

# Preparing for a Mass Casualty Incident

**Kettering Acute Care Surgery**



## GREATEST THREAT



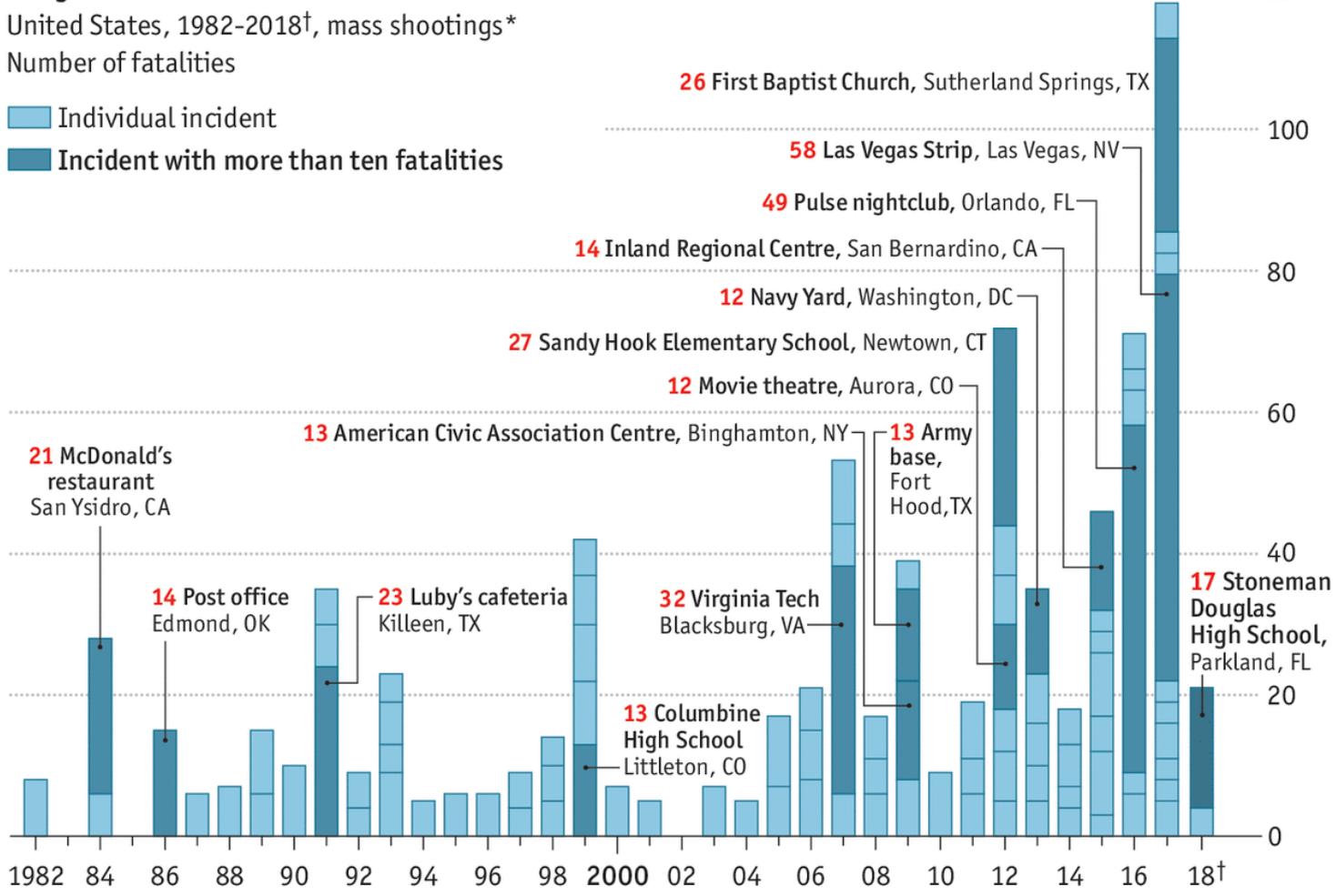
Whic  
great  
State

United States, 1982-2018†, mass shootings\*  
Number of fatalities

- Q
- T
- C
- I
- C
- N

Individual incident  
Incident with more than ten fatalities

PAF  
While  
Dem  
Repu



\*Shootings with three or more fatalities excluding perpetrator(s). Before January 2013, with four or more fatalities. Not comprehensive †At 6am EST, February 15th

Sources: *Mother Jones*; press reports



## Hospitals: Soft Target for Terrorism?

Harald De Cauwer <sup>(a1)</sup>, Francis Somville <sup>(a2)</sup> <sup>(a3)</sup>, Marc Sabbe <sup>(a4)</sup> <sup>(a5)</sup> and Luc J. Mortelmans <sup>(a5)</sup> <sup>(a6)</sup>   
<https://doi.org/10.1017/S1049023X16001217> Published online: 08 December 2016

### Abstract

In recent years, the world has been rocked repeatedly by terrorist attacks. Arguably, the series of four coordinated suicide plane attacks on September 11, 2001 on buildings in Pennsylvania, USA; and the recent series of two coordinated attacks in Brussels (Belgium) involving two bombings at the departure hall of Brussels International Airport and a bus station located near the European Commission headquarters in the center of Brussels.

This statement paper deals with different aspects of hospital policy and disaster response terrorism. Research shows that the availability of necessary equipment and facilities (e.g. decontamination rooms, antidotes, and anti-viral drugs) in hospitals clearly is insufficiently prepared: adequate and repetitive training remain necessary.

Unfortunately, there are many examples of health care workers and physicians or hospital political or religious conflicts and wars. Many health workers were kidnapped and/or killed. Attacks on hospitals also could cause long-term effects: hospital units could be closed and replacing staff could take several months, further compounding hospital operation psychological (e.g. posttraumatic stress disorder [PTSD]) after-effects of a terrorist attack on care services. On the other hand, physicians and other hospital employees have shown data show that some offenders had a previous history with the location of the terrorist attack or other health care services being targeted by insiders is discussed.

The purpose of this report was to consider how past terrorist incidents can inform current disaster response planning.

News > UK > Home News

## Hospitals may be targets for attacks, police counter-terror experts warn

'Worst-case scenario is your staff, patients and visitors could be killed or injured,' guide states

Narjas Zatat | @Ntheodorak | Sunday 11 June 2017 11:25 BST |  6 comments



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Hospitals warned to stay alert. Rex



## HHS Warns of Terrorist Attacks on Hospitals

The warning follows the encouragement of lone wolf attacks in the U.S.

January 03, 2017  CS Staff

The United States Department of Health and Human Services sent a letter to officials in the public health sector warning of potential terrorist attacks.

The letter, signed by branch chief of HHS' Critical Infrastructure Program Laura Wolf, also included a list of resources designed to prepare public health facilities for the threat of an active shooter. Those resources are included below.

"It has come to my attention that ISIS has recently encouraged its followers in the U.S. to perpetrate lone wolf attacks on malls and hospitals, possibly over the New Year holiday," Wolf's letter begins.

**RELATED: [How the University of Georgia Embraces 'Stop the Bleed'](#)**

Wolf emphasized that there were no specific credible threats known by intelligence agencies at the time of her writing, and that the letter was sent "in an abundance of caution."

### Get Active Shooter Training from Campus Safety HQ

The letter also reminded healthcare officials to report any suspicious activities or incidents to law enforcement.

Below are the resources shared for healthcare and public health sector partners:

- **Security Starts Here: Connect, Plan, Train, Report:** DHS Tools and Resources to Help Businesses Plan, Prepare, and Protect from an Attack
- ASPR-TRACIE topic collections on [Explosives and Mass Shooting](#) and [Workplace Violence](#)

### Healthcare and Public Health Security



The Department of Health and Human Services and the Department of Homeland Security.

*is a state of mind that exists before being ascertained."*

Labokov

dedicated to health and healing, a primary attack on a hospital may be expected to receive extensive media coverage. Above all, since hospitals serve entire populations, an attack on a hospital is more anxiety-provoking than an attack on almost any other site, because of what is known as "personalization": prior personal familiarity with a hospital would cause anyone to fear that such an attack could easily have involved him or those close to him.

Hospitals are an attractive target for terrorist organizations for another reason, they house materials and knowledge that could easily be put to dastardly use: medications, poisons, radioactive materials, biological cultures. Hospital laboratories are the repository of chemical and biological substances that, in irresponsible or evil hands, could become poisonous, spreading illness or even causing an epidemic. For this reason, hospitals as a rule, and their store rooms and laboratories in particular, must be treated as sensitive security installations.

### studies

of the most severe s reflected in the rist attacks. Bomb ves along with ball roperly, essentially i physical trauma.

and other medical ractive primary o urity and response int of the wounded icide attacker who emergency rescue m. This causes the

bs, kidnapping and ie large number of ospital will produce ng a place that is



# The 2014 Quadrennial Homeland Security Review

## Overview:

Four years ago, the Department of Homeland Security's first quadrennial review answered the question, "What is homeland security?", laid out a vision, five mission areas, and objectives for homeland security.

This second quadrennial review reflects a more focused, data-driven Departmental strategy, planning, and analytic capability. The risk-informed priorities set forth in this Review will drive operational planning, as well as analysis of resource and capability options and tradeoffs over the next four years. The Review also recognizes



## Threat

The United States has changed dramatically since 9/11. In the time since the first QHSR in 2010. Through our efforts, we have degraded the ability of al-Qaeda to plan and execute sophisticated external operations. The rise of al-Qa'ida affiliates, such as al-Qa'ida in the Arabian Peninsula, and the repeated efforts to export terrorism to our homeland, have become a significant threat. Domestic-based "lone offenders" and those who radicalize to violence and commit acts of terrorism are a significant threat to the Nation. These threats come in multiple forms and, because of the nature of independent actors, may be hardest to detect.

## Strategic Priorities

Identify, Investigate, and Interdict Threats as Early as Possible

### Reduce Vulnerabilities: Deny Resources, Deny Targets

Protect symbolic venues, transportation pathways, mass gatherings, and critical infrastructure; counter the use of improvised explosive devices and other materials used in weapons; and enhance deterrence to influence the perceptions, risk calculations, and behaviors of adversaries.



BLOG M





## Kettering College & Kettering Medical Center to Hold Full-Scale Active Shooter Training Exercise

**KETTERING, Ohio, May 19, 2017** – Kettering College and Kettering Medical Center are holding a full scale exercise on **Sunday, May 21** starting at **8 a.m.** until noon. This is one of the largest exercises of its kind to be held in the area.



## Kettering Health Network facilities holds mass casualty training exercise

**Published:** Sunday, January 28, 2018 @ 12:18 PM

**By:** Breaking News Staff



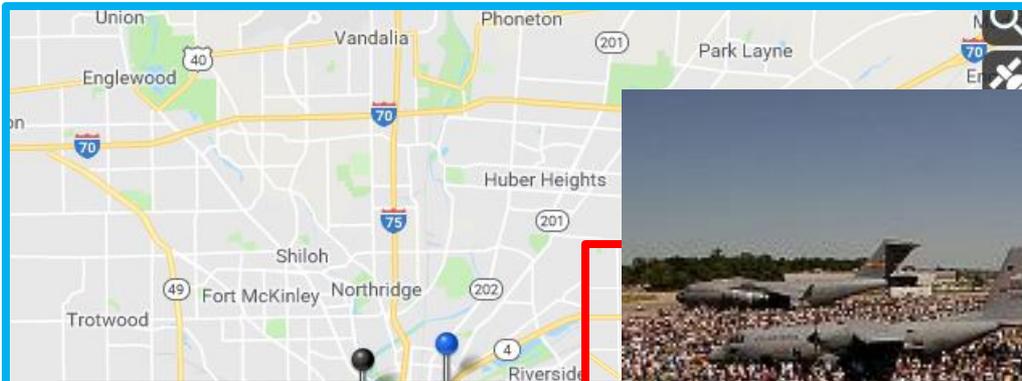
Kettering health mass casualty



**MIAMISBURG** — Kettering Health Network facilities in Miamisburg, Franklin and Moraine held a mass casualty training exercise to help prepare staff for mass casualty incidents Sunday.



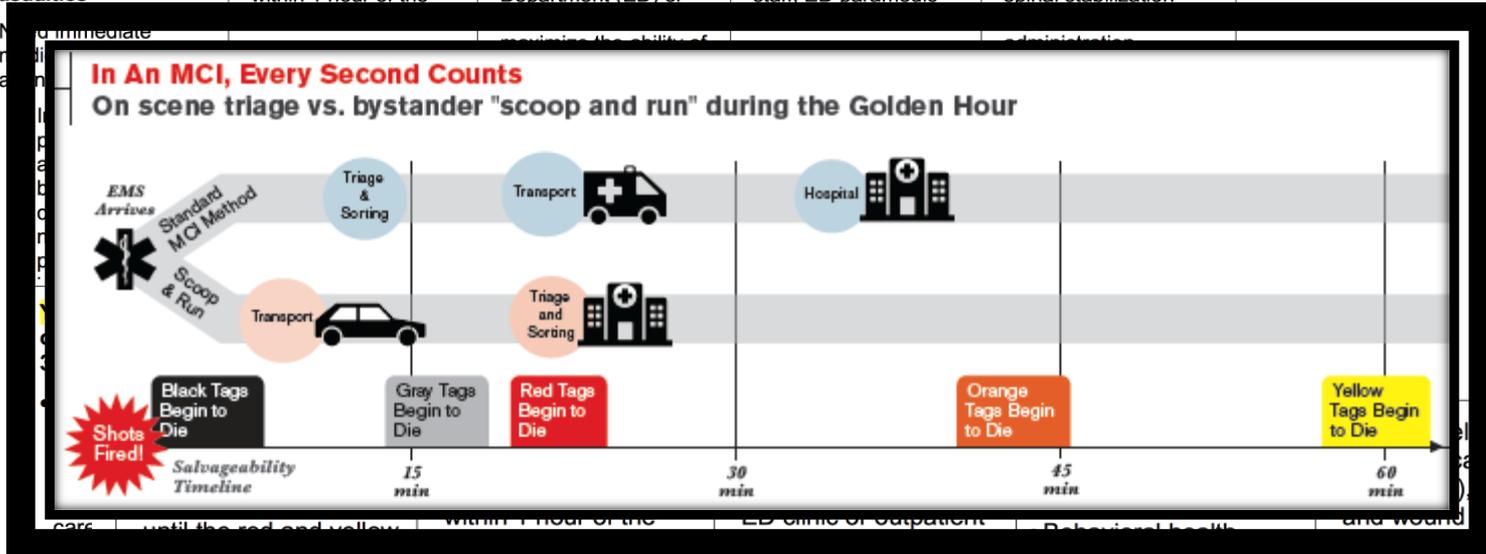
- 31 killed
- 800 injured
- Many of the facilities had flexed-off excess staffing
- The hospitals were at minimal Periodic Automatic Replenishment values for supplies and meds
- Awaiting their Monday morning deliveries
- Multiple sources of Mis-information
- Echo calls
- Triage challenges
- Resource utilization



# Facility Response

Table 3 - PLANNING CONSIDERATIONS FOR MCI

Casualty Acuity Level for All Populations	Arrival Time	Space	Staffing	Supplies
<b>Red tagged (Emergent or Severe Injuries):</b> 20% of total number of casualties	• Expect that 80% of casualties may be transported by EMS within 1 hour of the	• Concentrate treatment location within one area of the Emergency Department (ED) or	• ED trauma and ED critical care trained medical and nursing staff, ED paramedic	• Intubation equipment, advanced airway supplies, cervical and spinal stabilization



involv

tagged patients are

### Black-Tagged (Expectant)

- Care and comfort measures may be offered to those with an expectant status, if there are available resources.

NA

clinics, or an alternate

- Plan for separate respectful space for such casualties.
- Provide reunification with family members if possible.
- Anticipate oxygen use (wall oxygen or tanks), lighting control and bedside chairs for family

support for patients,

- Medical and nursing specialists in end-of-life care and pain (example, oncology, hospice).
- Behavioral health support including faith community to offer support to both the dying and their families and staff.

solinting supplies.

- Oxygen cannulas or masks, boxes of tissues, IV start kits, human remains pouches, belonging/valuables bags.
- Pharmaceuticals: parenteral analgesic and anti-anxiety medications.
- Consider the differences in pediatric supplies and

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cannulas,  
suturing  
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ing and

# Medical Staff



SAVE A LIFE

## Use of the Triage-Revised Trauma Score

### MAJOR INCIDENT TRIAGE SORT



YES

**PRIORITY 1 (Immediate)  
RESUS**

ES

**PRIORITY 2 (Urgent)  
MAJORS**

ES

**PRIORITY 3 (Delayed)  
MINORS**

ES

**PRIORITY 5 (Dead)  
MORTUARY**

ES

**PRIORITY 4 (Expectant)  
Gold command  
to advise**

be used after a decision  
by Gold Commander

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## Establishing a Mass Casualty Management System

### Types of Medical and Nursing Staffing Needed

Depending on the scenario and category of MCI, different types of medical and nursing staff may need to be included in the emergency response plan. This diagram provides a guide of the different types of physician and nursing staff needed.

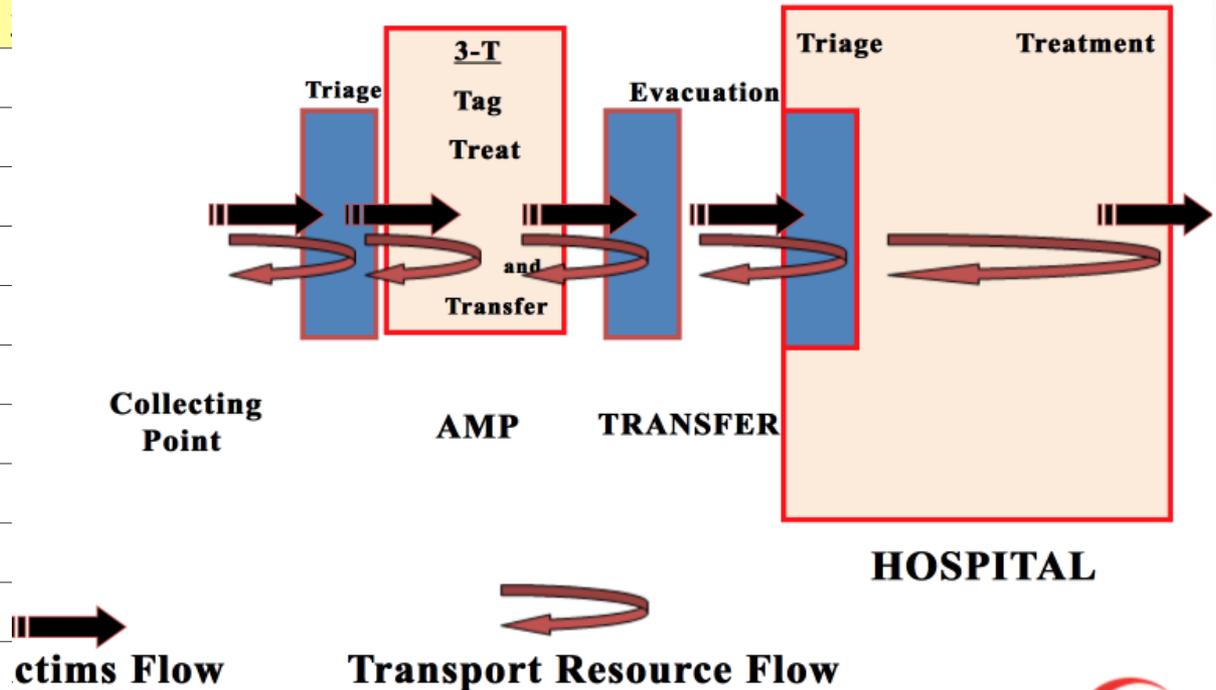
Table 7

MCI Category / Scenario	Trauma Surgeon	General Surgeon	Orthopedic Surgeon	Neurologic Surgeon	Plastic Surgeon	Thor Surgeon	Vascular Surgeon
Chemical							
Bio							
Radiologic							
Nuclear	X	X					
Explosive	X	X	X	X	X	X	X
Tornado	X	X	X	X	X		X
Hurricane							
Flooding							
Earthquake	X	X	X	X	X	X	X
Wildfire		X			X		
Transportation Crash	X	X	X	X	X	X	X

## Management Plan Diagram

### Establishing a Mass Casualty Management System

## Victim Flow : Conveyor Belt Management Diagram



Victims Flow

Transport Resource Flow

## Establishing a Mass Casualty Management System

### Types of Medical and Nursing Staffing Needed per MCI Type

Depending on the scenario and category of MCI, different specialties of medical and nursing staff may need to be included in the emergency operations plan. Table 7 provides a guide of the different types of physician and/or nursing staff.

Table 7

MCI Category / Scenario	Trauma Surgeon	General Surgeon	Orthopedic Surgeon	Neurologic Surgeon	Plastic Surgeon	Thor Surgeon	Vascular Surgeon	Internal Medicine	Pulmonary	Infectious Disease	Pediatric	OB -GYN	Hem - Oncology	Radiation Oncology	Behavioral Health
Chemical								X			X	X			X
Bio								X	X	X	X	X			X
Radiologic								X			X	X	X	X	X
Nuclear	X	X						X			X	X	X	X	X
Explosive	X	X	X	X	X	X	X	X	X		X	X			X
Tornado	X	X	X	X	X		X	X	X		X	X			X
Hurricane								X			X	X			X
Flooding								X			X	X			X
Earthquake	X	X	X	X	X	X	X	X			X	X			X
Wildfire		X			X			X			X	X			X
Transportation Crash	X	X	X	X	X	X	X	X	X		X	X			X

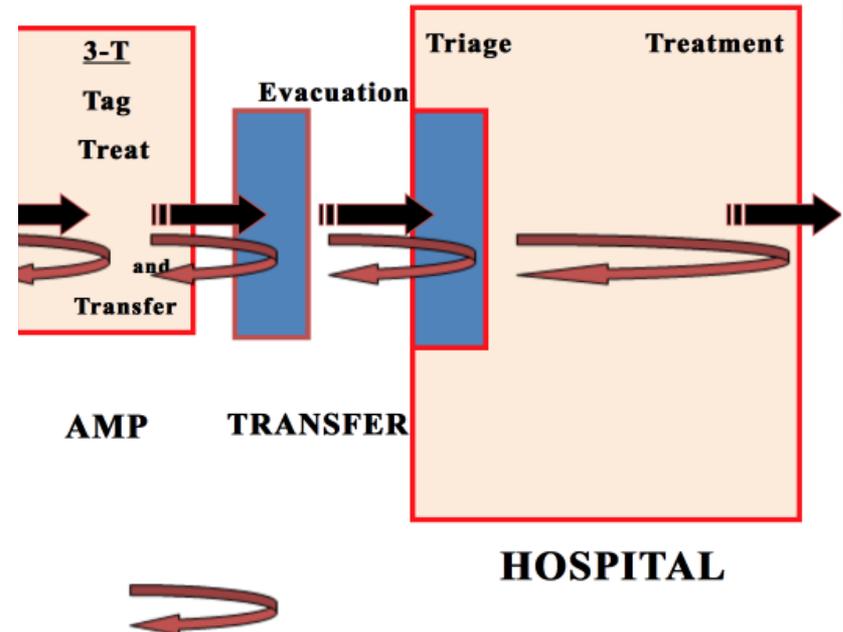
Organization

## PlanDiagram



Management System

## Conveyor Belt Management Diagram



## Transport Resource Flow

International Course on Public Health Emergency Management  
12 - 23 March 2011. Muscat, Oman



# Establishing a Mass Casualty Management System

## Types of Medical and Nursing Staffing Needed per MCI Type

Depending on the scenario and category of MCI, different specialties of medical and nursing staff may need to be included in the emergency operations plan. Table 7 provides a guide of the different types of physician and/or nursing staff.

Table 7

	Physician	Nurse	Physician Assistant	Nurse Practitioner	Respiratory Therapist	Pharmacist	Medical Student	Nursing Student	Other	Other	Other
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Flooding								X			X	X
Earthquake	X	X	X	X	X	X	X	X			X	X
Wildfire		X			X			X			X	X
Transportation Crash	X	X	X	X	X	X	X	X	X		X	X

# Medical Staff



# ACTIVE SHOOTER RESPONSE

LEARN HOW TO SURVIVE A SHOOTING EVENT



**RUN**



**HIDE**

# FIGHT

As a last resort, and only if your life is in danger

- Attempt to incapacitate the shooter.
- Act with physical aggression.
- Improvise weapons.
- Commit to your actions.

TRAUMA

SM

I'VE CLIMBED TO THE ROOF AND TO

RETT

I'VE TRAINED IN TAEKWONDO FOR 16 YEARS.

 **RUN**  
 **HIDE**  
 **TELL**

**You must:**

**RUN** - to a place of safety. This is a better option than to surrender or negotiate. If there's nowhere to go, then

**HIDE** - Turn your phone to silent and turn off vibrate. Barricade yourself in if you can.

**TELL** - the police by calling 999 when it is safe to do so.

**FOLLOW & SHARE** updates from @metpoliceuk



 **CALM**

**You must:**

**CALM** - Stay calm. Do not panic. Move to the safe place and take position.

 **PULL**

**PULL** - Pull your concealed carry gun from holster or pocket.

 **SHOOT**

**SHOOT** - Aim and shoot the terrorist.

[www.npcc.police.uk/staysafe](http://www.npcc.police.uk/staysafe)

# Medical Staff in Patient Care Areas?

The NEW ENGLAND JOURNAL of MEDICINE

MEDICINE AND SOCIETY

Debra Malina, Ph.D., *Editor*

## Active-Shooter Response at a Health Care Facility

Kenji Inaba, M.D., Alexander L. Eastman, M.D., Lenworth M. ...  
and Kenneth L. Mattox, M.D.

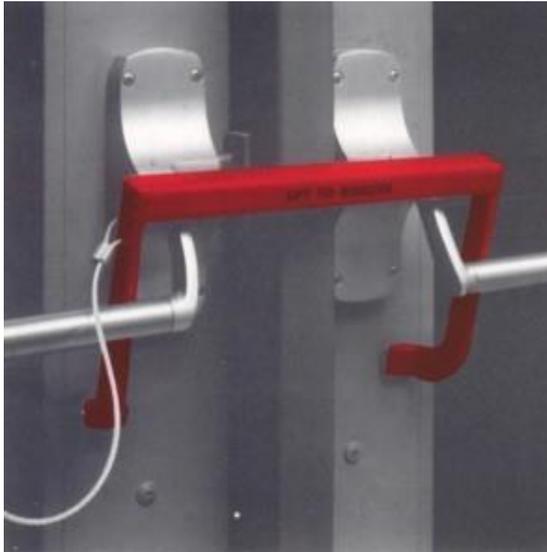
### Hartford consensus Survey

- >50% respondeants believed that health care workers have a duty to protect their patients,
- 39% of lay- people and 27% of health care professionals indicated that physicians and nurses should accept a high or very high

The “run, hide, fight” response to an active-shooter event may work in many places, but health care facilities should consider a different approach: “secure” the location, “preserve” the life of the patient and oneself, and “fight” only if necessary.



# Medical Staff in Patient Care



## Healthcare Facility Active Shooter

are essential life-sustaining treatment (OB, ICU)

identified as part of the hospital's registration and local law enforcement a

ent and self  
and alarms on equipment  
and doors

tered area, if possible  
medical care required to preserve life o

- Abbreviate any operative procedures using damage control principles, from anesthesia
- Stop any non-invasive diagnostic imaging, and truncate therapeutic procedures

infusions and extracorporeal  
ular access

you or your patient's life is in in



Thank you



# DEADLIEST MASS SHOOTINGS SINCE COLUMBINE, 1999

58 KILLED - OCT. 1, 2017, LAS VEGAS, NV

49 *Establishing a Mass Casualty Management System*

## Advance Medical Post (AMP)

### Purpose:

- reduce loss of life & limb - save as many as possible in the context of existing & available resources/ situation
- victim's status; chance of survival; resources

*Establishing a Mass Casualty Management System*

## Advance Medical Post (AMP)

### Role:

- Provide "entry" medical triage
- Effective stabilization for victims of a MCI/Situation
  - intubation, tracheostomy, chest drainage,
  - shock mgt, analgesia, fracture immobilization
  - fasciotomy, control external bleed & dressing
- Convert red to yellow category as maybe possible
- Organize patient transfer to designated care facility/ties
- AMP 3-T principle: **Tag - Treat - Transfer...**

### Personnel:

- ER (A&ED), physicians/ nurses (*trained & skilled*)
- support: Anesthetists / Surgeons / EMT's / Nurses / Aiders, etc.



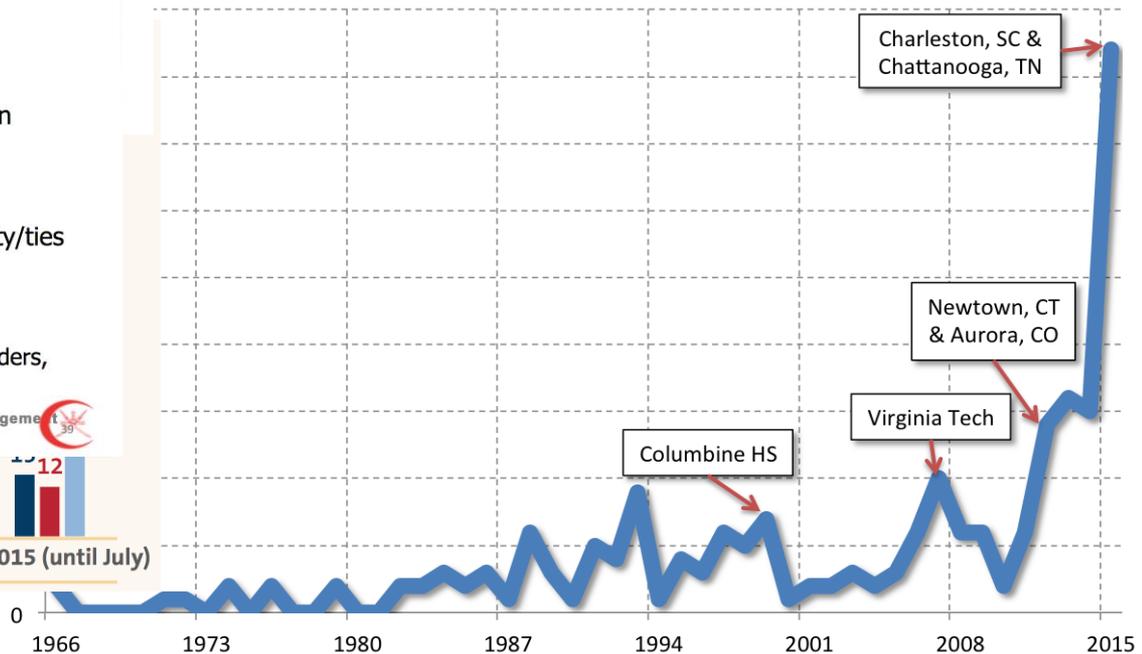
TX

## Did You Know?

In 2012, **less than 1%** of gun murder victims were killed in a mass shooting.<sup>c</sup>

**71%** of mass shooting incidents occur in a **residence**.<sup>c</sup>

## Number of Mass Shootings in the United States by Year, 1966 - June, 2015



Data Source: Stanford Geospatial Center, Mass Shootings in America Database (accessed in June of 2015)

