

EMS-TO-HOSPITAL PATIENT TRANSPORT PROCESS FOR MASS CASUALTY INCIDENTS: HOSPITAL GUIDANCE DOCUMENT (2021 UPDATE)

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This document was originally shared in 2016. Since then, a number of adjustments have been made to these protocols, which are reflected below. All hospitals that are part of the NYC 911 system are encouraged to carefully review this document in its entirety.

The Fire Department of the City of New York (FDNY) began using a four-level categorization system for Mass Casualty Incidents (MCIs) on August 1, 2016. Use of these levels informs EMS patient transportation decisions and provides hospitals with additional situational awareness.

The levels are:



Each level is associated with predetermined numbers of patients that hospitals should be prepared to receive during the MCI.

This document is designed to help New York City 911-receiving hospitals consider adjustments to any internal procedures that may be affected by these changes.

DEVELOPMENT OF MCI LEVELS AND PATIENT FIXED ALLOTMENTS: FDNY-GNYHA HOSPITAL BED AVAILABILITY DURING MCIS WORKGROUP

The *Hospital Bed Availability During MCIs* workgroup, co-led by GNYHA and FDNY EMS, met for several months during 2016. It was comprised of representatives from New York City Emergency Management (NYCEM), the NYC Department of Health and Mental Hygiene (DOHMH), FDNY, GNYHA, and hospital representatives with both Emergency Department (ED) and Emergency Medical Services (EMS) experience.

Together, workgroup members explored current NYC MCI response processes, identified areas for improvement, and reviewed information collected by FDNY on systems and methods used in other major US cities. The discussions resulted in two recommendations:

- Creation of four MCI Levels (Level A for Minimal to Moderate, Level B for Significant, Level C for Major, and Level D for Catastrophic) to reflect the severity and stability of the incident, the total number of expected patients, and a minimum number of hospitals to be notified regarding receipt of patients.
- Use of a Fixed Allotment Model, whereby FDNY and each 911-receiving hospital agree on the maximum number of critical and non-critical patients to be transported to the hospital at each MCI level.



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FDNY MCI LEVELS

When an incident occurs, FDNY's Emergency Medical Dispatch (EMD) staff quickly gather information about the nature and severity of an incident from various sources, including 911 callers, other agency reports (such as the NYC Police Department), and Emergency Medical Services (EMS) officers and providers on the scene. EMD will make an initial determination regarding the MCI level, and begin hospital notifications. The level may be modified as additional information and more precise patient numbers are received.

LEVEL A (MINIMAL TO MODERATE) MCI

The vast majority of New York City MCIs are classified as Level A (Minimal to Moderate MCI). This denotes a relatively static incident that produces, or has the potential to produce, a small number of critical patients. Hospitals near the MCI (minimum of 2, including the closest Level 1 or 2 Trauma Center) are notified by EMD and begin preparations to accept patients up to the hospital's Level A fixed allotment.

Examples of Level A MCIs: motor vehicle accident or residential fire with a small number of potential patients.

LEVEL B (SIGNIFICANT) MCI

This is a relatively static incident that produces, or has the potential to produce, significant numbers of critical patients. Hospitals in a broader vicinity of the MCI (minimum of 3, including the closest Level 1 or 2 Trauma Center) are notified by EMD and begin preparations to accept patients up to hospital's Level B fixed allotment.

Examples of Level B MCIs: bus accident, small residential building explosion/collapse.

LEVEL C (MAJOR) MCI

This is a dynamic incident producing, or with the potential to produce, a substantial number of critical patients. Hospitals in a still broader vicinity of the MCI (minimum of 5; including the closest Level 1 or 2 Trauma Center) are notified by EMD and begin preparations to accept patients up to hospital's Level C fixed allotment.

Examples of Level C MCIs: mass shooting, medium to large building explosion/collapse.

LEVEL D (CATASTROPHIC) MCI

This is a catastrophic event that will likely overwhelm the health care system. Hospitals are expected to redirect all efforts to incident response. Rather than rely solely upon a notification from EMD, hospitals should rely on other notification sources, such as NYCEM Watch Command hospital radio transmittals, NYCEM All Call email notifications, and information from credible media outlets. All hospitals should prepare to receive patients above their Level C fixed allotment.

Examples of Level D MCIs: World Trade Center attack, intentional release of poison gas in subway system.

EMS officers may attempt to have ambulances bypass the hospital(s) in closest proximity to the MCI. This is because the hospitals in closer proximity are likely to receive many victims who arrive on their own.

MCI NOTIFICATIONS TO HOSPITAL EMERGENCY DEPARTMENTS VIA GNYHA'S SIT STAT PLATFORM

Previously, EMD made manual calls to hospital EDs to make a notification. In Fall 2019, FDNY EMD began making MCI notifications using GNYHA's Sit Stat system. FDNY Citywide dispatchers create an MCI event in the Sit Stat platform and select hospitals to receive the event notification, which are automatically sent to the hospitals' ED Red Phones. Additionally, hospitals have the option to identify a number of critical roles within the facility to receive notifications via a number of modalities (see below) at the same time the notification is made to the ED Red Phone. These critical roles are considered to be the hospital's Core MCI Notification Group.

ED RED PHONE NOTIFICATIONS

MCI notifications to the ED Red Phone are delivered via a computer-aided voice message that contains general information about the nearby mass casualty incident including: the type of event (i.e., fire, motor vehicle accident, etc.), the MCI level (A, B, C, or D), and an Event ID (Borough Abbreviation + FDNY Computer Aided Dispatch (CAD) number). The Event ID serves to distinguish simultaneous events and support FDNY's internal incident tracking and reporting. At the end of the message, the hospital staff person answering the notification call will press the #1 button on the phone to formally acknowledge receipt of the notification.

If the MCI level changes or additional pertinent information is obtained, FDNY can send an event update notification to the ED Red Phone. A stand down notification is also made to the ED Red Phone when no additional incident-related patients are expected.

If two MCIs occur in proximity to a single hospital, which is likely to receive patients from both incidents, then that hospital will receive separate initial notifications, one for each incident. The hospital will also receive separate "stand down" calls for each individual incident.

ALL notification calls made to the ED Red Phone require acknowledgement by pressing the #1 button.

Ambulance crews are expected to continue current hospital notification protocols when transporting critical patients. The crews provide notifications for critical patients associated with an MCI, and for critical patients not associated with an MCI. *The hospital notification protocol for transporting critical patients has not changed.*

CORE MCI NOTIFICATION GROUP NOTIFICATIONS

In addition to calling the ED Red Phone, the Sit Stat system can simultaneously notify additional roles/departments within a facility via webpage pop-ups, email, voice, text/pager, and/or mobile app notifications. Each facility [has the option](#) to create a Core MCI Notification Group, consisting of a pre-identified set of departments and/or individuals involved in internal MCI response to receive these additional notifications. Each time an MCI notification is delivered to the ED Red Phone, corresponding notifications containing the same information will be distributed to this group, meaning members of the Core MCI Notification Group will receive 24/7 communications (webpage pop-up, email, text, voice, and/or mobile app notifications) for [all](#) FDNY MCI notifications (event start, update, and stand down) at their respective facility.

The *Hospital MCI Notifications Expansion Initiative: Guidance to Support Internal Hospital Planning* document provides additional information on the MCI notification process.

POTENTIAL FOR INCLUSION OF ADDITIONAL HOSPITALS IF AN EVENT ESCALATES

FDNY EMD determines the MCI level based on the incident's severity, and the potential number of patients. EMD then notifies area hospitals using the protocols detailed above according to the fixed allotments described below. For example, during a Level B MCI, a minimum of three nearby hospitals will immediately receive a Level B notification, including the closest Level 1 or 2 Trauma Center.

However, if an MCI produces a larger number of patients than expected, or if the MCI escalates, then it is possible that a second wave of additional hospitals will be notified further into the incident. Hospitals notified as part of a second wave will receive an "Update" notification, rather than the initial event notification received by the initial group of hospitals. When these update notifications are made, FDNY will include in the notification message any additional information that is available at that time. All hospitals will receive a "stand down" call when no additional event-related patients are expected.

NYC HOSPITAL EMERGENCY RADIO PROGRAMS

Since January 1, 2016, NYCEM's Watch Command transmits messages via the NYC Hospital Emergency Radio Network for any event the FDNY deems a 10-60 (major incident response). As of November 1, 2016, NYCEM's Watch Command also transmits messages via the NYC Hospital Emergency Radio Network for any event deemed by the FDNY as a Level C or Level D MCI. For more information, hospitals are urged to review the previously provided guidance regarding the [Hospital Emergency Radio Outgoing Message Program](#). This will ensure that any information received via the hospital emergency radio is appropriately communicated and acted upon.

INTEGRATION WITH EXISTING NYC PLANS AND PROTOCOLS

Certain MCI events, including large fires and explosions, may also trigger the activation of existing NYC plans and protocols, such as the draft NYC Burn Protocol. In such instances, impacted hospitals would receive additional notifications and communications from FDNY about the activation of procedures associated with these plans.

HOSPITAL FIXED ALLOTMENTS

Based on similar systems in other large jurisdictions—including both Houston, Texas, and Anaheim, California,—the workgroup recommended defining a maximum number of critical and non-critical patients for:

- Level A (Minimal to Moderate) MCIs
- Level B (Significant) MCIs
- Level C (Major) MCIs

There is no fixed allotment for Level D (Catastrophic) MCIs. In the case of a Level D MCI, hospitals should do all they can to prepare for large numbers of critical and non-critical patients.

After significant discussion, the workgroup determined that the fixed allotments should be based on a small number of hospital-specific variables, including average daily ED visits and Trauma Center designation. The numbers were developed first using two bands, based on average daily ED visits (≤ 200 and > 200). Within each band, a separate, slightly higher patient count was developed for Level 1 or Level 2 trauma centers. The number of critical patients is low, given the intensity of resources that may be needed. Conversely, the number of non-critical less resource-intensive patients is higher.

Average Daily ED Visits	Critical Patients		Non-Critical Patients	
	Non-Trauma Hospital	Trauma Hospital (Level 1 or 2)	Non-Trauma Hospital	Trauma Hospital (Level 1 or 2)
LEVEL A (Minimal to Moderate)				
≤200	1	NA	20	NA
>200	2	3	30	30
LEVEL B (Significant)				
≤200	2	NA	30	NA
>200	4	6	50	50
LEVEL C (Major)				
≤200	4	NA	40	NA
>200	6	9	70	70

The numbers above reflect EMS transport expectations, and *do not take into account patients who may arrive on their own*. If a hospital becomes overwhelmed with patients arriving on their own and cannot safely receive additional patients via EMS transports, then the facility should contact the FDNY Operations Center at 718-999-7062 to request diversion status—though FDNY may not be able to place hospitals on diversion during large MCIs.

Based on the above calculations, all 911-receiving hospitals were assigned patient fixed allotments for Level A, Level B, and Level C MCIs. They were communicated via a letter sent to each hospital CEO. The new process went into effect on August 1, 2016. Recently, GNYHA, FDNY and DOHMH recalculated average ED visits using 2019 data. This resulted in changes for two facilities, both of which have been notified. An updated chart with facility-specific fixed patient allotments was sent to all NYC 911-receiving hospitals in July 2021.

FREESTANDING EMERGENCY DEPARTMENTS

A small number of stand-alone EDs participate in the NYC 911 system. Because these facilities do not have Operating Room capabilities, their fixed allotments were amended to include only non-critical patients.

PEDIATRIC CONSIDERATIONS

MCIs in New York City may produce all adult patients, all pediatric patients, or a mix of both. As a result, the decision was made to fold pediatrics into the current fixed allotment framework. When a notification is made to a hospital, it is done via the ED’s main notification phone. At that time, EMD shares as much information as possible, including patient type: pediatric or adult or both. The hospital must then coordinate staffing and resources across pediatric and adult service areas.

A handful of pediatric-only EDs exist in New York City. Fixed allotments based on the average daily ED census were developed in consultation with these facilities.

INTERNAL HOSPITAL PROCEDURES

New York City 911-receiving hospitals should ensure that the appropriate communication and activation protocols are in place to respond to the FDNY's EMD notification calls for Level A, B, C, and D MCIs. To help hospitals implement these fixed allotments, FDNY developed a series of MCI Notification Level posters for placement in the ED. Hospitals may want to consider further modifications to the posters to include institution-specific procedures or checklists.

If you have questions or feedback, please contact GNYHA's Jenna Mandel-Ricci, Vice President, Professional and Regulatory Affairs, at jmandel-ricci@gnyha.org or (212) 258-5314, or Brad Kaufman, MD, First Deputy Medical Director, FDNY Office of Medical Affairs, at bradley.kaufman@fdny.nyc.gov or (718) 999-2790.