



# NATIONAL SURVEY ON EMS PREPAREDNESS FOR DISASTER AND MASS CASUALTY INCIDENT RESPONSE



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## About the NAEMT EMS Preparedness Committee

The NAEMT EMS Preparedness Committee advises the NAEMT Board of Directors on ways to strengthen the role of EMS in our nation's emergency preparedness strategy and response activities. Responsibilities include:

- Identifying national gaps in EMS preparedness protocols and training for response to natural and man-made disasters, mass casualty incidents, and medical countermeasures, and recommending measures to address these gaps;
- Identifying ways to improve integration of EMS in disaster preparedness planning, communications/ interoperability;
- Identifying funding sources to support agency preparedness activities;
- Increasing understanding of the role of EMS within the larger preparedness community.



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## INTRODUCTION

Man-made and natural disasters can cause devastating injuries among large numbers of people and catastrophic losses to entire communities. Man-made incidents include active shooters, explosions, train derailments, bus and plane crashes and chemical, biological, radiological or nuclear events. Natural disasters run the gamut from floods to hurricanes to earthquakes and tornadoes. Disasters also include pandemics caused by a new or emerging infectious disease, potentially putting countless lives at risk.

When these tragic and traumatizing large-scale events occur, the public expects emergency medical care to be available quickly – to save lives, to treat pain and to lessen the fear of those involved by letting them know help has arrived. In the field, emergency care is delivered by emergency medical services – the tens of thousands of EMTs and paramedics who serve the public as part of our nation’s EMS system.

EMS has demonstrated again and again its essential role in helping communities in their times of greatest need. The much-admired response to the Boston Marathon bombings. The careful handling and transport of medical workers infected with the Ebola virus who were brought to the U.S. for treatment. The skilled and compassionate response to the children injured in the horrific school bus crash in Chattanooga, Tenn., a few days before Thanksgiving 2016. The EMTs, paramedics and firefighters who responded to victims of the recent Baton Rouge flooding, even as they were getting word that their own homes were at risk.



### The need for preparation

It can be easy for the public to assume that when they call 911, the cavalry will arrive, will know what to do and will have the resources to take care of them. But readiness to respond to major incidents doesn’t just happen – it requires planning, coordination, education and training for all responders and support personnel. It also requires the proper resources, including staff, equipment and supplies for the task at hand.



When these tragic and traumatizing large-scale events occur, the public expects emergency medical care to be available quickly – to save lives, to treat pain and to lessen the fear of those involved by letting them know help has arrived.

The sheer variety and unpredictability of where, when and how events will occur, the potential scope of the numbers of people impacted, and the many variables that make each incident unique means that planning and training to respond are challenging. But those challenges should not be interpreted as an excuse to not take steps to improve preparedness.

There’s a truism about disaster planning that goes something like this: Responders will almost certainly need to improvise during a disaster. But when disaster strikes, it’s very difficult to improvise a plan. So it’s important to create that plan, and ensure personnel are educated and trained to execute the plan, before the disaster happens. That makes having to change course or make adjustments on the fly that much more feasible.

## ABOUT THIS SURVEY



To understand perceptions regarding the level of readiness to respond to large disasters and mass casualty situations, NAEMT conducted a survey of EMS practitioners in June 2016. In November 2016, a follow-up survey of EMS managers was conducted to determine if there were significant differences in their responses.

The survey was distributed electronically to NAEMT members who are EMTs or paramedics. A total of 1,150 responses from all 50 states and Washington, D.C., were received. Respondents represented all types of EMS delivery models, with about 27% from fire departments, 12% hospital-based, 19% government (city or county) services, 20% private for-profit, 11% private nonprofit, 2% public utility, 1% active military and 1.5% industrial. (About 6.5% chose “other” and described their agencies in a variety of ways, including law enforcement, campus or university based, or search and rescue.)

The follow-up survey included NAEMT members who identify themselves as EMS managers and other managerial-level titles (supervisor, chief, medical director). We received 170 responses.

### Major Findings

The survey found that the majority of EMS practitioners had some training in preparing to respond to major incidents, and most considered themselves proficient on response protocols.

Yet the survey also revealed significant gaps in EMS preparedness for response to natural and man-made disasters and mass casualty incidents. Education and training – key components of preparedness – are often sporadic, making it difficult to keep skills and knowledge fresh. While there were some areas of strength (such as responding to active shooters), there were other areas in which few EMS practitioners had received any training whatsoever (chemical, biological or radiological events, and pandemics).

Information that may help responders be prepared is not being disseminated as well as it could be. And many responders also lack household preparedness plans, necessary to allow them to report to work during disasters and know that their own families are safe.

**NAEMT hopes this report will be used to inform future discussion, research and efforts to further the integration of EMS in disaster preparedness planning, preparedness activities, as well as to increase understanding of the role of EMS within the larger preparedness community.**

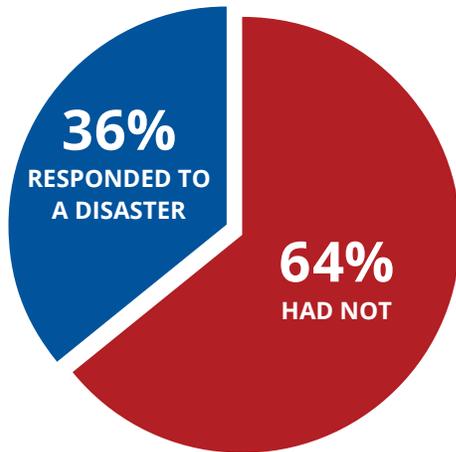


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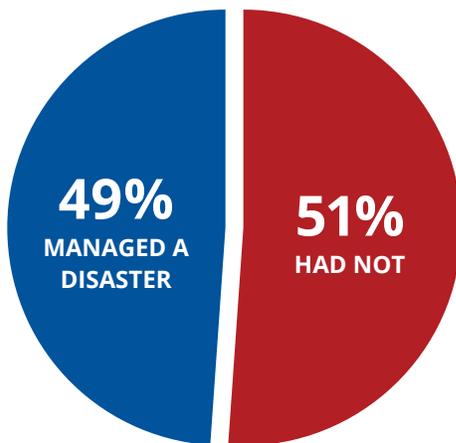


## EXPERIENCE WITH DISASTER RESPONSE

More than **one in three** EMS practitioners reported having responded to a disaster situation at some point during their career.



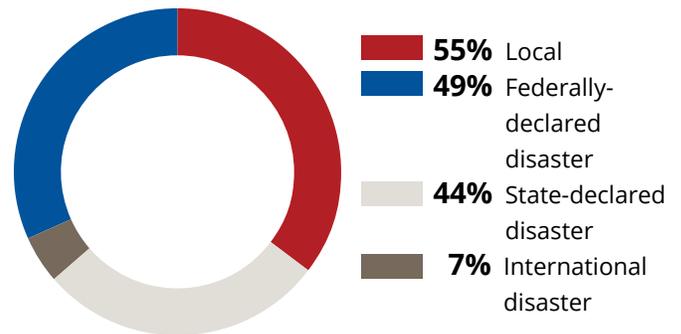
Among managers, about half had served as a manager during a disaster response.



It's likely that more managers reported having experience with disaster situations because they tended to have worked in EMS for longer. Among practitioners, 24% had been in the EMS profession for 4 years or less, 18% for 5 to 10 years and 58% for 10 or more years. **Among managers, 92% had worked in EMS for 10 or more years.** 7% had 5 to 10 years on the job and only 1% had been in EMS for 4 years or less.

### Local, State, National and International Disasters

EMS practitioners are most likely to be called to respond to a local disaster – a disaster that may have devastating impacts on a particular group of individuals or a community, but does not require resources from the state or federal government to handle. In addition, almost equal numbers reported having responded to a state or federally-declared disaster. Specific disasters mentioned by respondents included 9/11, Hurricane Sandy, the Boston Marathon, school shootings and wildfires.



### Disaster Declarations

When a disaster occurs, communities rely on local agencies to provide the initial emergency response. If additional resources are needed, local government entities:

- Declare a local state of emergency.
- Activate mutual aid.
- Activate Emergency Operations Centers and/or Emergency Operations Plans.
- Coordinate response with public and private organizations.
- Notify state emergency management.

From there, the state government may declare a state of emergency and request federal aid via the Federal Emergency Management Agency (FEMA), part of the U.S. Department of Homeland Security. The President can then make an emergency declaration at the request of a Governor if it's determined that federal assistance is needed to save lives, protect property, safeguard public health or to lessen or avert the threat of a catastrophe. The most catastrophic events may be declared Major Disasters, which open up additional federal assistance for response and long-term recovery.<sup>1</sup>

<sup>1</sup>FEMA, <https://www.fema.gov/disaster-declaration-process>.

# ENSURING PERSONAL AND FAMILY PREPAREDNESS FOR RESPONDERS



First responders are members of the community too. Like all community residents, when disasters strike, they have families, pets, homes and other valuables that are at risk. EMS personnel also may be called to duty for extended periods of time, leaving their family members to fend for themselves.

**FEMA recommends that all first responders have a household or family preparedness plan.** Research among hospital workers has shown that feeling confident in the safety of family and self are factors associated with willingness to report to duty and prioritize patient needs over personal needs during disasters. Yet little research has been conducted on EMS practitioners, despite their essential role in the larger healthcare system.<sup>2</sup>

“Most providers will be negligent on this but think they are prepared inherently because they are a provider.” – Survey Respondent

Every year, the news media share stories of firefighters, police officers, EMTs and paramedics who endured long separations from their families and worked long hours coming to the aid of others in need – only to come home and find their own home destroyed. In one example from 2016, nearly 50 Baton Rouge Fire and Acadian Ambulance responders lost their homes or sustained significant damage due to major flooding, yet never stopped showing up for work. With several local stations flooded, they slept on the floor of their EMS headquarters and wore uniforms borrowed from co-workers.<sup>3</sup>

**Most (63%) of respondents report having a household preparedness plan in place, but 37% didn't.**

**Three in four (75%) report maintaining at least a three-day supply of food, water and prescription medications for all individuals and pets in their household. 25% don't.**

## What should a first responder household preparedness plan include?

First responders who are well-prepared will have the peace of mind to focus on the task at hand, rather than worrying about whether their family is taken care of, according to Ready.gov, a national campaign to educate and empower Americans to prepare for and respond to emergencies including natural and man-made disasters. First responders can also serve as role models for other members of the community, leading by example to encourage preparedness.

1. Build an emergency supply kit.
2. Make a family emergency plan.
3. Be informed about the types of emergencies that you may be called upon to respond to, and teach your family about what they should do when a disaster strikes.
4. Prepare for any special considerations like individuals with disabilities, older adults, children, and pets.

Visit [ready.gov/ready-responder](https://www.ready.gov/ready-responder) for a wealth of information, toolkits and other resources that individuals and agencies can use to improve preparedness planning.



<sup>2</sup>Mahmoud Alwidy, “Reporting for Duty During Disease Outbreaks,” Natural Hazards Center. Nov. 26, 2016, <https://hazards.colorado.edu/article/reporting-for-duty-during-disease-outbreaks-the-views-of-emergency-medical-service-providers>.

<sup>3</sup>Andrea Gallo, “Baton Rouge first responders cope with flooded facilities, lost police cars, fire trucks and other vehicles,” The Advocate. Sept. 2, 2016. [http://www.theadvocate.com/louisiana\\_flood\\_2016/article\\_4c3bb28c-6ef6-11e69a43-bb9e33beab07.html](http://www.theadvocate.com/louisiana_flood_2016/article_4c3bb28c-6ef6-11e69a43-bb9e33beab07.html).



# EDUCATION COURSES FOR DISASTER PREPAREDNESS

FEMA recommends that all personnel directly involved with emergency management and response take a series of courses that teach fundamentals of disaster response, including how an Incident Command System (ICS) functions and operates during a large-scale emergency. “This includes all emergency services-related disciplines such as EMS, hospitals, public health, fire service, law enforcement, public works/utilities, skilled support personnel, and other emergency management response, support and volunteer personnel. This training is intended to aid people who don’t usually work together or even know each other to seamlessly respond to and recover from a disaster either natural or man-made.”<sup>4</sup>

The curriculum, a component of the National Incident Management System (NIMS), is made available by FEMA at no charge. Some courses, such as Introduction to ICS (ICS-100), are done online as independent study and take about 3 hours. Others, such as Intermediate ICS for Expanding Incidents (ICS-300) are classroom-based and span two or three eight-hour days.

It’s common for states and local jurisdictions to require that responders take a selection of the courses (often ICS-100, ICS-200, IS-700 and IS-800). Typically, managers and command staff who oversee response teams or command centers have additional requirements.

The courses cover topics such as preparedness, communications, information management and resource management. None are specific to medical response, or to the role of EMS personnel during disaster response. IS-800 (IS stands for Independent Study), as an example, is an overview of how the federal government supports response for major disasters – good information to have, but not something that directly impacts patient care or the initial response to a major incident.

## **%** of Survey Respondents Who Took NIMS Courses

### COURSES FOR ALL LEVELS OF EMS RESPONDER\*

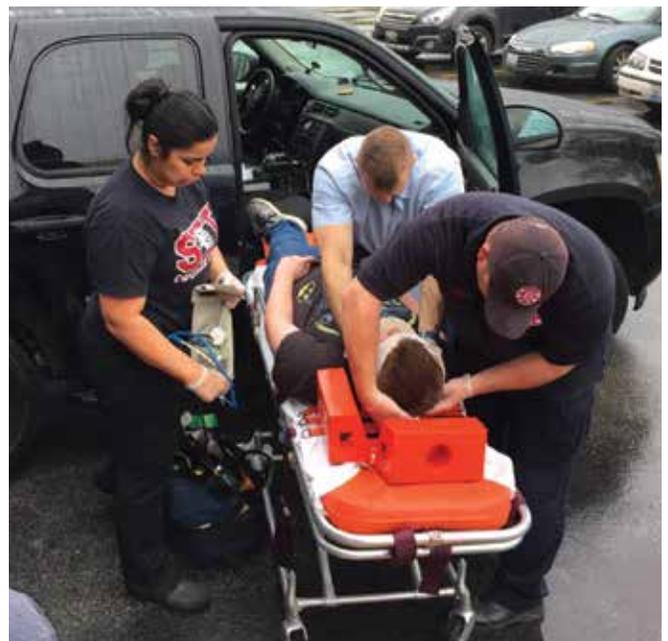
ICS-100 – Introduction to ICS	93%
ICS-200 – ICS for Single Resource and Initial Accident Incidents	84%
IS-700 – Introduction to NIMS	85%
IS-800 – Introduction to the National Response Framework	66%
AWR-160 – WMD/Terrorism Awareness for Emergency Responders	43%

*(AWR – short for awareness – covers identifying selected chemical and biological agents; radiological, nuclear and explosive event health effects; and terminology related to responding to those events.)*

### FOR MANAGER LEVEL AND UP (MANAGER ONLY RESPONSES)

ICS-300 – Intermediate ICS for Expanding Incidents	87%
ICS-400 – Advanced ICS for Command and General Staff	78%
HSEEP – Homeland Security Exercise and Evaluation Program	34%

\*FEMA offers additional courses not included in this survey.



<sup>4</sup>FEMA, [https://www.fema.gov/pdf/emergency/nims/nims\\_training\\_program\\_faqs.pdf](https://www.fema.gov/pdf/emergency/nims/nims_training_program_faqs.pdf).



## % of Survey Respondents Who Took NIMS Courses

	within last 12 months	within last 2-3 years	within last 3-5 years	within last 6-10 years	longer than 10 years ago	never taken
ICS-100: Introduction to Incident Command System	15%	16%	21%	28%	13%	7%
ICS-200: ICS for Single Resources and Initial Action Incidents	12%	15%	20%	27%	11%	15%
ICS-300: Intermediate ICS for Expanding Incidents	7%	13%	17%	17%	4%	42%
ICS-400: Advanced ICS for Command and General Staff	6%	10%	14%	14%	4%	52%
IS-700: National Incident Management System, An Introduction	12%	17%	19%	25%	12%	15%
IS-800: National Response Framework, An Introduction	9%	13%	17%	19%	8%	34%
Homeland Security Exercise and Evaluation Program (HSEEP)	4%	4%	5%	4%	1%	82%
AWR-160: WMD/Terrorism Awareness for Emergency Responders	8%	9%	11%	10%	3%	58%

### Are NIMS goals being met?

The goal of NIMS education is to ensure that during an emergency, all responders from all types of agencies “speak the same language” – use the same terminology and the same concepts so that working together is seamless, safe and effective.

However, there are no requirements that NIMS courses have to be taken more than once. As the years pass between taking the course and responding to a disaster, it’s likely that terms and concepts are forgotten. “You get a certificate and check the box that you took the course, but it’s hard to expect people to retain it,” said Sean Britton, MPA, NRP, emergency preparedness planner for the Maryland Institute for EMS Systems.

62% of survey respondents who took ICS-100 had taken the course more than 3 years ago. Of those, for 41% it had been at least six years since they took the course. It is well known and well documented throughout medicine that knowledge and skills are perishable. Taking the course just one time is likely not adequate as preparation for disaster response.

### Costs of Preparedness Education

Having EMS practitioners attend NIMS courses has costs associated with it – agencies must pay for their time, and have other personnel available to backfill their position. So while it may be a good idea to repeat the course or take a refresher periodically, it’s not necessarily achievable.



# TERRORISM

Terrorist attacks happen infrequently in the United States. But when they do, they are uniformly brutal, horrifying, and require skilled and rapid medical response and communications among medical responders and law enforcement to save lives.

**MOST EMS AGENCIES EITHER DON'T PROVIDE, OR RARELY PROVIDE TERRORISM BRIEFINGS OR BULLETINS TO EMS PRACTITIONERS, ACCORDING TO THE SURVEY.**

41%	Never
25%	Once or twice a year
10%	Quarterly
11.5%	Once or twice a month
8.5%	Weekly
4%	Every shift

When briefings are provided, 70% are email, text or other written/electronic communications. About 21% of briefings occur in person while 5% are via webinar.

### Maybe terrorism related briefings are being shared more often than it appears?

When only the manager's responses were considered, 18% said they never distributed terrorism bulletins or provided terrorism briefings, while 34% said they provided information when an incident occurred. This suggests that some written communications aren't getting read by all who receive them. Another possibility is that EMS agencies aren't receiving much information about terrorism so they don't have much to share. Some EMS managers and emergency management directors say they rarely receive terrorism bulletins, and when they do it's mostly general, unclassified information.

### Why and how often should EMS receive terrorism briefings?

There may not be one right answer to this question. Responders in New York City are likely to need more terrorism-related info than responders in a rural area, although there are some indications would-be terrorists plan their attacks in rural areas to escape detection. If state police or other local law enforcement are aware of potential threats, it's a good idea for EMS to be aware too. EMS responds to calls in people's homes, giving them a view of people's activities that few have. They may be the first to realize, for example, that a burn injury resulted from an attempt to build an explosive.

Periodically EMS and firefighters have also been targets for gangs and other criminals. EMS personnel deserve to have timely information about potential threats, so that they and their employers can practice situational awareness and take precautions.

Bulletins from Homeland Security or state police are sometimes marked "for official use only" or contain similar wording. Some supervisors may interpret this to mean that they shouldn't share the information with their personnel, noted Sean Britton of the Maryland Institute for EMS Systems. Britton urges supervisors to share the information with employees – if it was meant to be secret, law enforcement would make that clear.



EMS personnel deserve to have timely information about potential threats, so that they and their employers can practice situational awareness and take precautions.

# MUTUAL AID AND COOPERATION BETWEEN AGENCIES ON DISASTER PLANNING



Mutual aid agreements (MAAs) are arrangements to provide assistance before, during and after an emergency event to facilitate the rapid mobilization of personnel, equipment and supplies. The agreements can occur at multiple levels of government: between state/local agencies; between a state and localities in the state; between two or more states in a region; between states and tribes; or internationally between states and neighboring jurisdictions in Canada or Mexico. MAAs can also exist among a variety of organizations, including government agencies, nonprofit organizations and private businesses. The agreements can range from formal compacts adopted into state statute to informal memoranda of understanding that outline how governmental and private resources will provide aid within a specific community.<sup>5</sup> MAAs are a crucial aspect of preparedness for medical emergencies.

Asked about their mutual aid capabilities, most EMS managers said they could send resources to a neighboring or a regional jurisdiction in under 24 hours.

**93% of managers report their EMS agency has Mutual Aid Agreements in place. 7% don't.**

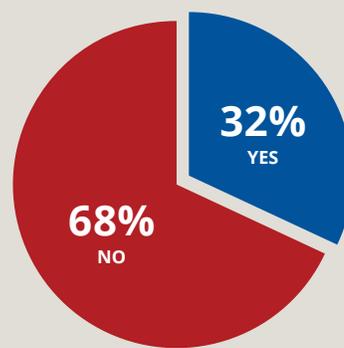
Mutual Aid Capabilities				
	Less than 24 hrs	24-48 hrs	48-72 hrs	72 hrs+
Neighboring jurisdiction	85%	8%	3%	4%
Regional jurisdiction	58%	31%	3%	8%
In-state	42%	39%	8%	11%
Intra-state	27%	37%	15%	21%

## Healthcare coalitions

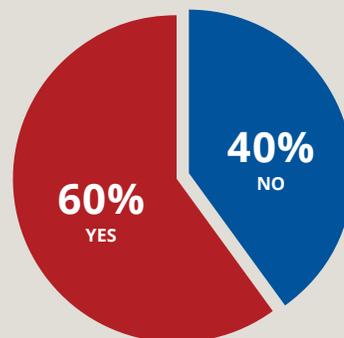
A healthcare coalition is a network of healthcare organizations and providers formed to reduce illness, injury and loss of life in an emergency or disaster through coordinated emergency preparedness, response and recovery. During an emergency, healthcare coalition participants share information, resources and integrate into the broader community response.

**86%** of managers said their agency works closely with law enforcement, public health, hospitals and emergency management agencies on response plans.

Does your agency have the ability to support an ambulance strike team (5+ ambulances) for out-of-jurisdiction response?



Is your service part of a local or regional healthcare coalition?



<sup>5</sup>Association of State and Territorial Health Officials (ASTHO), <http://www.astho.org/Programs/Preparedness/Public-Health-Emergency-Law/Emergency-Authority-and-Immunity-Toolkit/Mutual-Aid-and-Assistance-Agreements-Fact-Sheet/>.



## CONFIDENCE IN PREPAREDNESS

The majority of EMS managers (66%) agree that their agency does a good job preparing the EMS workforce to prepare for disasters, while 34% disagree.

EMS practitioners are mostly confident in their ability to respond effectively to disasters, including mass casualty incidents, explosive injuries, active shooter incidents and natural disasters.

- 69% rate their knowledge of response protocols for mass casualty incidents either high or very high, while only 9% say their knowledge is low or very low.
- 59% rate their knowledge of response protocols for explosive injuries high or very high, while only 16% said their knowledge is low or very low.
- This was about the same for active shooter response protocols, with 58% rating their knowledge high or very high and 18% saying their knowledge was low or very low.
- EMS practitioners also felt relatively confident about responding to natural disasters, with 55% rating their knowledge of response protocols high or very high and 18% saying their knowledge was low or very low.
- Confidence dipped for other types of disasters, including chemical, biological and radiological incidents, and pandemics.
- 41%, 39% and 37% rate their knowledge of response protocols for chemical, biological and radiological incidents high or very high respectively, compared to 32%, 33% and 40% rating their knowledge as low or very low.
- Respondents are the least confident in their knowledge of response protocols for pandemics. Only 32% rate their knowledge high or very high, while 34% rate their knowledge low or very low.

“Our agency has increased its training on terror and mass casualty situations within the last year. However, more training is needed. I don’t think you’re ever ready enough for it when it happens.” – Survey Respondent

In a mass casualty situation due to a chemical, biological, radiological, or nuclear (CBRN) event, there are many considerations related to safety, such as zoning (cold, warm and hot zones) and decontamination. Proper use of personal protective equipment (PPE) to protect the airways, skin and eyes is indispensable.<sup>6</sup> (PPE is also of crucial importance during an outbreak of infectious disease.)

During the 2009 SARS outbreak, 21% of those who lost their lives were healthcare workers, and some transmitted the disease to family members. Though research on healthcare professionals’ willingness to report to duty during such outbreaks tends to focus on hospital workers, anecdotal evidence indicates that EMS practitioners who feel prepared with proper PPE and receive accurate, timely information will continue to prioritize patient needs over their own.<sup>7</sup>

“Compared with other weapons of mass destruction, biological agents are easy and inexpensive to obtain. They can affect a large area, and the effects can spread quickly to outlying areas. Biological agents are hard to detect, as the agents are odorless and colorless, and the perpetrator can escape before the effects are evident. The first symptoms are nonspecific, further delaying the detection, and once bioterrorism is identified, the public may panic and medical capabilities can be overwhelmed.”<sup>8</sup>

<sup>6</sup>J Pharm Bioallied Sci. 2010 Jul-Sep; 2(3): 239-247.

<sup>7</sup>Mahmoud Alwidyan, “Reporting for Duty During Disease Outbreaks,” Natural Hazards Center. Nov. 26, 2016, <https://hazards.colorado.edu/article/reporting-for-duty-during-disease-outbreaks-the-views-of-emergency-medical-service-providers>.

<sup>8</sup>Peggy Lathrop, RN, BSN, CIC and Linda M. Mann, PhD, D(ABMM), “Preparing for Bioterrorism,” *Baylor University Medical Center Proceedings*, 2001 Jul; 14(3) 219-233.

# TRAINING FOR MASS CASUALTY INCIDENTS AND DISASTERS



**80% of EMS managers said their agency has a plan in place to respond to natural and man-made disasters, while 20% don't.**

When a disaster or mass casualty incident (MCI) happens, EMS practitioners need to know how to react quickly and effectively.

Training for disasters and MCIs can include classroom courses that teach specific medical skills or concepts, or exercises. Exercises fall into seven categories: seminars, workshops, tabletops, games, drills, functional and full-scale drills. Ideally, training is collaborative, involving all of those who will be involved in responding. The survey asked several broad questions about the type of training EMS agencies require of practitioners.

## Training in triage and treatment during MCIs

Triage and treatment during mass casualty incidents (MCI) is a fundamental component of incident response. Events such as the 2004 Madrid train bombing have taught that in situations with high numbers of casualties, there may be more wounded than EMS practitioners and ambulances immediately available to treat and transport. EMS personnel need to be able to quickly identify those with life threatening injuries in need of immediate care and those whose injuries can wait.

**32% of EMS practitioners say they are never required to receive training on triage and treatment for MCIs.**

**54% say they receive training once a year.**

**14% say they receive training two or more times a year.**

However, fewer managers reported never offering training (7%). The majority (65%) said they offer training annually, while 28% said they offer training two or more times a year.

## Training for major disasters

Major disasters are sudden, calamitous events that seriously disrupt the functioning of a community or society and cause human, material, and economic or environmental losses that exceed the community's ability to cope using its own resources. Though often caused by nature, disasters can also be caused by people.

**42% of EMS practitioners say they are never required to receive training on disaster response.**

**47% say they receive training once a year.**

**11% say they receive training two or more times a year.**

Managers, however, report offering training more often than practitioners say they receive it. 19% of managers said they never offer disaster response training. 53% said they offer training annually, 28% said two or more times a year.

“I am part of CERT [Community Emergency Response Team] and a federal disaster response team, and I teach. These are where I get my disaster preparedness skills. The agency I've worked for as a paramedic has never provided anything at all in the way of training or preparedness. A select few people get to participate in disaster drills – often in bit parts like standby or being assigned to be a patient. That's it.” – Survey Respondent



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## TRAINING EXERCISES

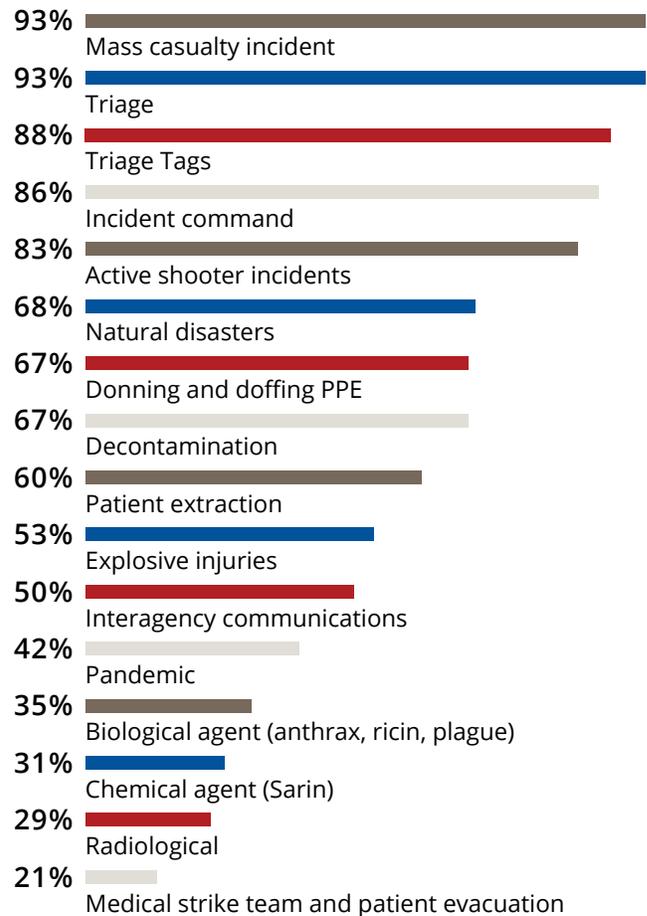
65% of EMS managers agree that disaster response is a high priority at their agency, while 35% disagree.



Training exercises improve individual performance, clarify roles and responsibilities during a disaster or MCI, reinforce teamwork, improve interagency coordination, identify resource gaps and identify areas for improvement.

Managers report that their agencies participate in exercises for a range of hazards. Nearly all (93%) report participating in an MCI exercise, with far fewer participating in exercises for pandemic (42%), biological (35%), chemical (31%) or radiological (29%) emergencies.

Another strong spot was training using triage tags. About 88% of managers report having done exercises on how to use tags to identify the most gravely injured from those with less severe injuries.



\* Manager's responses





## The 7 types of exercises

FEMA defines seven categories of exercises, each with varying degrees of complexity, cost, size, scope, purpose and approach. Some are discussion-based while others are operations-based.<sup>9</sup> This survey did not ask which specific types of exercises that agencies participate in. This may be an area for future research, along with whether certain EMS delivery models are more likely to participate in or organize training exercises.

### Discussion-based

1. Seminar – The most basic exercise type. Includes discussions about preparedness strategies and goals, led by a facilitator. May focus on a specific policy or procedure.
2. Workshops – Also discussion-based, with the purpose of developing new ideas, processes or procedures. The goal is to develop a written, consensus-based policy or plan.
3. Tabletops – Led by a facilitator with a focus on in-depth discussion, tabletops thoroughly work through a hypothetical scenario. Typically involves managers, elected officials and other key personnel.
4. Games – A simulation of a response to a hypothetical or real-life scenario, without deploying actual resources. Includes real-time decision-making and may be used to test existing or potential plans.

### Operations-based

1. Drill – The simplest form of operations-based exercise. Participants test a specific operation or function, such as new equipment, or a new procedure or policy. Donning and doffing PPE is an example of a drill.
2. Functional – A simulated response involving personnel from single or multiple agencies, used to evaluate capabilities and performance on multiple operations or functions.
3. Full-scale drill – The most complex operations exercise. Includes the mobilization of multiple units, personnel and equipment from multiple agencies and jurisdictions, such as law enforcement, fire, EMS, emergency management, hospitals and members of the public. Full-scale drills simulate a stressful, realistic scenario, as if an MCI or disaster has just occurred. These often take months to plan and execute.

## The majority of managers surveyed report conducting some types of exercises.

- 65% Discussions/training within agency
- 64% Joint training including drills with other agencies
- 59% Discussions/roundtables involving multiple agencies such as police, fire, public health and hospitals



<sup>9</sup>FEMA, IS-120a: An Introduction to Exercises, <https://emilms.fema.gov/IS120A/m1summary.htm>.



## CONCLUSION

According to the U.S. Department of Homeland Security's National Preparedness Goal, preparedness requires a coordinated effort involving individuals, communities, private and nonprofit sectors, faith-based organizations, and every level of government.<sup>10</sup>

EMS is a key component of preparedness. The public expects EMS agencies to be ready, equipped and staffed 24/7 to take care of patients, in any and all emergency situations. But what remains ill defined is what qualifies as adequate preparedness for EMS? Considerations include the type of education and training EMS needs to be prepared, how frequent the training should be, for what kinds of incidents and how to balance that with the host of daily responsibilities competing for attention and resources.

With no federal or national guidelines that spell out best practices for disaster response, this survey could not assess whether the level of preparedness for our nation's EMS agencies and practitioners is sufficient. Instead, we focused on the perspectives of EMS practitioners and managers regarding the state of EMS preparedness at their agency, their own preparedness, and the challenges they face in maintaining adequate resources, training and overall readiness to respond.

### Cooperation and confidence

The survey found EMS practitioners are largely confident in their ability to respond to a range of disasters. Survey respondents were also generally positive about the level of coordination and cooperation with other agencies on preparedness. Mutual aid agreements are the norm. A majority of respondents report conducting various types of joint training exercises. (Still, there is room for improvement – 28% of managers cited a lack of cooperation from other agencies as a barrier to preparedness.)

Yet the survey results raised questions about whether some are overconfident about the true level of preparedness. While the majority of agencies offer some type of training for some types of incidents (such as active shooters), one in three (32%) EMS practitioners say they are never required

to receive training on triage and treatment for mass casualty incidents. And nearly half (42%) say they are never required to receive training on disaster response. Relatively few have any training on CBNR (chemical, biological, nuclear, radiological) incidents. Though statistically less likely to occur, if one does, the impact on members of the public and responders can be significant.

### Why isn't more disaster response preparation happening?

Asked for challenges faced when preparing for disaster response, **68% cite a lack of frequent major disasters or emergencies.** Complacency about preparing for disasters is an issue for everyone, EMS included. Severely damaging, disruptive events don't happen everyday. It's human nature to be reactive rather than proactive. Lots of people buy earthquake preparation kits – right after an earthquake has struck.

As time passes between crises, attention drifts, and perceptions about the risk of such an event occurring wanes. As an example, during the Ebola crisis, there was much discussion about ensuring adequate PPE supplies for responders and conducting drills to ensure responders knew how to use them. Today, without a clear and present threat, those discussions have been moved to the backburner – sometimes called “disaster amnesia.” The survey indicates 33% do no training on donning and doffing PPE.

In contrast, active shooters are almost constantly in the news. That's likely one reason so many managers report conducting training exercises to prepare EMS practitioners to respond.



<sup>10</sup>National Preparedness Goal, Second Edition, September 2015, [https://www.fema.gov/media-library-data/14437996151712aae90be55041740f97e8532fc680d40/National\\_Preparedness\\_Goal\\_2nd\\_Edition.pdf](https://www.fema.gov/media-library-data/14437996151712aae90be55041740f97e8532fc680d40/National_Preparedness_Goal_2nd_Edition.pdf).



## The cost of preparedness

But the biggest obstacle to EMS preparedness, according to the survey, is the cost – **75% cite lack of funding as a barrier.**

EMS lacks a dedicated federal funding stream to help support the training, equipment and planning needed to prepare and protect the public, as well as to safeguard its own workforce. There is some grant funding available from the Department of Homeland Security to prepare, prevent and respond to terrorist attacks and other disasters, but traditionally EMS has received little, if any, of it.

With limited funds, and with answering 911 calls and providing patient care in the community on a daily basis already straining resources, it can be difficult to allocate time and resources to plan for an event that may never occur.

## Next steps

So how can EMS ensure that its responders are prepared to answer the call of the public, given the unpredictability of catastrophes that can occur, the multitude of daily responsibilities, and real-world resource limitations?

At the local level, in their role as first responders and emergency medical providers, EMS agencies have a responsibility to dispel some of that complacency in their communities – and certainly in their own agencies.

While it's true that every emergency is unique, planning for the situations that are most likely to impact a community is important. Disasters necessitate some level of improvising to meet the demands of a particular situation, but practicing response through a range of exercise types is crucial.

At the national level, the EMS profession should work toward reaching a consensus on best practices on educating EMS practitioners and training responders to plan for and respond to disasters. This could potentially take the form of a set of broad, consensus-based guidelines outlining the principals and practices that would help EMS bridge any preparedness gaps.

## Include EMS in Federal Preparedness Planning

At the federal government level, it's widely known that when it comes to preparedness discussions, EMS isn't included as often as it should be. Representatives of EMS weren't included in the development of DHS's National Preparedness Goal, published in 2011 and updated in 2015 to outline a strategy for preparing for the greatest hazards and threats facing the security of the United States, including natural disasters, disease pandemics, terrorist attacks and other man-made attacks. EMS was also not at the table for the development of the National Health Security Preparedness Index, issued annually to examine health security issues.

EMS was well represented in the development of the Hartford Consensus, which outlined a national policy for improving survival from active shooter and mass casualty events through better bleed control techniques and a more collaborative response. But EMS wasn't invited to participate in the Blue Ribbon Panel on Biodefense, tasked with recommending new policies to protect and respond to biological threats including naturally occurring infectious disease and biological attacks. While NAEMT and other EMS-related organizations submitted public comment, EMS was not part of the discussion when the Preparedness Goal, Preparedness Index and the Biodefense report were created.

Given the gaps, NAEMT hopes this report will be used to inform future discussion, research and efforts to further the integration of EMS in disaster preparedness and planning activities. We also hope this report increases the understanding of the important role of EMS within the larger preparedness community.

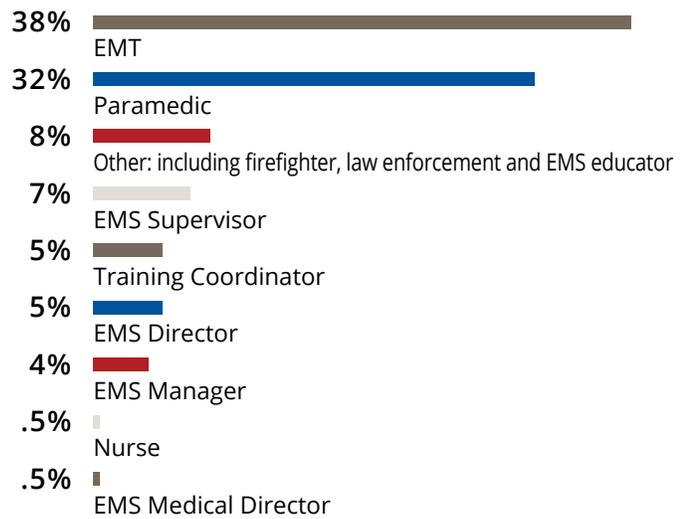
When disasters and mass casualty incidents occur, the impact on individuals, communities and even the entire nation, can be unfathomable. EMS is a vital component of preparedness, and will be on the front lines of responding to those events. The EMS profession owes it to our patients and the EMS workforce to ensure that EMTs, paramedics and other responders are well prepared for the many threats and hazards that will come their way. Our country owes it to our communities to ensure that EMS is as ready as possible to respond.



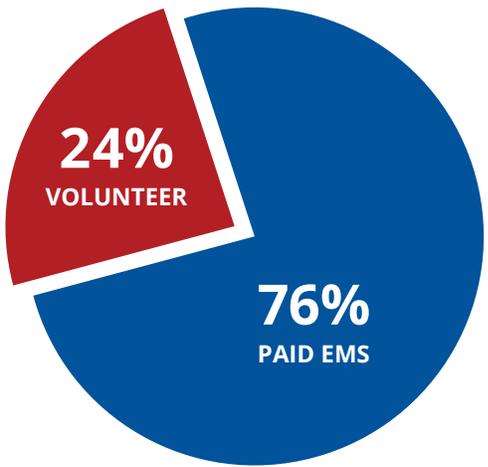
# SURVEY RESPONDENT DEMOGRAPHICS



## RESPONDENTS



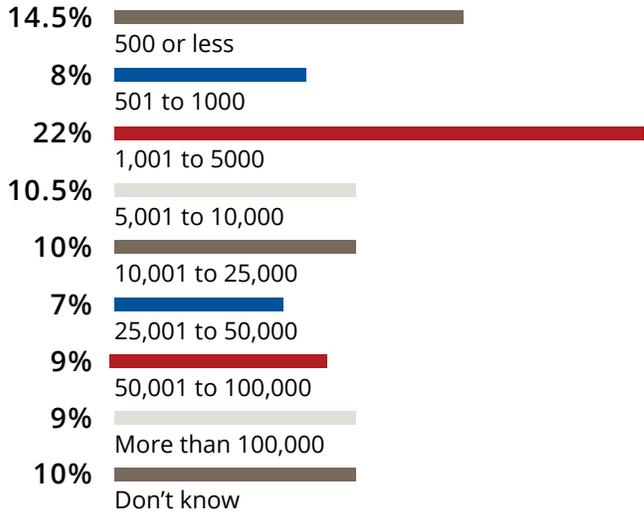
About one in four respondents worked for volunteer EMS agencies, which often struggle to identify sufficient resources to meet community needs.



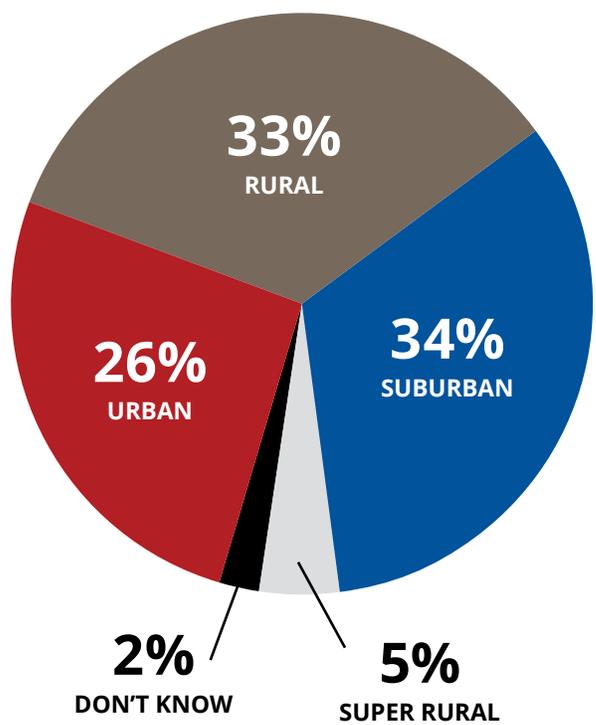
## Annual Call Volumes/Population Density

Call volumes were fairly evenly distributed among agencies with low, medium and high call volume. Respondents worked for agencies in areas ranging from major cities to rural areas.

## CALL VOLUME



## POPULATION DENSITY





## ALL HAZARDS DISASTER RESPONSE



Floods &  
Tornadoes



Earthquakes &  
Hurricanes



Active Shooter &  
Terror Attacks

**Learn to analyze potential threats, assess available resources, and create a response plan that will save lives in your area!**

NAEMT's All Hazards Disaster Response course prepares EMS practitioners at all levels to respond to the many types of disaster scenarios they may encounter. Students learn to assess features of their environment – both natural and manmade – that pose risk, and to evaluate the needs of vulnerable populations.

AHDR is presented in the context of realistic scenarios and culminates in a large-scale mass casualty activity. Topics include:

- Communicating effectively during disasters.
- Mutual aid and interoperability.
- Managing resources such as supplies, medications and equipment.
- Triage and transportation strategies and challenges.
- Patient tracking and evacuation.

**Provides 8 hours of CAPCE credit.  
Locate a course at [naemt.org](http://naemt.org)**



“Great course... should be required for all providers!” [student]



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## ABOUT NAEMT

Formed in 1975 and more than 60,000 members strong, the National Association of Emergency Medical Technicians (NAEMT) is the only national association representing the professional interests of all emergency and mobile healthcare practitioners, including emergency medical technicians, advanced emergency medical technicians, emergency medical responders, paramedics, advanced practice paramedics, critical care paramedics, flight paramedics, community paramedics, and mobile integrated healthcare practitioners. NAEMT members work in all sectors of EMS, including government agencies, fire departments, hospital-based ambulance services, private companies, industrial and special operations settings, and in the military.