treating the "delayed" or "immediate" classified patients in a disaster. Alternative medical treatment sites can be used to further triage patients and to serve as a treatment center for green tagged or "minor" patients. Minor patients who self-report to hospitals can also be triaged _out_ to these facilities. Such triaging stations may have to be established at the scene, at alternative medical treatment sites, or just outside of the hospital ED.

5) **DISASTER PRE-PLANNING SHOULD TAKE INTO ACCOUNT THAT TRIAGE MAY NEED TO BE DONE AT MULTIPLE LOCATIONS.**

Rationale: Triage, in a catastrophic disaster, will likely be done at multiple venues. Possible locations would include the scene, alternative medical treatment sites, just outside of the hospital emergency department, and inside the emergency department. Thus, logistical support for triage must be considered for multiple sites. Since previous disaster experience shows many people will transport themselves to the hospital, in many situations triage will be essential just _outside_ of the hospital emergency department.

6) **AGENCIES STATEWIDE SHOULD CONTINUE TO STANDARDIZE TO THE ADOPTED TRIAGE TAG TO FOSTER CONSISTENCY AND CONTINUITY OF TRIAGE DOCUMENTATION. ADDITIONALLY, ESPECIALLY IN SUPPORT OF CATASTROPHIC TRIAGE EVENTS, "RIBBONS" AND/OR COLORED "LIGHT STICKS" SHOULD BE CONSIDERED FOR QUICK TRIAGE "MARKING" OF PATIENTS.**

Rationale: A standardized triage tag has been adopted for use in Florida and grant funds have been used to purchase packs of the tags for EMS units statewide. Agencies should continue to standardize to this tag since, in a catastrophic disaster, multiple agencies crossing multiple jurisdictional lines will respond to assist. Having a standard triage tag will enhance the consistency and continuity of triaging. (A sample tag is included in this document on page 13.) As new and emerging triage systems become available, the tags for those systems should be assessed for improving patient tagging and overall triage goals. Agencies should also give consideration to using colored "ribbons" or "surveying tape" for initial quick triage marking, and "light sticks" for tagging patients in low light conditions, inclement weather, or at night.

RIBBON COLORS

RED	- Immediate
YELLOW	- Delayed
GREEN	- Minor
BLACK	- Expectant

LIGHT STICK COLORS

RED	- Immediate
YELLOW	- Delayed
GREEN	- Minor
PURPLE	- Expectant

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7) **CONTINUAL ASSESSMENT OF TRIAGE METHODOLOGY SHOULD OCCUR WITH "LESSONS LEARNED" FROM RECENT DISASTERS BEING APPLIED TO FLORIDA'S TRIAGE STRATEGY.**

Rationale: Given that true mass casualty/disaster situations are rare, it is important to learn from each one that does occur. Concepts such as conducting quick triage on the scene to move patients out of harm's way (to avoid impact from secondary devices, etc.), changing from conventional to catastrophic triage practices during major incidents and taking further measures to keep green tagged or minimally injured patients out of the ED, etc. need to be applied.

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8) CONTINUAL TRAINING ON TRIAGE NEEDS TO BE DELIVERED TO PREPARE RESPONDERS FOR TRUE CATASTROPHIC INCIDENTS AND TO ENSURE THAT *NEW* RESPONSE PERSONNEL RECEIVE TRIAGE TRAINING.

Rationale: Fortunately catastrophic incidents are rare. However, responders must maintain their triage skills to be ready at a moment's notice to carry out this vital responsibility on disaster scenes. Thus, continual training is needed in triage procedures. Additionally, there is a significant turnover of personnel in the emergency medical services. This makes it necessary to continually offer triage training so that new personnel are skilled in triage operations. Many agencies are required to hold annual or bi-annual full-scale disaster exercises. These should be used to exercise triage with actual "hands-on" practice for responders. A web based/DVD training module is being developed by the FDOH for statewide use in pre-hospital triage training. Finally, response agencies would be well served to integrate triage practices into routine operations (such as creating "triage tag days") so that triage skills are exercised thus breeding familiarity with the process.

9) IMPROVED TRIAGE IS NEEDED IN RURAL AREAS TO ENSURE THAT "SPECIALIZED CARE" PATIENTS ARE TRANSPORTED DIRECTLY TO A TRAUMA CENTER WITHOUT BEING DELAYED BY FIRST BEING TRANSPORTED TO A LOCAL HOSPITAL OR CLINIC.

Rationale: Studies have shown that some trauma patients in some rural areas are not receiving trauma center care in a timely fashion. The primary reason for this is that they are often transported to a small local hospital or clinic first and then later transferred to a trauma center. Taking care of this deficit during conventional situations will also help in the proper triaging of patients in catastrophic disaster situations.

10) A CATASTROPHIC MASS CASUALTY INCIDENT WILL NECESSITATE FLEXIBLE TRIAGE AND TREATMENT PROTOCOLS AS WELL AS AN ALTERED "STANDARD OF CARE".

Rationale: It has been seen time and time again that catastrophic disasters require alterations in the normal "standard of care". (The argument can be made that the standard of care is really not "altered" since, in disasters, doing the best, most professional job you can with the given personnel, resources, etc. constitutes the "standard of care.") The reason for this is the need to shift from doing the "greatest good for individuals" to doing the "greatest good for the greatest number". One good way to deal with this eventuality is to adopt the practice of *"sufficiency of care".* This means moving back and forth from the normal standard of care to an altered standard of care based on patient load. Further information on "altered standards of care" can be found in the AHRQ document, *"Altered Standards of Care in Mass Casualty Events".* (A link for this document can be found in the "References" section on Page 24 of this report.) The Florida Department of Health is exploring measures to deal with situations calling for altered care standards including the use of Governor executive orders.

11) GIVEN THE BENEFITS OF HAVING A STANDARDIZED SYSTEM OF FIELD TRIAGE STATEWIDE, GRANT FUNDING SHOULD CONTINUE TO BE USED TO OUTFIT RESPONSE UNITS WITH TRIAGE TOOLS.

Rationale: Previous grant funding was used to outfit response units throughout Florida with triage tags, tarps, vests, and documentation items. In an effort to promote standardization, thus efficiency and effectiveness, future grant monies should be allocated to this worthwhile cause to sustain and enhance the Florida triage strategy. Thought should also be given to enhancing triage and patient documentation through the use of scanners and other technology.

12) ADVANCED STANDARDIZED METHODS OF PATIENT TRACKING ARE BEING DEVELOPED. TO FACILITATE A COMPLETE PATIENT RECORD, TRIAGE TAG INFORMATION SHOULD BE INCORPORATED INTO PATIENT TRACKING PROCESSES.

Rationale: As patient tracking methods are improved and new technologies are used to capture this data, triage tag information should be included as part of the accumulated patient record. The Florida Department of Health is in the process of implementing a statewide patient tracking system that has the capability of including triage tag information. The capturing of this data should not in any way, however, delay patient care or transport.

13) SPECIFIC PATIENT TYPE TRIAGE, SUCH AS "BURN TRIAGE" AND "BEHAVIORAL TRIAGE", CAN BE HELPFUL AND SHOULD BE USED BUT SHOULD BUILD UPON THE STANDARDIZED METHODS OF TRIAGE ALREADY IN PLACE. ALSO, THE "PSYSTART" MODEL FOR PEDIATRIC MENTAL HEALTH TRIAGE SHOULD BE ASSESSED FOR USE IN FLORIDA.

Rationale: Specific patient type triage serves a useful role in further refining the priority of patient care. Both "burn triage" and "behavioral triage" protocols have been developed and other specific patient-type triage procedures might be useful. These methods should, however, mesh with the standardized methods of triage and should be adaptable when a shift is made from conventional triage to catastrophic triage. PSYSTART, a rapid triage/behavioral health incident management system for children, should be assessed for possible use in disaster situations.

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14) DURING PEDIATRIC TRIAGE TRAINING, RESPONDERS SHOULD BE COUNSELED ON THE EMOTIONAL ASPECTS OF TRIAGING CHILDREN. IN ADDITION, TRAINING SHOULD FOCUS ON THE NEED TO ACCURATELY TRIAGE PEDIATRIC PATIENTS (I.E.: NOT OVER-TRIAGING THEM) SO THAT <u>ALL</u> PATIENTS, BOTH CHILDREN AND ADULTS, RECEIVE THE PRIORITY OF CARE THEY NEED.

Rationale: Research indicates that responders have found it difficult, usually for emotional reasons, to triage children. In a number of cases, children have been over-triaged resulting in adults who needed priority care being delayed in receiving treatment. When triage training is delivered, responders should be made aware of this tendency so more accurate triage can be accomplished during actual emergencies.

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**15) FLORIDA SHOULD MONITOR THE PROGRESS OF THE
    *"TERRORISM INJURIES: INFORMATION, DISSEMINATION, AND
    EXCHANGE (TIIDE) PROJECT"* FOR THE POSSIBLE DEVELOPMENT
    OF NATIONAL FIELD TRIAGE CRITERIA FOR MASS CASUALTY
    EVENTS.**

Rationale: In an initiative by the CDC, nine emergency medicine organizations including the American College of Surgeons, ACEP, the AMA, and others, are reviewing mass casualty triage and will be developing a position paper. The ultimate goal is to develop national field triage criteria that can be used in mass casualty events. It will be important to track the progress of this project for findings applicable to Florida's triage strategy.

**16) NEW AND EMERGING TRIAGE SYSTEMS, ESPECIALLY THOSE
    PROMULGATING QUANTIFIABLE OR EVIDENCE BASED TRIAGE
    METHODS, SHOULD BE RESEARCHED AND TESTED FOR
    POSSIBLE USE AS THE TRIAGE STANDARD IN FLORIDA.**

Rationale: While START and JumpSTART triage methodologies are recommended for continued use in Florida (given the benefits of standardization, training that has occurred, compatibility with hospital "Start 2 Finish" practices, and the fact that standardized triage tags are in place statewide) there is a need to assess triage practices that have the potential to improve on the current system. One example is the Sacco Triage Method which is currently being assessed by the EMS Advisory Committee's Disaster Response Committee. This system, while proprietary at the present time, promotes evidence-based procedures and even uses software that can aid in the distribution of patients to appropriate hospitals in a disaster. This methodology and any other system that has the potential to enhance triage speed and accuracy, (and is evidence-based) should be examined.

Another system that needs to be reviewed is the SALT (sort, assess, life-saving interventions, treatment and/or transport) system which is being supported by the CDC as a potential national all-hazards triage system.

17) TRIAGE PRACTICES IN FLORIDA SHOULD ALIGN WITH THE NATIONAL RESPONSE PLAN PRECEPTS AND THE NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS).

Rationale: The National Incident Management System is the standard system for incident command in the United States. One component of the system is the Medical Branch which includes the responsibility for seeing that triage is carried out at disaster scenes. Standardized job titles and descriptions aid in the continuity of triage, treatment, and transport practices at disaster scenes and, thus, should be universally adopted.

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18) TRIAGE INITITIAVES FOR THE STATE OF FLORIDA SHOULD TAKE INTO ACCOUNT THE PRECEPTS OUTLINED IN THE "TRIAGE AND PRE-HOSPITAL TREATMENT" SECTION OF THE DEPARTMENT OF HOMELAND SECURITY'S "TARGET CAPABILITIES LIST."

Rationale: In September of 2007 the Department of Homeland Security issued a document titled: *"Target Capabilities List: A Companion to the National Preparedness Guidelines."* One section of the document is titled *"Emergency Triage and Pre-hospital Treatment."* This section details "critical tasks" necessary to achieve national preparedness in the area of triage and the pre-hospital treatment of patients. Since these target capabilities form the framework for the statewide Strategic Planning, they should be referenced for any triage initiatives. (A link for this document can be found in the "References" section on Page 24 of this report.)

SUMMARY

In summation, the status of triage in the State of Florida is very good. Responders and hospitals are using standardized systems such as START, JumpSTART, and Start 2 Finish. Field triage procedures have been included in the Florida Incident Field Operations Guide. Through FDOH efforts, numerous agencies have been equipped with grant-funded triage tools, and hospitals are receiving training in "Start 2 Finish". Rural triage protocols are being assessed by Dr. Joe Nelson's group and triage protocols for specific situation types, such as for burns and behavioral health, have been or are being developed. Dr. David Shatz and Dr. Rick Slevinski have, over the years, made triage issues a priority in EMS Advisory Council sessions. An alternative medical treatment site plan has been written and follow-up is being done with local communities so they will develop local plans to institute such facilities for triage and treatment of disaster patients. Pocket triage cards are being distributed to emergency medical responders statewide. There is an increasing awareness of the need to shift from *conventional* triage to *catastrophic* triage practices as dictated by the size and/or complexity of an incident. This awareness needs to be expanded upon with follow-up procedures and training. Attention also needs to be paid to past incidents since a study of them shows recurring elements such as 1) the majority of people involved will have injuries of a minor nature, 2) many people will "self transport" themselves to the hospital, and 3) triage will need to be done multiple times at multiple locations. Lessons are also being learned from those who have had to carry out triage at major disasters over the past few years including lessons from Israel where terrorism incidents, unfortunately, have been numerous. Triage practice at disaster exercises has taken place but needs to be expanded upon and incorporated in future drills. Additional training and practice needs to take place so personnel can more easily make the necessary transition in triage practices when catastrophic incidents occur. Additional attention also needs to be given to pediatric triage during catastrophic events to address the potential for over-triage. Since field triage, triage at alternative medical treatment sites, and hospital ED triage are all part of a *system* of triage, coordination on triage practices between agencies needs to continue. As new and emerging systems and technology for triage are developed, they need to be evaluated so that Florida can continue to enhance triage effectiveness.

Again, triage practices in Florida are very good but will need continuing attention to maintain readiness for future incidents, especially for those of a catastrophic nature.

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