

# Mass casualty incidents and tactical medical capabilities amongst first responders:

## 2018 IPSA Study grant report

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### Introduction

In August 2018, I was awarded the inaugural Australian Tactical Medical Association (ATMA) study grant to attend the International Public Safety Association (IPSA) Fall 2018 Symposium in Virginia, United States of America (USA) and conduct research in tactical medical methodologies utilised by first responders.

This report outlines the outcomes of my objectives for the study grant:

- 1) Record the content and lessons learnt by attendance at the International Public Safety Association (IPSA) 2018 Fall Symposium; and
- 2) Explore tactical medical methodologies, particularly within law enforcement and its application to Mass Casualty Incident (MCI) response.

The IPSA Fall 2018 Symposium primarily focused on MCIs and the planning, response and recovery to such incidents by

first responders, such as Law Enforcement Officers (LEOs), Paramedics/Emergency Medical Services (EMS), Firefighters and other emergency personnel.

Due to operational sensitivities, some information or conversations from engagements is redacted. This, however, has not affected the substance of this report nor its recommendations.

My goal for this study grant is to promote awareness and education to groups or organisations which have had limited exposure to tactical medical methodologies or MCIs. Through simple knowledge and equipment, survivability amongst victims and first responders can be significantly improved.

This report is created for the Australian Tactical Medical Association and outlines attendance at the International Public Safety Association 2018 Fall Symposium and the content of engagements with the United States of America first-responder agencies.

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## **Arlington County (Police and Fire/EMS)**

Having developed the Rescue Task Force (RTF) model, Arlington County Fire Department (ACFD) is at the forefront of Tactical Emergency Casualty Care (TECC) and Warm Zone care. ACFD has a dedicated High Threat Response Program (HTRP) who develop, train and integrate members of their FD and Arlington County Police Department (ACPD) to improve response capability at MCIs.

Annual training provided to ACFD and ACPD includes refreshers for TECC principles and related equipment (such as tourniquets and chest seals). Scenario-based training is provided to ACFD & ACPD by utilising 'dispatch' to send available units to an approximately one-hour event before returning to regular duties.

Evident was inter-operability and effective working relationships between agencies, with training being conducted at the same location and regularly involving both agencies. Coupled with this inter-operability training, is the reinforcement by trainers of 'Unified Command'.

The training delivery focuses on TECC guidelines, however, I identified two fundamental principles. The first is the priorities of life (*in descending order*):

1. Victims and Innocent Parties
2. Public Safety (Police Officers, First Responders etc.)
3. Perpetrator/s.

This fundamental is reinforced to ensure first responders understand that the victims and innocent parties are the first priority. Victims or innocent parties generally have no personal protective equipment (PPE),

training or medical equipment to deal with the incident and are reliant on first responders to preserve life and prevent further injury.

A key note is that this is counter to current Australian civilian first aid methodology where first responders are taught to not put themselves in harm's way (D for Danger within the DRSABCD paradigm). (Australian Resuscitation Council, 2016)

The second fundamental is the driving force of the current mission, which is defined as either Tactical or Medical:

- If tactical, neutralisation or containment of the threat is the priority and law enforcement officers (LEO) must move past casualties to deal with the threat.
- If medical, the threat has been neutralised, contained or is absent and the priority is placed on treating victims and innocent parties.

I also noted the following key points in relation to ACPD:

- Tourniquet carriage is mandatory (held on the tactical vest or support pants-pocket).
- Individual first aid kits (IFAKs) are issued to LEOs, which are normally stored over the passenger's headrest as a 'go' bag (immediately accessible).
- Regular active shooter/ Active Armed Offender (AAO) training is conducted as a one and two-officer response.

ACFD carry all necessary equipment for warm zone care, including ballistic PPE, specialist medical equipment and triage tags. Arlington County demonstrated a well-drilled and developed tactical medical program for Police and Fire/EMS, built on TECC guidelines. This observation is supported through ACFD delivering TECC

& RTF training to other USA jurisdictions and its reference in TECC/Tactical Medical publications.

### **Metropolitan Police Department of the District of Columbia**

The Metropolitan Police Department of the District of Columbia (MPDC) is the primary law enforcement agency for D.C. and one of the 10 largest local police agencies in the USA.

On 16 September 2013, an offender<sup>1</sup> entered the Washington Navy Yard, gaining access through his role as a current contractor. Over the next 69 minutes, he killed 12 people and injured several more (Metropolitan Police Department, 2014).

During this active shooter MCI, the offender armed himself with a shotgun he legally owned and a handgun he took after killing a security guard. Entering Building 197, he fired indiscriminately and engaged in multiple shoot-outs with responding law enforcement (Metropolitan Police Department, 2014).

This devastating MCI ended when the offender jumped out from behind a cubicle and engaged an MPDC Special Operations Team tactical operator. During this final confrontation, the engaging MPDC officer was shot by the offender with his ballistic vest collecting the round. He was able to return fire, killing the offender instantly (Metropolitan Police Department, 2014). Lieutenant C. and Captain M. had first-hand involvement with the Navy Yard MCI and described it as follows:

- The attendance at the scene was chaotic. Some unit's self-dispatched

and plain-clothes officers arrived carrying rifles without being easily identifiable as LEOs.

- MPDC LEOs had limited appreciation of the Navy Yard site and were unable to locate the scene as it was described as 'Building 197' (not cross streets as LEOs normally use).
- LEOs were initially refused entry onto the base as it had gone into lock-down.
- Attending LEOs all entered the Hot Zone, including the supervisor who may have been better served by creating a command post.
- Information received was inaccurate at best, attending LEOs did not know how many shooters were involved, their location or their movements.
- 911 was overwhelmed with calls resulting in information over-flow to attending LEOs.
- Human nature is a "funny thing" and you shouldn't expect people to do what is best for them. Some victims did not run or hide, they simply froze when they were confronted by the shooter.
- Emergency response vehicles obstructed the roadways in and out of the incident.
- As it occurred on a US Navy base, jurisdictional issues resulted in a significant delay for the scene to be processed (deceased victims were left at the scene longer than was necessary).
- 'Unified Command' is not simply having the highest ranked person in charge but the person with a combination of experience, leadership and knowledge.
- Without significant training, it is difficult for LEOs to enter a hot zone where

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<sup>1</sup> The name of the offenders (perpetrators) through this report have been withheld out of respect for the victims.

their life is in direct threat. Some officers (despite training to engage with active shooter/active armed offender) held positions awaiting MPDC Emergency Response Team.

Lieutenant C. and Captain M. stated the Navy Yard Shooting was a catalyst for widespread change and spoke about changes within the MPDC, post the Navy Yard MCI:

- 'Unified Command' is now a major emphasis of command training in the MPDC.
- Correct physical location selection for a command post is paramount to ensure it maintains an ability to command and is not 'caught up' in the incident itself.
- Memorandums of understanding (MOU) are now in place with all major stakeholders relating to MCIs, outlining subjects such as response and ownership of particular responsibilities pre, during and post MCI.
- For critical or key infrastructure, first responders consider pre-defined Casualty Collection Points.
- Family reunion points are established otherwise members of the public will try and enter the scene.
- A recognition that interagency training between first responders is paramount to an effective response.
- Initial and yearly refreshers of TECC and 'Active Violence' (Active Shooter/AAO) training is conducted amongst LEOs.
- Carriage of tourniquets is now mandatory by LEOs (IFAKs are optional but encouraged).
- The District of Columbia Fire and Emergency Medical Services provide warm zone care through an RTF.
- Plain-clothes officers no longer respond to MCIs, primarily to prevent

'blue on blue' incidents (due to the difficulty in identifying plain-clothes officers).

- To further survivability in MCIs, MPDC engages with the community and business owners to promote public education programs relating to MCIs, such as the Department of Homeland Security's 'Stop the Bleed' program.

Like Arlington County, MPDC has adopted the TECC guidelines and makes its principles fundamental to its AAO/MCI response. Tragically, MPDC and DC's other first-responders have experienced an MCI, of which they significantly progressed their capability and response post-incident.

### **International Public Safety Association 2018 Fall Symposium**

**Keynote Speaker - Lieutenant and Chief Medical Officer Alexander Eastman, Dallas Police Department.**

*A Personal Story from the Dallas Police Ambush Attack: Improving Survival from Active Shooter Events*

On 7 July 2016, 800 people gathered near El Centro College, Dallas, Texas for a Black Lives Matter protest. 100 Police provided crowd control for what was at that moment, a peaceful protest. At the same time, an offender armed himself and entered the Dallas downtown area.

After four hours, the incident ended with Dallas PD deploying a robot rigged with C4 into a toilet where the offender had retreated. It was detonated, killing the offender and making history as the first time American Law Enforcement had used explosives as a use of force. 12 Police Officers had been shot, five of which killed,

two civilians wounded and 300 casualties would soon present themselves to nearby hospitals.

Dr Eastman provided a first-hand account of the incident as a member of the Dallas PD Special Weapons and Tactics (SWAT) Team; Medical Director for the Dallas PD and as medical director for The Rees-Jones trauma center at the nearby Parkland hospital. Providing immediate response to the incident from four blocks away, Dr Eastman describes the chaos as he approached the scene, with vehicles abandoned and members of the public screaming, running and filming the incident. The sound of gunfire from the offender's weapon ricocheted through the CBD area and Police were unsure of how many offenders were involved.

Situational awareness is key, as Dr Eastman broke it down to the following key points:

- Radio communications during the incident were calm for the most part.
- Police officers provided TECC to injured officers, which saved their lives.
- The fog of war is real, Police had no idea what was going on.
- The hot/warm/cold zone could not be defined (the offender was moving and these zones were constantly changing).
- The first 6 to 10 minutes is crucial, particularly in the provision of medical care.
- The non-traditional (medical) providers made the difference (civilians and Police).

In relation to communications, Dr Eastman makes the following points:

- Dallas PD now trains to move their own casualties and do not wait for an ambulance.
- During this MCI, Dallas PD had no communications to the hospital.
- Dallas PD and other Police can now talk to the trauma centre directly, which is critical when transporting patients.
- Police departments should build relationships with your hospitals and trauma centres.
- When an officer requires urgent backup, Dallas PD now initially self-dispatch at the highest priority. This prevents communications from being overwhelmed and allows communications to stay open to relay critical information.

'Stop the Bleed', a program initiated to empower members of the public to engage in life saving haemorrhage control saves lives and is a program that should continue to be implemented to the community.

Dr Eastman draws attention to the fact that in any disaster, the long term psychological impact is far greater than the initial impact and we need to care for ourselves and each other.

'Psychological first aid' is a new program that Dr Eastman is actively promoting. Sadly, there are Dallas LEO's who no longer protect the community and the on-call surgeon for this MCI is no longer practicing.

**Dr Kari F Jerge MD FACS,  
Kansas University**

*Medical Response to a Man-Made Mass  
Casualty Incident*

The USA is experiencing an increase in the frequency, severity and visibility of MCI. Offenders are modifying tactics to increase effectiveness, such as adopting positions of elevation and using objects such as vehicles as weapons. The resulting wound profiling is not often seen by Emergency Medical Services (EMS) or medical professionals. The majority of these attacks create complex injury patterns, such as one or more penetrating trauma injuries, blunt trauma and burns. These injury patterns mirror military wounding profiles and present a challenge for civilian first responders. Dr Jerge describes this setting as a 'civilian combat zone'.

An MCI or active threat scenario requires a different medical response with Dr Jerge stressing the need to incorporate combat medical principles into the civilian arena. She questioned why the current treatment paradigm is ABCDE, noting the low preponderance of death from airway obstruction in these circumstances. Recent examples include the Pulse nightclub shooting.

In man-made MCI, the triage of patients is much more difficult. There is normally an active, on-going threat with complex mechanisms of injury. In the Virginia tech shooting, the over-triage rate was 69% (Turner, Lockey, & Rehn, 2016). Dr Jerge suggests that whatever model of triage agencies use, they should keep it simple.

In MCI, civilian bystanders will get involved, I note this point as particularly evident in Australia, with footage from hostile vehicle attacks in Melbourne in 2017 and 2018 showing initial medical aid being provided by civilians and police, not EMS (Nine Digital Pty Ltd, 2019).

Dr Jerge stressed the importance of EMS being able to enter the warm zone for evacuation and initial treatment, highlighting Arlington County has one of the most evolved RTF models.

The local trauma centre has implemented a surge capacity with corresponding plans and training to ensure staff are aware of what to do in their response to an MCI. This exists through building a public-private relationship and examples of these plans include the University of Kansas Medical Centre credentialing other medical staff so they can come in as support for an MCI. Dr Jerge provides an example of the demand levels during an MCI, highlighting the 1,502 related '911' calls the Las Vegas Metropolitan Police Department answered in the first two hours of the Las Vegas Shooting (*Clark County Fire Department, Las Vegas Metropolitan Police Department, Federal Emergency Management Agency, 2018*).

In closing, Dr Jerge highlighted the importance of the 'Stop the Bleed' program for civilians explaining that they are the first to provide medical care during and after an MCI. Bleeding control kits should be located next to Automatic External Defibrillators (AEDs) and Tactical Combat Casualty Care (TCCC) or TECC is important in MCI response and needs widespread implementation.

**Intensive Care Paramedic Oliver  
Ellis, Australian Tactical Medical  
Association**

*Baptism by Fire: The Martin Place Siege  
and the Birth of the Current Australian  
Medical Response to Terrorism*

On 15 December 2015, an offender entered the Lindt Café in Martin Place,

Sydney, New South Wales (NSW), Australia. The offender took eight staff members and 10 customers hostage in the name of Islamic State (Coroners Court of New South Wales, 2017). Over the next 16 plus hours, in four separate events, twelve of the 18 hostages escaped. The following day, at about 2.13am, the offender executed the store manager Tori Johnson. Police Tactical Operators subsequently stormed the café and engaged the offender, who was killed, along with hostage Katrina Dawson, who was struck by a fragment or fragments of a deflected police bullet or bullets (Coroners Court of New South Wales, 2017).

Prior to the events at Lindt Café, the New South Wales Ambulance Service (NSWAS) primarily associated MCI with naturally occurring events (not man-made). Whilst the 1996 Port Arthur MCI, in which 35 people were killed by a single offender in Tasmania (*R v. Martin Bryant*, 1996) brought the scope of man-made incidents to the forefront, it had been almost 20 years since a mass shooting in Australia.

As events at Lindt Café unfolded, the initial EMS/paramedic response was coded as an 'R8 special event' to assist the NSW Police Force, Tactical Operations Unit (Police Tactical Group). There was no '000' (emergency call) to NSWAS nor any understanding of what the initial responding members were attending. Mr Ellis outlines the following issues and lessons.

#### Attendance:

- NSWAS was initially staged in a hot zone with a line of sight to the Lindt Café.
- Command Posts were geographical difficult to access and scattered, with no true Unified Command.

- NSWAS had no direct communication with Police (e.g. no shared radio channel).
- NSWAS members staged to respond to the incident were not aware that an 'Emergency Action' was occurring (2.13am).
- There was triage confusion when assessing casualties.

#### Equipment:

- NSWAS had no specific medical equipment for MCIs.
- NSWAS had no tactical extraction equipment, only conventional stretchers.
- Some NSWAS members staged near the scene were without adequate ballistic PPE resulting in Police needing to provide them with ballistic PPE.
- Equipment possessed by NSWAS Special Operations members was outdated and not suitable for warm zone operations, examples included the high-visibility reflective striping on their uniform and medical packs.

#### Lessons learnt:

- A formal debrief is required for mental health and to identify issues.
- Holistic training is required between agencies.
- Equipment was not suitable for the operational environment.

Whilst the majority of presenters at the IPSA 2018 Fall Symposium were from the USA first-responder community, Mr Ellis outlined valuable lessons and considerations for planning, preparing and responding to MCIs: Australian first responders need to plan and prepare for similar events.



**Paramedic Supervisor John  
Reed, Danbury Hospital EMS***Community Resilience: Applying Lesson  
Learned from the Sandy Hook Shooting*

On 14 December 2012, a 20-year-old offender entered Sandy Hook Elementary School (SHES) in Newtown, Connecticut, USA where he shot his way into the building and killed twenty children and six adults (Stephen J. Sedensky III, State's Attorney (Connecticut), 2013).

Newtown, Connecticut is a community of 28,000 people, with 46 members of the Police, volunteer EMS staff and five volunteer firefighters. It is a small, affluent community where a layman would never expect an MCI like this to occur.

John Reed provided a personal and genuine presentation on an event which few first responders have experienced, and one even fewer are able to talk so openly and publicly about. A TCCC instructor, T-EMS element leader and 30-year EMS veteran, Mr Reed provides a qualified presentation focusing on preparedness and effects on the community as a result of an event like this.

On 14 December, John Reed was on-duty in a neighbouring area outside Newtown, providing ambulance services. When first hearing of the incident at SHES, Mr Reed knew it was in neighbouring Newtown and initially thought it wouldn't be his problem. Not long after, he was dispatched to the incident, swapping out his ambulance for a 'fly-car' (non-transporting EMS vehicle) to provide a rapid and tactical medical (T-EMS) response.

As Mr Reed arrived at the scene, neighbouring Newtown EMS departed with

two paediatric patients, leaving Mr Reed as the only EMS at the scene. He was never told it was an active shooter incident, nor did he have any idea about the traumatic event that he was going into.

Upon entering the school, Mr Reed distinctly recalled the haze of gunpowder and sensory overload. As he turned left and approached the first classroom, a Police Officer maintained the entryway to the classroom. Upon moving into the room, Mr Reed observed 17 casualties, all with catastrophic injuries (not compatible with life). Mr Reed moved to the second classroom to see further victims, again all with catastrophic injuries and the shooter with a self-inflicted gunshot wound to the head.

Despite no victim being viable, Mr Reed quickly formulated a plan of action understanding the scrutiny that the first responders would soon face. Without any additional EMS or Fire support, Mr Reed conducted a full assessment of each victim and ensued triage was complete (with all casualties assessed as deceased).

In his admirable account, Mr Reed focuses on the post-incident effects to the first responders and the community as a whole. The coming days were a total blur for Mr Reed however he returned back to work shortly after the incident. Rumours circulated that Mr Reed and others had self-dispatched, even though this wasn't the case.

4 days post the incident, an FBI psychologist conducted a debriefing with Mr Reed, informing him he had PTSD and was 'broken' from the incident, making him feel worse and further deteriorating his condition. Mr Reed described this debrief as a complete waste of time that did not

help at all. Instead, Mr Reed promoted talking to the other first responders involved in the incident as the best support.

Mr Reed makes the following key points relating to MCIs.

Planning:

- Understand and develop a mindset that this can happen to you and your family.
- Develop Standard Operating Procedures (SOPs) for MCIs.
- Get EMS involved in planning and training.
- TECC training is essential for first responders.
- All agencies need to train in TECC together.

Response and Recovery:

- A response to these incidents must be a team approach by all agencies.
- Keep additional first responders away from the aftermath, they don't need to see it.
- Keep first responders away from the media.
- The town was overwhelmed, especially when additional resources were required to deal with the subsequent presidential and other VIP visits.
- There must be an after-action debriefing.
- Questions need to be asked, are these people ready to go back to work? What process is in place to support them?

Whilst all these points have merit, the two central points from Mr Reed's presentation were:

- 1) It will happen to you, so prepare for an incident like this (Newtown was a small town in an affluent area of Connecticut).

- 2) Post-incident management of first responders is vital. These events ruin careers, with some responding Police and EMS to Sandy Hook never returning to operational duty.

*"You have to develop a mindset that this will happen to you"*

– Paramedic Supervisor John Reed

**Federal Bureau of investigation  
(Critical Incident Response  
Group)**

Within the FBI is the School of Operational Medicine (SOM), responsible for FBI agency-wide training and development of medical capabilities which have been incorporated by all field-agents of the FBI, irrespective of role or location.

The Law Enforcement Field Agent (LEFA) program is a one-day (9 hour) package covering the following medical related skillsets:

- Underpinning knowledge/principles of operational medicine and TECC.
- CPR and AED skills.
- Haemorrhage Control.
- Basic Assessment.
- FX (Fracture) Management.
- Narcan (Naloxone) Administration.
- Calling 911 and Patient Movement.

The FBI LEFA training is in-line with TECC/TCCC guidelines, allowing for an inter-agency application. In discussing the progression and development of tactical medical capabilities in Australia, the SOM spoke of the importance of TECC principles, including identifying your driving force (tactical or medical) and the importance of every Police Officer to have this knowledge and skillset

## Recommendations

A key purpose of this report is to provide a proxy relaying the lessons learnt in the USA so that Australia does not have to re-learn lessons from inadequate responses and the loss of life associated with MCIs. The following recommendations are from the results of my study grant and my experience of being a Police Officer for the past ten years.

### **Recommendation 1: Australian first response agencies adopt TECC guidelines.**

The adoption of TECC guidelines provides first responders with identified best-practice capabilities in initial medical care, particularly in the case of MCIs. Whilst some USA agencies operate with slight variations to the guidelines, they are similar enough to ensure first responders all operate under TECC.

Interlinked with this recommendation is the need for Firefighters and Paramedics (EMS) to provide medical support within a warm zone of an MCI or similar incident, such as those evident from USA RTF programs. Firefighters and Paramedics already conduct at-risk duties, such as emergency driving (lights and sirens) or entering hazardous/burning buildings but there appears to be limited appetite in some services for their members to provide warm zone care. To support implementation and mitigate risk within a warm zone, there is a need for emergency services to provide members with appropriate PPE, training and other protective measures. With adequate controls, the risk to Firefighters and Paramedics would be comparable to other, current practices.

Hand-in-hand with this recommendation is the clear requirement for every operational member of first-response agencies to receive adequate TECC training.

### **Recommendation 2: Australian first-responders and emergency departments increase interoperability between agencies.**

The prevailing discussion point through this study grant was the requirement for an effective interagency capability and role appreciation to ensure an adequate response to MCIs.

A once-a-year 'sugar hit' of interagency training is insufficient to meet inter-agency operational effectiveness. Integrated TECC training, as well as an on-going and diverse array of activities (e.g. training, tours and exercises) between each echelon of agencies, is required to truly achieve this recommendation.

### **Recommendation 3: Australian law enforcement and related agencies employ Medical Officers to oversee medical capabilities.**

Responsibility for the medical direction, capability and training of larger USA law enforcement agencies is through the appointment of a medical officer. Given the larger size of law enforcement agencies in Australia (when compared to the average in the USA), there is a need for the appointment of suitability qualified medical officers. These appointments would ensure each agency is current with the needs of the community and medical best-practice, with a by-product of mitigation to corporate risk relating to medical capabilities.

**Recommendation 4: Australian law enforcement and related officers to receive appropriate training and equipment for the delivery of initial medical care.**

Australian law enforcement officers should be equipped to provide medical aid for injuries they most frequently observe: Trauma. Core skills such as CPR are critical however, Police officers are more likely to come across trauma-related injuries through their daily duties.

A law enforcement officer's capabilities should include live-saving interventions commonly required in the treatment of trauma injuries. These treatments should include but not be limited to massive haemorrhage, tension pneumothorax, airway obstructions and hypothermia. Implementation of this recommendation would positively influence survivability for casualties of trauma.

**Recommendation 5: Australian Government commission a committee to assess and enhance first responder medical capability at MCIs.**

USA agencies have identified the need for a collaborative approach across agencies and jurisdictions. Whilst there is no official committee within the USA Federal Government, they have made significant headway through agencies or programs such as the Committee for TECC, DHS 'Stop the Bleed', National Fire Protection Association 3000™ and IPFA.

In Australia, ATMA actively promotes the improvement of first responder medical capabilities however the country requires a

committee or other syndicate to provide direction and policy recommendation to state and federal government agencies and the private sector. This committee should be commissioned and endorsed by the Australian Government for legitimacy and strategic emphasis. This committee should be made up of agency medical officers (as described in Recommendation 3) and an array of representatives to ensure adequate and best-practice medical capabilities exist for MCIs.

**Recommendation 6: Australian agencies commission timely after-action assessments for MCIs, to ensure that lessons learnt are available with minimal delay.**

The USA has identified a need for information and lessons learnt from an MCI to be disseminated as soon as practicable after the incident. Whilst 44 recommendations were made during the inquiry into the Lindt Café siege, these recommendations took 890 days to be presented from the time of the incident. (Coroners Court of New South Wales, 2017) Comparatively, the Las Vegas Shooting After-Action Report was completed 327 days after the incident.

A major emphasis within the USA is to review and relay information from MCIs to other first responders to assist in their preparation and response to the next incident. This recommendation is not to deter, remove or change any judicial process (coronial inquiry etc.) but to provide a mechanism for timely information to first responders and their parent agencies.

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