INTEROPERABILITY & UNIFIED COMMAND

InfoBrief

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About

This International Public Safety Association InfoBrief discusses interoperability and unified command.[i] The purpose of this document is to elucidate the fundamental and important principles of interoperability and unified command, suggest rationale as to why the deficiencies continue to exist and finally, to present some strategies for reducing the gap and opportunities for solutions.

> *"We saw from the reports of how these people died and the lack of interaction with the law enforcement departments and we knew we had to fix that," Clark County Fire Chief Greg Cassell.* [ii]
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> *"The emergency response to November's deadly shooting at Los Angeles International Airport was hampered by poor communications and a lack of coordination between agencies, problems that contributed to a chaotic evacuation and delays reaching victims…. Without knowing where the staging area for first responders was located, each agency established its own. It took 45 minutes to set up a unified command center outside Terminal 3"*[iii]

This InfoBrief was authored by several members of the IPSA's Rescue Task Force Committee. The IPSA's RTF Committee is committed to advancing the IPSA mission and provides the IPSA guidance in all matters relating to the development, management and training practices of RTFs. The RTF Committee enhances the cooperation and sharing of information between agencies who use RTFs and those exploring the possibility of starting a new RTF program. The RTF Committee publishes documents and articles to assist in the understanding of the benefits, costs and complexities of on-going RTF training and management.

Introduction

The ability to quickly and accurately obtain situational awareness and assess the scope of a major incident is imperative to an effective emergency response. Optimizing public and first-responder safety, prioritizing response strategies and saving the lives of those who are injured all hinge upon the rapid establishment of unified command and effective interoperability between responding agencies.

The vital need for interoperability is not a new concept. Yet despite an overwhelming amount of evidence as to the importance of effective multi-agency interoperability, it is apparent that significant gaps continue to persistently plague first responder agencies. The difference between what is documented in research and what is occurring operationally are vastly disparate. Bridging the gap between unified command and interoperability theory and practice is necessary for an effective response.

Multiple after-action reports and reviews following major disasters, active shooter/hostile events and mass casualty incidents repeatedly identify the importance of cross-agency interoperability in bringing a rapid, coherent and efficient response to the incident.

Unified command explained

Unified command is frequently misunderstood. To describe in the simplest context, unified command is an incident management practice with critical components and measurable key performance indicators of success. This is important to understand. Often agencies believe that because they have all the commanders on one radio channel, they are practicing unified command when they are not.

Unified command does not mean that each individual agency loses supervision or control of their own resources. In an effective unified command deployment, the incident commander from each responding

agency maintains direct oversight, supervision and control of his or her resources. In addition, each agency in a unified command model operates within the scope of their existing policy and procedures and limitations of capabilities. In other words, a law enforcement commander would not directly task fire resources.

> *"Neither chain of command nor unity of command were well established in the early days of the Wildfire, although improvement occurred over time. There appeared to be more than one Incident Command Post, with both operating simultaneously during periods of the response. This led to confusion by responders about which Incident Command Post was being referred to and who the incident commander, operations chief, etc. were. Unified command should have been a key enabler for the response but was not successfully achieved during the early stages of the event."*[iv]

Interoperability explained

Interoperability can be described as a continuous and end-state process. It is a continuous process because the ability of agencies to rapidly and effectively integrate during a crisis depends upon the degree to which those agencies have previously worked together to develop joint response protocols, policy and procedures and training. If agency executives and command leadership fail to adopt interoperability as a continuous process philosophy, the desired end-state cannot occur.

> *"Improvisation in a crisis is a poor substitute for a well-practiced, interoperable plan"*[v]

As an end-state, interoperability is the identifiable and measurable capability of the disparate responding agencies to effectively collaborate and coordinate command and resources to prepare, prevent, assess, respond and recover from a major incident. This capability includes five key performance areas: shared doctrine, joint training and exercising, responsibility and accountability, persistence and interoperability.

> *"Organizational leaders showed a united front in formulating and implementing a response to the attack even under the most uncertain of circumstances. Commanders included individuals from varying units at varying levels in briefings and decision making. Responders from various agencies with differing priorities and protocols worked together to clear and investigate three different scenes. When there were complications, pre-existing relationships ameliorated tension and enabled resolution."*[vi]

What the research shows

Research illustrates that effective interoperability requires rapid and efficient establishment of unified command. The corollary is also true; disconnected, ambiguous commanders working in silos leads predictably to ineffective incident response which may lead to the lives of the public and those of first responders being put at unnecessary risk. Despite this research, a lack of interoperability continues to be highlighted as one of the most consistent and detrimental deficiencies identified in major incident after-action reports.

For example, the after-action report from the 2013 shooting at Washington Navy Yard highlights a number of challenges to establishing and sustaining unified command operations, from ensuring that representatives from all responding agencies were present and informed of actions taking place at unified command, to an over-deployment of command buses being present at the incident, hindering the ability for unified command to effectively manage all aspects of the response.[vii]

Another example, the Fort Lauderdale Airport shooting that took place on January 6, 2017, confirms that a lack of any unified command structure (no unified command was established)[viii] has exponential consequences, causing confusion amongst the responding agencies, many of which self-deployed (over 2,000 law enforcement personnel responded to the 90 second event[ix]). The lack of unified command at Fort Lauderdale

Airport also led to confusion amongst the responding law enforcement officers who were still reporting sounds of gunfire 90 minutes after the apprehension of the perpetrator.

The consequences of a lack of unified command are also exemplified in the after-action report following the 2012 shooting in Aurora, Colorado, at the Century 16 movie theater:

> *"Because unified command or a single overall incident commander had not been established, individual law enforcement officers radioed for medical assistance without coordinating with an incident commander. This resulted in duplicate requests, unnecessary radio traffic, and an inability to control and prioritize use of EMS resources[x]."*

During a major event, such as an ASHE/MCI, extraordinary, coordinated efforts on the part of law enforcement, fire and EMS is required to rapidly stabilize existing threats, effect rescue and save lives. Due to the resource-intensive nature of an ASHE/MCI, it is critical that the tri-services understand each other's roles and responsibilities and have a fully shared and interoperable approach at all command levels so they can effectively and cohesively respond and mitigate the risk of lives being lost.[xi]

Perhaps the most robust research conducted on interoperability was by the United Kingdom Commission for Employment and Skills. In this study, the researchers examined inquests and incident after-action reports to identify recurring themes relating to challenges with interoperability between emergency response agencies. In addition, over 2,000 frontline emergency responders from law enforcement, fire and EMS agencies were surveyed.[xii]

The findings from this research are alarming:

- 95 percent of emergency responders stated a lack of joint training was a barrier to effective event management.
- 71 percent of emergency response agency commanders had never been trained in or experienced joint training.
- 75 percent of the emergency responders had never participated in joint debriefings (and therefore felt that minimal to no organizational learning had taken place).
- 91 percent of emergency responders were convinced that a lack of joint practices, protocols, training and exercises were huge barriers to effective incident response.

> *"The commitment to establish unified command was simply not there. One anonymous aide to Governor Blanco later told a reporter, "we don't know necessarily what [is a] 'unified' command, or what do these words mean"[xiii]*

> *"Early initiation of UC is paramount. Face-to-face communication between the initial operations-level Commanders will ensure both are aware of the other's operations."[xiv]*

Points of Failure

The most common causes of a failure to operationalize effective unified command response was examined by Dr. Kevin Pollock and colleagues who studied 32 major incidents. The categories identified as failure points fell into five areas[xv]:

1. **Lack of Shared Doctrine**: The involved agencies did not have a single philosophy or 'doctrine' which supported an interoperability framework. This resulted in a lack of coordinated agency response, confusion and inability to integrate resources into a unified response.

2. **Inefficient Operational Communications**: A lack of common terminology, plain language and inability of technology to support integrated communications between the critical first responder agencies.

3. **Poor or Nonexistent Situational Awareness:** A lack of ability to quickly obtain and assess critical information and ensure this information was shared between agency incident commanders.

4. **No Formalized Interoperability Training or Exercises**: A formal program of developing a culture of interoperability did not exist. This resulted in incorrect and inefficient decision-making, responses and an inability to learn lessons and ensure organizational learning. Interestingly, this was found to contribute strongly to a 'blame culture' in which agencies, formally and informally, blamed each other post-incident for perceived erroneous actions.

> *"The personnel from different agencies should receive standardized training, which results in a consistent understanding of tactics, communication, and approach. Collaborative training is also an opportunity to highlight the importance of a coordinated response by all involved....Training should also include portions on what must occur during or following a large-scale, multi-agency tactical response, such as witness management, investigations, crime scene management, medical response, coroner/medical examiner, victim services, family reunification, and the other major components. Managers should train to their most likely role in the response. Having a written plan for the aforementioned portions of a response is of course vital, but full understanding and adequate preparation requires hands-on training and simulated exercises. "[xvi]*

> *"Unified command was never established causing confusion as to who was in charge. Due to the lack of unified command, a common operating picture was not developed resulting in a lack of information regarding resource needs and disjointed, misinformed, and conflicting mission development"[xvii]*

5. *Lack of Assessment, Auditing and Continuous Improvement*: An effective interoperability program requires a formal monitoring and auditing process to ensure that successes are reinforced so any gaps and deficiencies are identified and remedied.

Recommendations

There is sufficient research complimented by after-action reports that agencies can leverage to improve interoperability and unified command. The importance of creating an interoperability and unified command culture by first obtaining executive level support cannot be overstated. The commitment by top management in each organization is critical for setting the tone and support required for program success. Executive level support ensures the necessary resilience that will be required to push through inevitable cultural resistance.

> *"A single (law enforcement and fire) command post was not immediately established. If the ranking officers from law enforcement and fire immediately established a single Incident Command Post (ICP), then several challenges could have immediately been mitigated… The glaring omissions of a lack of communication between law enforcement and fire commanders, and the lack of a victim transportation coordinator, could have jeopardized having as favorable an outcome as was obtained."[xviii]*

The following basic principles must undergird the development of an interoperability and unified command framework:

- The overall culture and spirit of responders working together must become entrenched into agency culture – at all levels.
- The framework must provide incident commanders generic all hazards guidance to assist with the management of any incident of any scale.
- Common principles and terminology needs to be identified and incorporated into training and policy design.

Rather than creating a set of rigid rules, interoperability training needs to focus on making incident commanders better decision makers, allowing them to apply their training and experience to novel situations within the context of a unified command setting.

The recommendations resulting from an integrated summary of literature reviewed for this report suggest the following considerations:

1. **Create an expectation of unified command**. Unified command is a critical sub-component of the overarching Interoperability capability. Without effective unified command, interoperability cannot exist. Including 911 telecommunicators and emergency management agencies in the preparedness training will help provide credible situational awareness to unified command inside and outside the zone of operation. Including these emergency responding agencies early-on in planning will help manage secondary and tertiary event consequences.

2. **Ensure co-location of agency incident commanders at the earliest stages of the incident.** Upon notification of an incident, responding commanders from each agency should select a single, combined command post location as soon as practical and make their way to that location. It needs to be mentioned that co-location applies at all levels of command. For example, executive or strategic level commanders will benefit as much from co-location as do operational and tactical commanders.

3. **Establish shared situational awareness as quickly as possible and developing immediate incident priorities**. Shared situational awareness is the rapid establishment of all involved commanders to have a common understanding of the incident circumstances, the immediate event risks and priorities and the correct application of the right resources to address the incident objectives.

   To support effective shared situational awareness, a joint decision-making model or framework is an essential tool. There are several decision-making models that have proven their worth operationally and rather than recommending one over the other, agencies are encouraged to work together to incorporate a unified decision-making model that works for them, train with it and imbed it into interoperability policy and procedures.

4. **Ensure that unified command has a joint understanding of the risk**. Shared situational awareness does not necessarily equate to an agreed understanding of the risk. Complex incidents, such as an ASHE, requires many agencies to be working in zones of operation that may or may not be entirely secure (example: during the Aurora theater shooting, fire personnel were unaware that the perpetrator was already in custody).

   Situational awareness is key to ensuring that all personnel involved during the response and immediate recovery and can only occur when unified command is established.

5. **Effective communication**. Communications refers to the ability of each agency incident commander to be able to converse in plain language (absent of occupational specific acronyms) and share critical information in a timely manner. If agency-specific terminology does have to be used, interoperability

program development should identify these and develop a lexicon of definitions to reduce confusion. The effectiveness of both rapidly established and maintained face-to-face communication at all operational levels cannot be overstated.

911 telecommunicators are an asset in building common terminology across all first responders and the region, as they regularly communicate with responding units, victims and witnesses.

6. **Utilize an integrated decision-making model to ensure coordinated deployment of resources with clear objectives**. Effective and timely incident response requires coordination between agency commanders. To accomplish coordination, incident commanders must talk to one another. It is critical that discussions take place regarding all necessary components of situational awareness, including the immediate incident priorities, the available and required resources and avoiding duplication of efforts or missed risks.

Prior planning between agencies responding to a complex incident, and training command staff personnel to utilize an integrated decision-making model, mitigates the risk between the time the incident began, and the time unified command is established.

7. **Develop a joint agency Interoperability philosophy or 'doctrine' at the executive levels of the involved agencies**. The interoperability doctrine should underscore the importance of the program. First responder safety is always the number one priority in incident response. Interoperability and unified command greatly assists in ensuring that safety to the extent possible. It must also stress the importance of helping to save lives.

Interoperability and unified command directly support the primary mission of first responders by maximizing potential for survival for injured and vulnerable civilians.

In addition, the doctrine will provide strategic-level or philosophical level guidance to agencies that will be tasked to come together. This will directly impact the development of policy, training standards and performance measurement tools.

8. **Establish a municipal policy mandating joint agency training and exercising**. Training and exercises should address the need for agencies to integrate at all organizational levels: strategic, operational and tactical[xix]. Further, training standards must be based on measurable key performance indicators for successful outcomes. This will require an initial baseline or gap analysis to determine the scope and content of required training. In addition, incident command and operational training must be conducted in a multi-agency format to be effective.

From an incident command training perspective, multi-agency training means that the commanders from respective agencies must come together during training, table-top and live exercises. This builds relationships, fosters trust, improves shared understanding of roles and functions and ultimately allows for the commanders to practice shared situational awareness and joint decision making.

Training to achieve effective unified command and a state of interoperability requires that extensive efforts are made to train at the 'first contact point' of agency frontline supervisors. This means the law enforcement sergeants; the fire battalion chiefs, 911 telecommunicators and EMS street supervisors must be integrated into the training model. Too often, agency executives believe they are training for interoperability because they are integrating senior commanders (for example, at the strategic levels), but frequently are completely void of training integration at the critical first point of contact supervision – the operational and tactical levels.

9. **Create an inter-agency steering committee**. Establishment of an inter-agency steering committee to provide guidance and direction to the interoperability program is vital. This ensures interoperability programs meet the unique and specific challenges of each emergency service, including the need to build a lexicon of common terminology and an environment of mutual trust and understanding of objectives in a complex and dynamically unfolding incident.

10. **Being persistent about the value of an interoperability program will modify organizational culture**. Agencies attempt to integrate new practices by conducting service-wide training once. They never, or rarely, measure if long-term organizational learning occurs. This method of block training consistently produces the poorest long-term learning benefits. To create the desired, ingrained, behavioral and cultural changes, approaches must focus on simple, reliable, measurable and repetitive efforts.

    Learning from crisis is a hallmark of a resilient organization. The extent to which agencies can overcome barriers to change and adopt long-term learning depends heavily upon how resilient the organization is. Resilient organizations can quickly capture and adapt to vital learning lessons. This ability to adapt creates a subsequent change in behavior and systems.

11. **Practice interoperability daily.** Several municipality efforts to enhance interoperability have suffered from limited operational success during major incidents. To be successful, habit is necessary and interoperability programs must not limit their training focus on massive events (e.g. ASHE/MCI, bombing, CBRNE). Interoperability must be present and practiced on all calls requiring a multi-agency first response.

    For example, one municipality adopted a quad-service (law enforcement, fire, EMS and 911 dispatch) incident command interoperability training program that brings frontline supervisors from each agency together for multi-day unified command and interoperability training. This training utilizes table-top exercises that could be described as common incidents that necessitate a response from all agencies. Incident commanders must work together to integrate the interoperability principles learned in the training to solve problems in a unified manner.

    The goal is to train front line commanders from all responder agencies together so that unified command becomes reflexive during any incident. This will better prepare an efficient and effective unified command on major incidents.

    In moments of stress, like an ASHE, responders will gravitate toward the techniques and procedures they utilize everyday—the tactics that are imbedded in their mental muscle memory. When unified command is only a concept implemented on large events, we can anticipate a limited, delayed or even ineffective implementation of this concept. However, when unified command is practiced during the more common call types then responders are more prone to implement unified command.

Achieving an effective state of interoperability is a necessary objective for every first-responder agency. It requires strong leadership and a commitment to address and overcome challenges.

Challenges will vary in complexity. This is to be expected. However, the risk of avoiding the unified command concepts is far greater than any challenges faced. There is an expectation amongst public safety agencies and the public, that the response to complex incidents, violent or non-violent, will be effective and swift.

The only way possible to ensure that this happens is by embracing the philosophy of interoperability and understanding, practicing and applying unified command concepts.

References

i InfoBrief was developed by members of the International Public Safety Association's RTF Committee. Members included Christopher Butler, J. Scott Quirarte, Allison G.S. Knox; David Schuld; Justin Parrinello: Michael Lugo; and Executive Director Heather R. Cotter.
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xvii"Active Shooter Incident and Post-Event Response January 6, 2017"; Fort Lauderdale-Hollywood International Airport; Broward County Aviation Department (BCAD) After Action Report; August 15, 2017.
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xix Strategic refers to 'executive' level leaders in the organization – those who envision priorities and set agency objectives. Operational refers to the leaders who are tasked with translating the Strategic vision through design, organization and planning to ensure implementation takes place within the agency through policy and training. Operational leaders are also responsible for continuous process improvement. Tactical level leaders are those individuals responsible for the direct supervision / incident command of agency resources in immediate response to an incident.