

UNIVERSITY OF FLORIDA COLLEGE OF MEDICINE – JACKSONVILLE

Resident Manual

The START 2 Finish Response Model for Mass Casualties

Shands Jacksonville Medical Center

The START 2 Finish response model utilizes the existing structure of the adult START and pediatric JumpStart systems and expands its patient management system from its field use into and through the hospital. This throughput process would increase the efficiency of patient care; improve patient outcomes, expand the capability of manpower and supply resources, thus increasing surge capacity. This system utilizes the established color-coding of patient types and correlates its use into patient care teams and stations. The system also correlates these patient care areas (stations) with associated supplies and equipment required for that specific patient acuity type. Supplies are placed on color-coded carts and rolled to the appropriate stations.

Color Coding System

The START color - coded system identifies four colors:

(Green-MINOR): Green patients are comprised of many types of victims. The minor injured, also known as the walking wounded, the psychologically wounded, and the perceived wounded. Communities should have a plan to care for the green patients either on scene or at an established alternate care site, also known as a casualty collection site, other than hospital Emergency Departments. This planning would increase the effectiveness of medical and logistical resources at the hospitals. Jacksonville has established a MCI plan that utilizes community resources to assist in the management of green patients. The American Red Cross, Salvation Army, Volunteer Medical Corp*, and The Mental Health Response teams arrive at the scene or alternate care site to treat the green patients.

(Yellow-DELAYED): The designation of yellow is for patients whose treatment can be delayed. Although non-ambulatory, their injuries are not immediately life threatening.

Red patients are critical (**Red- Immediate**), and Black is deceased or expectant (**Black-DECEASED**).

An MCI (mass casualty Incident) scene is one of confusion. Consider a major sporting event at a stadium that experiences an explosion. This type event could produce thousands of patients resulting from direct contact with debris, blast injuries, burn victims, trampled patients, and panicked and hysterical patients to name a few. Our emergency management system for this scenario would, although locally managed, initiate the activation of mutual aid resources. EMS and other first response agencies from across the region and state would send assets. These assets could take many hours to arrive.

Upon notification of a MCI, hospitals initiate their disaster response plans, activate their manpower recall lists, and their implement their internal incident command system. One such tool is the Hospital Incident Command System (HICS). HICS is a management tool used to assist leadership in providing maximal support for those caring for the patient. This tool is flexible as it can be implemented for a small focal scenario as well as a community wide disaster.

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In the above explosion scenario, hospitals would immediately exceed surge capacity. This statement is based on the fact that currently, even without a mass casualty incident, hospitals have exceeded their surge capabilities. To accomplish the primary goal of disaster medicine of do the most good for the most people, there must be controls that are collectively agreed upon, initiated, and followed by community partners. This process is applicable on scene as well as at the hospital as the control of a scene greatly impacts a hospital's response capacity.

A major obstacle faced by both EMS at a scene and hospitals are perimeter control. The ability to manage green patients at a scene and implement the established response protocols that bring assistance to the patient is critical for hospital performance. Patients who leave a scene untreated will most likely report to the closest hospital. (*) Hospitals will have a difficult task managing their resources as patients arrive due to the lack of knowledge of volume of patients arriving, either by EMS or self, as well as their acuity. The key to managing the volume of patients is to properly sort them, have a tested plan for placement of the staff and patients, and to effectively manage available resources. The START 2 Finish disaster response model offers a plan for hospitals to address these key issues.

The START and Jumpstart Triage protocols have established the sorting process of the criticality of the injured patients. The field personnel who triage on scene are EMT and Paramedics. The protocols are established for determining the patients triage criteria therefore the major obstacle is complying with the protocols. The application of such a field triage process to be used at the hospital would be for a MCI. Triage personnel should be ED or other triage trained physician and nursing staff.

The first sort is the "Follow me" group, as in 'follow me over here' and walk them out of the way. The treatment area for the GREEN patients should be well removed from the ED. The remaining casualties are non-ambulatory. First identify those (RED) who actually need critical beds and services (Trauma, ED, Units, OR) from the rest of the patients. The rest of the patients can be divided into 2 categories. The two categories remaining are for those patients who will need medical services soon (YELLOW), but not first, and the last category are patients who are dead or expected to die (BLACK).

After START triage is applied either in the field or at the hospital triage station, the following throughput measures will be initiated with the START 2 FINISH model:

GREEN STATION: (Emergency Department Lobby of the old Flex Care)

Most patients who self-triage from a scene are minor wounded. There will need to be a clear process to manage this volume of patients. The designated area of the hospital to take care of the walking wounded should not be in the primary ED or associated treatment areas. Attempts should be made for exterior directional markings, such as a green stripe from the Triage Deck on a sidewalk to self-direct ambulating patients to the GREEN STATION. At SHANDS Jacksonville the GREEN patients will follow the exterior walkway outside of the Pediatric Emergency Department towards the Towers Entrance near the elevators. The ED Waiting Room Area will be blocked off and patients directed to the old lobby area. The directional markings on sidewalks will greatly assist in the patient, staff, and visitor flow to the area. The access to this area should not interfere with the access to the other treatment areas. The GREEN patients do not require diagnostics or bed resources.

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The green station will have a pre-determined medical staff matrix, primarily non-physician such as ARNP, PA, RN, ED Tech, and PCA's. Internal Medicine and Family Medicine nursing and physician staff can report to this area for their role in a MCI. Their Attending physicians will determine the designated physician staff as patient discharge evaluations may be requested. The primary roles of these medical personnel will be first aid treatment of minor wounds, and recognition of any worsening in status of casualties that may require transfer to a higher level of care. They, along with a host of other support staff, will all wear green vests identifying their role. Logistical services and clerical support will be critical in this treatment area. A green marked cart with supplies to care for minor wounded patients will be available. This area will also need a discharge area as well as additional phone banks.

YELLOW STATION:

The Yellow station will need clear marking from triage to the various Yellow Stations. This patients sent to this station could require x-ray services as well as other advanced support, including cardiac monitoring capabilities. The acuity of the yellow patient is higher as well as the propensity of their condition to rapidly deteriorate. The yellow team would be comprised of those who could readily recognize a deteriorating patient and provide appropriate treatment (i.e. ED, and other Critical Care nursing personnel as well as Internists, Emergency Medicine, and Surgical physician staff). The Nursing staff should be comprised of, although not exclusively, Emergency, Telemetry, and Internal Medicine practicing staff. This patient group would consist of non-ambulatory patients; therefore a large cadre of assistance for transportation as necessary. Thus the benefit of color-coding stations would be extremely valuable for those assisting yet unfamiliar with the treatment area names. There will be a large number of patients requiring observation to exclude seriousinjury in this group.

The location of the YELLOW stations at Shands Jacksonville are in the Emergency Department areas identified as Intermediate A and B Areas, Fast Track, Pediatrics, and the Jail Holding. These areas will however be identified as Yellow and given a number to indicate which area to use first (Y1, Y2, etc.). The remainder of the support items in the color-coding system would be the same; yellow patient ID bands and charts, yellow supply carts, and yellow vests.

RED STATION:

The use of directional marking to identify the location of the red station and red staff will be the same as the other stations. The RED STATION will be for patients requiring life-saving intervention. A team comprised of a physician, a nurse, and a Patient Care Technician/EMT all of whom are trained in caring for critical care leveled patients will evaluate the patient arriving to the RED STATION. Their function is to rapidly evaluate, stabilize the patient, and identify the next level of care required. Once stabilization measures are determined, the patient is transferred to that area, either to the Operating Room or to a critical care unit. If neither of these areas is available, the patient will be further stabilized in the RED STATION until such measures are available or the patient is transferred to an accepting facility. The RED STATION locations are located in the Trauma Center and the Emergency Department Resus and ICU. All areas will be marked by color and a 1-10 number identifying the different number of color areas.

BLACK STATION:

This is a location for patients who are alive but have clearly received a mortal wound and are going to die, or will require too many resources and too much time that could better be utilized

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for saving more salvageable casualties in order to have any hope of surviving. If it were not for the disaster response mode, there would probably be heroic life saving measures attempted. However, in this scenario of disaster medicine, resources are being used for the good of the most people. This area is staffed primarily with Clergy and Nursing.

The Black station is NOT the morgue. This area is located in ACC Lobby Back Hall – and you should determine need before sending staff there. It should be in an area away from the other color-coded clinical treatment areas and not interfere with the surge capacity measures being implemented. Pre-designate a location that can accommodate cots or stretchers. The area does not need to be clinical in nature (e.g. interior foyers, holding areas, physical therapy areas). If the casualty flow ceases, and there is time later to reevaluate these patients and then provide care, they can then be transferred for more care into a hospital area—thus, some medical personnel capable of making this triage decision should be there. Once the patient dies they can be placed in the morgue or in the temporary morgue. A Black cart with mortuary and evidence-preserving supplies should be in the area. On this cart, as well as the RED cart should be a camera to assist in the family identification process. It is important to note that personal belongings should never be removed from the deceased in this MCI scenario.

Conclusion:

An additional benefit of the S2F model other than the increase in utilization of existing resources and creating surge capacity is the commonality of language and patient care systems. This would offer a region or state systems approach in the management of a mass casualty incident within the hospitals. The commonality of language of treatment areas will assist our responders, as the designations of these areas are similar at all the hospitals. It is the same language currently being used in the field. This will also improve efficiency in the communication process.

The START 2 Finish Disaster Response model is a flexible process that can be tailored to each hospital. It is a process with minimal financial cost to the hospital that assists in surge capacity, manpower and resource allocation, communication and interoperability issues.