

Domestic Preparedness Journal



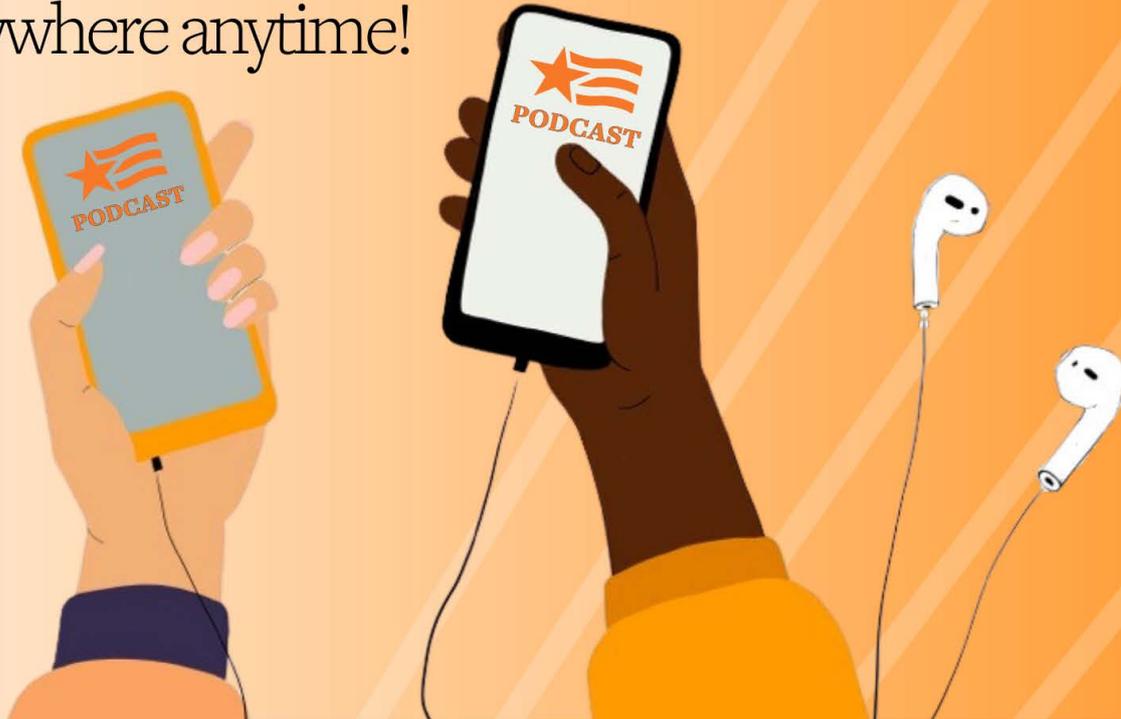
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Lynda Zambrano

Executive Director and Founder, National Tribal Emergency Management Council

Lynda Zambrano currently serves as executive director of the Northwest Tribal Emergency Management Council and the National Tribal Emergency Management Council (NTEMC). She is an adjunct professor at Pierce College, Centers of Excellence for Homeland Security, authoring and teaching the Grants Writing and Management curriculum. She began her career in law enforcement 20 years ago, working with federal, state, local, and tribal governments. She has served as health director for several Tribal Nations, which provided a unique perspective to bring together different disciplines to work together in emergency management. She has an extensive background in finance, contracts management, and audit compliance. She is a grants writer, assisting with securing more than 100 grants and tens of millions of dollars for Tribal Nations in Washington state and across the country. She has received recognition for her work in Indian Country from the Federal Emergency Management Agency, U.S. Department of Homeland Security, and U.S. Bureau of Indian Affairs. She was inducted into the International Association of Women in Emergency Management's Hall of Fame. She helped co-found the Fresh Food Coalition and, along with the NTEMC's sister nonprofit, Farmer Frog, oversees food and supplies distribution in 35 states to over three million people.



Richard Schoeberl

Program Chair & Director of Graduate Studies, Criminology and Homeland Security, The University of Tennessee Southern

Richard Schoeberl, Ph.D., has over 25 years of law enforcement experience, including the Federal Bureau of Investigation (FBI) and the National Counterterrorism Center (NCTC). He has served in a variety of positions throughout his career, ranging from a supervisory special agent at the FBI's headquarters in Washington, DC, to unit chief of the International Terrorism Operations Section at the NCTC's headquarters in Langley, Virginia. Before these organizations, he worked as a special agent investigating violent crime, human trafficking, international terrorism, and organized crime. He was also assigned numerous collateral duties during his FBI tour – including as a certified instructor and member of the agency's SWAT program. In addition to the FBI and NCTC, he is an author and has served as a media contributor for Fox News, CNN, PBS, NPR, Al-Jazeera Television, Al Arabiya Television, Al Hurra, and Sky News in Europe. Additionally, he has authored numerous scholarly articles, serves as a peer mentor with the Police Executive Research Forum, is currently a professor of Criminology and Homeland Security at the University of Tennessee-Southern, and works with Hope for Justice – a global nonprofit combatting human trafficking.



Ann Lesperance

Director, Northwest Regional Technology Center at the Pacific Northwest National Laboratory and Northeastern University Seattle

Ann Lesperance is the director of the Pacific Northwest National Laboratory's Northwest Regional Technology Center for Homeland Security (NWRTC). She is also on a joint appointment to Northeastern University-Seattle and leads efforts to build the master's program in Security and Resilience Studies and Urban Informatics. She was also awarded a Faculty Affiliate appointment with Northeastern's Global Resilience Institute. Her primary focus is developing regional programs to accelerate the demonstration and deployment of new homeland security technologies. To accomplish this, she works with state and local emergency responders and public safety officials to understand and help prioritize their operational needs and requirements. She also builds regional coalitions of emergency management professionals to partner with U.S. Department of Homeland Security Science & Technology, the Department of Defense, and other federal agencies, and manages program implementation in the field. She is a recognized leader in response, recovery, and resiliency issues. Most recently, she was invited to join the National Academies of Sciences, Engineering, and Medicine Committee on Applied Research Topics for Hazard Mitigation and Resilience. The committee identifies applied research topics, information, and expertise to inform the science of natural hazard mitigation and resilience and enables applications of science, data, and technology.

[**Click here to meet the rest of the advisors**](#)



25 Years of Domestic Preparedness

By Jasper Cooke

Some people dedicate and risk their lives to protect people they have never met, whether during domestic disasters or foreign wars. They find strength and determination to run toward danger as others run away. Veterans Day symbolizes that spirit as it honors the millions of men and women who have served in the U.S. military. This day reminds us of historical events that should not be forgotten and highlights future opportunities that are possible because of the roles they played in protecting the country.

It is fitting that, on November 11, 1998, Domestic Preparedness began its journey to share the perspectives of dedicated professionals across disciplines and jurisdictions who work tirelessly to protect and serve their communities. With content ranging from local events like community outreach at a county preparedness fair to large-scale incidents like the September 11, 2001, terrorist attacks and the worldwide COVID-19 pandemic, Domestic Preparedness covers it all. Sharing information about lessons learned from the past and helping communities prepare for future disasters have been driving forces for a quarter of a century.

As we celebrate the 25th anniversary, we honor the founding publisher, Marty Masiuk, and all the dedicated writers, advisors, and subscribers who contributed to and supported the publication over the years. Preparing for whatever the future holds requires remembering the

past, setting new goals for the future, and evolving to meet new challenges.

In the next 25 years, we will continue to serve the professionals who dedicate their lives to their communities. The pandemic was a reminder of how important it is to reach across digital space but also meet in the physical world. Bridging the digital-physical gap with the Domestic Preparedness Journal will ensure subscribers have access to critical information, whether they prefer reading online or turning the pages of a copy in hand. In 2023, we introduced a new branded house, a more dynamic website, a new Weekly Brief layout, and more images. In 2024, the publication will feature monthly editorial themes, expand the podcast channel offerings, provide readers with a new print option to receive journal issues in the mail, and much more.

On this special anniversary, we celebrate and thank all those who work in the emergency preparedness, response, and recovery space – those on the front lines and those behind the scenes. Since 1998, Domestic Preparedness has been a trusted source for content written by practitioners, for practitioners – with relevant, real-world best practices. The next 25 years will continue that tradition while introducing new ways for busy professionals to connect, share, and learn. We welcome your feedback, suggestions, and recommendations as the next era of Domestic Preparedness begins.

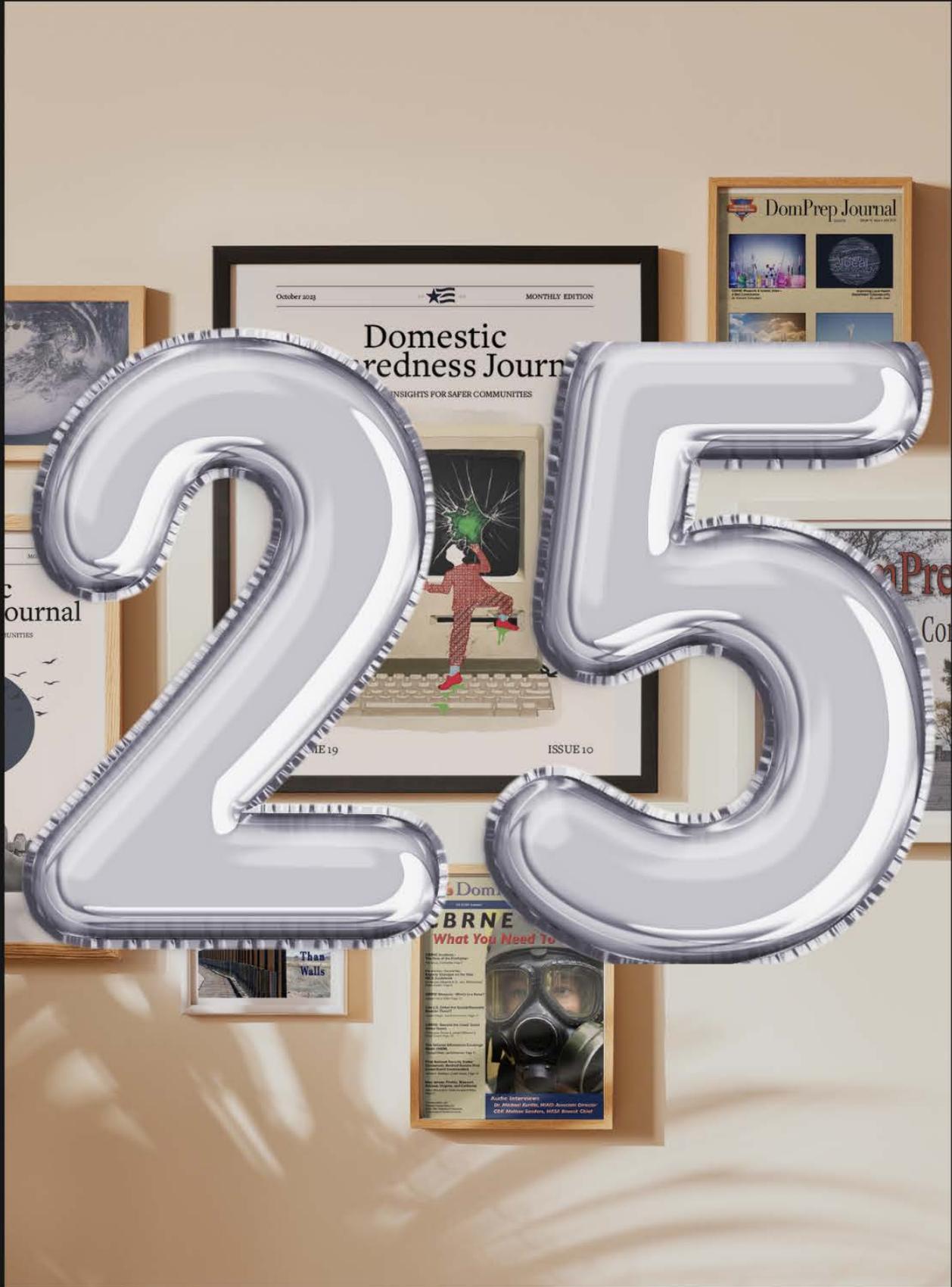


Jasper Cooke joined the team in September 2023 as the publisher for Domestic Preparedness. In this role, he is working to make communities safer nationwide by sharing best practices and insights from practitioners to a broader audience. Jasper joined the Texas Division of Emergency Management (TDEM) in May 2021 as the section chief for hazard mitigation. In this role, he led the statewide team responsible for managing \$2 billion in hazard mitigation grants, as well as local and state mitigation planning. He subsequently served as section chief for recovery, supporting communities statewide in accessing over \$20 billion in federal recovery funding. Prior to joining TDEM, he led the Office of the National Advisory Council at FEMA, ultimately supporting four administrators as the primary liaison between the council and the administrator. Under his leadership, the group submitted recommendations that were ultimately included almost verbatim in the Federal Emergency Management Agency's (FEMA) 2022-2026 Strategic Plan. Jasper completed his master's degree at the Naval Postgraduate School in 2018, where his thesis on measuring state resilience was runner up for Outstanding Thesis.

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Domestic Preparedness

Real-World Insights for Safer Communities



CELEBRATING 25 YEARS THANKS TO OUR
READERS, WRITERS, AND ADVISORS!

Editor's
Note



Source: A Madison Leeves Creation

A Quarter Century of Community Preparedness

By Catherine L. Feinman

Over the past 25 years, communities have faced threats that perhaps many did not anticipate: terrorist attacks, a worldwide pandemic, dozens of billion-dollar weather disasters, hundreds of thousands of wildfires and earthquakes, and the list goes on. Despite preparedness professionals continually readying their communities for both predictable and unforeseen threats, planning, and information sharing sometimes occurs in silos. Domestic Preparedness was founded in November 1998 to bridge that gap and facilitate information sharing across jurisdictions and between all the disciplines that involve emergency preparedness and response roles.

Over the years, Domestic Preparedness has covered topics that are specific to current policies, procedures, and technologies that evolve over time, and timeless topics that are as relevant today as they were decades ago. For this reason, the Flashbacks section of The Weekly Brief highlights previously published articles that should be revisited for today's planning efforts. With available content dating back to 2005, [DomesticPreparedness.com](https://www.domesticpreparedness.com) offers a wide range of valuable resources for emergency planners

and responders, health workers, elected politicians, educators, and anyone else preparing for future emergencies and disasters.

This November/December edition of the *Domestic Preparedness Journal* celebrates the first 25 years of publication and marks the launch of the next 25. In addition to new content on emerging technologies, interoperability efforts, and unpredictable weather events, this issue highlights the publication's top 10 downloaded articles over the past six months. Discover which topics received the most attention from readers. Keep the discussion going on these and other issues that will make communities safer and more resilient.

At this time of year, we remember and thank all the writers, advisors, readers, and staff who have made this publication possible. As always, we welcome your ongoing feedback and suggestions to continually enhance community preparedness and resilience through collaboration and information sharing in 2024 and beyond. As the end of 2023 approaches, we wish everyone a happy, healthy, and safe holiday season.



Catherine L. Feinman, M.A., joined Domestic Preparedness in January 2010. She has more than 30 years of publishing experience and currently serves as Editor of the *Domestic Preparedness Journal*, [DomesticPreparedness.com](https://www.domesticpreparedness.com), and the DPJ Weekly Brief, and works with writers and other contributors to build and create new content that is relevant to the emergency preparedness, response, and recovery communities. She received a bachelor's degree in international business from University of Maryland, College Park, and a master's degree in emergency and disaster management from American Military University.



Source: Unsplash/Ali Yasar isgoren

Emerging Technologies, Part 4 – Robotics and Automation

By Ian Pleet

Robotics and automation have emerged as transformative technologies crucial in emergency management, humanitarian relief, and disaster response fields. These advanced technologies can enhance efficiency, safety, and effectiveness in responding to crises and mitigating hazards. [Robotics](#) “refers to the design, construction, and operation of robots,” while automation involves using technology to perform tasks with minimal human intervention. Part 4 of this five-part series explores the concepts of robotics and automation, their applications in all-hazards emergency management, humanitarian relief, and disaster response through worldwide examples, and their significant contributions to these critical fields.

Understanding the Basics

It is critical to begin with a general understanding of robotics and automation. Robotics is a multidisciplinary field that combines elements of mechanical engineering, electronics, computer science, and artificial intelligence to create machines called robots. These robots can interact with the

physical world and perform tasks autonomously or under human control. Robotics development has led to a diverse range of robotic systems, such as industrial robots used in manufacturing, medical robots for surgery, and uncrewed aerial vehicles (UAVs) for surveillance and reconnaissance.

[Automation](#) uses technology to perform tasks with minimal human involvement. It aims to improve productivity, reduce human errors, and enhance efficiency. Emergency management and other processes can apply automation to manufacturing, transportation, and data analysis. It relies on sensors, actuators, and algorithms to automate tasks that otherwise would require human labor.

Examples of Robotics and Automation Applications

Robotics and automation have many applications in all-hazards emergency management, humanitarian relief, and disaster response. The following are five such applications.

Robots with advanced sensors, cameras, and mobility capabilities can perform *search-and-rescue* operations in

dangerous or inaccessible areas for human responders. For instance, after Japan's 2011 earthquake and tsunami, robots were deployed to [search for survivors](#) in collapsed buildings, saving valuable time and reducing the risk of exposure to radiation for human responders.

Robotics can provide essential *medical support* in disaster zones. Robotic surgical systems enable remote surgery performed by expert surgeons, allowing them to operate on patients even if they are geographically distant. This technology can be invaluable when local medical facilities are overwhelmed or destroyed.

Drones and UAVs with high-resolution cameras can rapidly *assess and map* disaster-affected areas. This real-time data helps emergency responders identify the most impacted areas and plan their response and recovery operations accordingly. For example, in the aftermath of Hurricane Maria in Puerto Rico, drones helped to [survey the damage](#) and assist in relief efforts.

Automation technologies, such as autonomous vehicles, can aid *humanitarian logistics* by transporting essential supplies and resources to affected regions. Self-driving trucks and delivery drones can reach remote or dangerous areas without risking human lives. During the COVID-19 pandemic, drones demonstrated this capability to [deliver medical supplies](#) in various countries.

Environmental monitoring and managing natural disasters like wildfires and floods employ robotics and automation. Robots can navigate hazardous terrain to gather data on environmental conditions, track the spread of fires, or assess flood levels. This information aids in making informed decisions and coordinating emergency responses effectively.

Improving Emergency Interventions

In conclusion, robotics and automation have revolutionized all-hazards emergency management, humanitarian relief, and disaster response. These technologies offer innovative solutions to complex challenges, improving emergency interventions' efficiency, safety, and effectiveness worldwide. From search-and-rescue operations to medical assistance and disaster mapping, robotics and automation applications continue to expand, saving lives and alleviating suffering during crises. As technology evolves, integrating robotics and automation in emergency response will become more vital in safeguarding human lives and minimizing the impact of disasters.

Links to other articles in this series:

[Part 1 – Information and Communication](#)

[Part 2 – Uncrewed Vehicles](#)

[Part 3 – Artificial Intelligence and Machine Learning](#)

[Part 4 – Robotics and Automation](#)

[Part 5 – Legal and Privacy Concerns](#)

Robotics and automation have emerged as transformative technologies crucial in emergency management, humanitarian relief, and disaster response fields.



Ian Pleet is an emergency management consultant who advises his clients on all-hazards emergency management and continuity planning, creating robust training and exercise programs to find gaps, seams, and friction points in their emergency management plans. He is pro-board certified as a Fire Officer IV, Fire Inspector II, and Hazardous Materials Incident Commander. He has been named a Professional Continuity Practitioner by the Federal Emergency Management Agency and is a Department of Defense (DOD) antiterrorism officer course graduate. He holds certificates from Georgetown University in Change Management Advanced Practitioner and Virginia Tech in Wargaming.



Source: iStock/ LornaWu

The Race to Interoperability

By Charles Guddemi and Catherine L. Feinman

In April 2013, more than 26,000 runners entered the Boston Marathon, but only 17,600 finished the race before two improvised explosive devices (IEDs) detonated near the finish line. That attack on citizens at a planned event changed how communities across the nation prepare for incidents at special events. As bystanders rushed to help survivors, communication had life-and-death consequences.

Collective Analysis

In September 2023, more than 600 federal, state, local, territorial, and private sector officials from 33 states and territories attended (in-person or virtually) the fifth annual D.C. Interoperability Summit, which was hosted by the D.C. Homeland Security and Emergency Management Agency, to discuss best practices and lessons learned in honor of the 10th anniversary of that event. Subject matter experts shared firsthand accounts and presented additional information to highlight opportunities for improving interoperable communications policy, products, and processes. Across the presentations and panel discussions, participants emphasized the importance of:

Relationship building;

- Training and exercises for planned and unplanned events;
- Public-to-government, government-to-government, government-to-public, and public-to-public communications; and
- Resilient communications.

Although large-scale bombings like the one in Boston are not common occurrences in the United States, the threat of such attacks is significant with the online availability of bomb-making materials and instructions. Associate Director Sean Haglund at the U.S. Department of Homeland Security’s Office for Bombing Prevention noted in his presentation that the terrorist attack cycle typically takes 12-18 months from ideation to attack. That means there is time to potentially disrupt the plans and thwart the attack. Protection measures based on the 5 Ds of Security – deter, detect, delay, deny, and defend – provide added protection as attackers begin to implement their plans.

In the immediate aftermath of an incident, many uncertainties exist (i.e., “the fog of war”), so interoperable communications must be in place before the incident occurs. Breaks in the interoperability chain can lead to issues such as increased self-deployment, lack of weapons discipline, and additional casualties. Some common interoperability concerns include lack of radio communications, degradation of services (often due to high-volume use), strain on systems and equipment, not having the proper equipment, unclear alert and notification plans, and lack of clarity on roles and responsibilities.

Ensuring reliable information exchange with the public can help authorities gather pertinent information about the event, send resources where most needed, provide victim support, calm fears, and reunite loved ones. Mobile applications, 911 centers, public service



Retired Boston Police Commissioner Edward Davis presented the keynote on September 6, 2023, at the D.C. Interoperability Summit in Washington, D.C. (Source: Charles Guddemi).

announcements, and reverse 911 are some of the ways to share information between the government and the public. However, critical information gathered needs to be shared with all the resources involved in the response. Delaying communications with hospitals and the boots on the ground would have dire consequences when seconds matter.

Key Interoperability Action Items

The summit provided many action items for participants to implement in their planning processes. Some of these recommendations include:

- Having an integrated communications plan to support multiagency, multijurisdictional interoperability;
- Ensuring that third-party and private services such as emergency medical services and security have direct interoperability capabilities with local first responders;
- Including often overlooked “responders” in the planning process (e.g., 911 call centers, hospitals);
- Incorporating ICS 205, ICS 205A, and ICS 217a forms into communications plans;
- Developing a PACE plan that includes primary, alternate, contingency, and emergency means of communication;
- Staying alert for surveillance indicators, unusual material purchases, bomb-making activity, discreet information gathering, and other suspicious activities;
- Planning for the unique issues regarding patient data and transfer of care;
- Ensuring alerts and warnings capabilities are detailed in advance and integrated with event operations;
- Planning and training for common human reactions after an event: evacuating, fleeing, freezing, gawking, and helping; and
- Remembering the human factor and the need for compassion for the public and the responders.

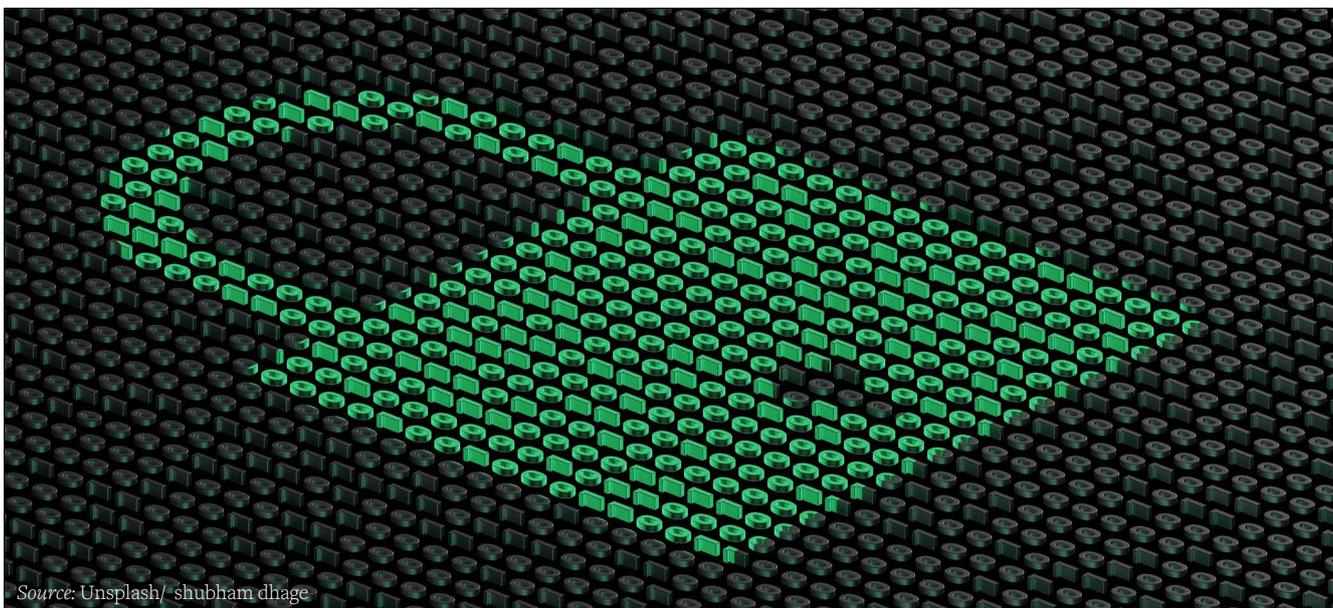
In recognition of the 10-year anniversary of the Boston Marathon Bombing, the D.C. Interoperability Summit examined how the emergency communications ecosystem shaped a successful response and described the investigation of that major terrorist attack. Collaboration strengthens community resilience by helping emergency preparedness and response professionals across the United States work together to secure the nation.



Charles Guddemi is the District of Columbia's Homeland Security and Emergency Management Agency's (HSEMA) statewide interoperability coordinator (SWIC). He is responsible for coordinating interoperability and communications projects involving voice, data, and video. He chairs the District's Interoperable Communications Committee and Cellular Industry/WiFi Provider Working Group. He serves as the secretary for the Statewide Interoperability Executives Council, is a member of the National Council of Statewide Interoperability Coordinators and current co-chair of FEMA's Region III Regional Emergency Communications Coordinators Working Group. He also participates on several Metropolitan Washington Council of Governments (MWCOG) committees and working groups. He joined HSEMA after a 25-year career with the United States Park Police (USPP). His assignments included working in Washington, D.C., New York Field Office, San Francisco Field Office, and the National Park Service Northeast Regional Headquarters in Philadelphia, Pennsylvania. He achieved the rank of deputy chief serving as the commander of the Services Division.



Catherine L. Feinman, M.A., joined Domestic Preparedness in January 2010. She has more than 30 years of publishing experience and currently serves as Editor of the *Domestic Preparedness Journal*, DomesticPreparedness.com, and the DPJ Weekly Brief, and works with writers and other contributors to build and create new content that is relevant to the emergency preparedness, response, and recovery communities. She received a bachelor's degree in international business from University of Maryland, College Park, and a master's degree in emergency and disaster management from American Military University.



Source: Unsplash/ shubham dhage

Emerging Technologies, Part 5 – Legal and Privacy Concerns

By Ian Pleet

The integration of emerging technologies in emergency management holds the promise of enhancing response efficiency and accuracy. However, these technologies are challenging, particularly regarding legal and privacy concerns. As emergency managers adopt tools like data analytics, surveillance systems, and biometric identification, navigating the complex landscape of laws and regulations to protect individuals’ rights is imperative. Part 5 of this five-part series delves into the legal and privacy issues inherent in emergency managers’ use of emerging technology.

Examples of Legal Concerns

Using emerging technologies often entails collecting extensive data, ranging from geolocation information to health data. The crux of the issue lies in how users amass, store, and utilize this data while respecting individual privacy rights. For example, emergency managers might aggregate location data from individuals’ smartphones during a crisis to gauge population movement patterns for effective resource allocation. However, the challenge arises when such data is gathered without explicit consent, potentially encroaching upon individuals’ privacy.

Here are examples of how authorities having jurisdiction have successfully implemented technology:

- Singapore has implemented an extensive network of surveillance cameras and sensors to monitor traffic and public spaces. These sensors are used for traffic management, crime prevention, and emergency response.
- Barcelona, Spain, has deployed smart street lighting with integrated sensors to monitor noise levels, air quality, and traffic. This data is used to improve public safety and urban planning.
- In Chicago, Illinois, a predictive analytics platform called “ShotSpotter” uses internet of things (IoT) sensors to detect and locate gunfire in real-time. This technology helps law enforcement respond more effectively to gun violence.
- Dubai, UAE, uses IoT-based smart traffic management systems to improve road safety and reduce congestion. These systems include traffic cameras, smart traffic signals, and automated incident detection.
- The New York City Police Department (NYPD) uses facial recognition technology in criminal investigations and public safety efforts.
- The London Metropolitan Police (London Met) has experimented with facial recognition technology in public spaces to identify persons of interest.

- Los Angeles Police Department (LAPD) in California explored predictive policing methods to allocate resources more effectively in crime-prone areas.
- Chinese police in Shanghai use facial recognition technology to monitor public spaces and identify suspects.

The deployment of *surveillance and monitoring* technologies like drones, cameras, and sensors for emergency response raises concerns regarding the inadvertent monitoring of individuals. Balancing public safety imperatives with privacy rights is delicate. For example, authorities might employ drones to monitor public spaces to enforce social distancing during a health crisis. However, constant surveillance potentially infringes upon individuals' right to privacy.

Adopting *biometric data*, like facial recognition or fingerprints, for emergency identification introduces ethical and legal difficulties. Safeguarding the collection and storage of biometric information is pivotal. For example, facial recognition technology could expedite aid distribution by identifying displaced individuals in emergency shelters. However, mismanagement of this technology might lead to privacy breaches and identity theft.

The storage and transmission of voluminous sensitive data introduce the risk of *data breaches*, jeopardizing individuals' personal information. For example, an emergency management system storing medical records and contact details could become a prime target for cyberattacks, resulting in unauthorized access to sensitive information.

The ethical use of emerging technologies necessitates transparent communication with the public regarding data collection practices and intended uses. For example, should emergency managers deploy a mobile

application for real-time communication during crises, they should inform users about the data types collected and their purposes.

Balancing the Advantages and Challenges

Applying emerging technologies in emergency management offers unprecedented advantages but comes with legal and privacy challenges.

Striking a balance between harnessing these tools and safeguarding individuals' rights demands a collaborative approach involving emergency management experts, legal professionals, policymakers, and technologists. By staying attuned to evolving laws and regulations, stakeholders will ensure that technological advancements fortify response

efforts while upholding the principles of privacy and data protection.

This five-part series is intended to expand the knowledge base about emerging technologies, how they can improve emergency management practices, and the challenges they can pose to jurisdictions and individuals. As any professional knows, the secret to success is the network's depth and relationships with colleagues – for example:

- The comptroller or treasurer will help design a budget to fund the purchasing of these technologies.
- Use your corporate legal counsel to guide you around the privacy and legal landmines.
- The IT (or “6” shop for military personnel) Department will help safely incorporate technologies into information systems.
- Peers in fire, EMS, law enforcement, public health, health care, and public works will help implement these technologies.

During the “blue sky” days, take the time to build these professional relationships, research the benefits and potential pitfalls, and build capabilities to protect communities before the next disaster.

The integration of emerging technologies into disaster management is promising, but legal and privacy concerns must be considered



Ian Pleet is an emergency management consultant who advises his clients on all-hazards emergency management and continuity planning, creating robust training and exercise programs to find gaps, seams, and friction points in their emergency management plans. He is pro-board certified as a Fire Officer IV, Fire Inspector II, and Hazardous Materials Incident Commander. He has been named a Professional Continuity Practitioner by the Federal Emergency Management Agency and is a Department of Defense (DOD) antiterrorism officer course graduate. He holds certificates from Georgetown University in Change Management Advanced Practitioner and Virginia Tech in Wargaming.



Source: Unsplash/ NOAA

Looking Ahead at Increasingly Frequent Unpredictable Weather

By Akshay Birla

In an era where severe storms have become a perennial concern, natural disaster preparedness has grown significantly. In the winter of 2022-2023, a [deadly blizzard](#) in Upstate New York left people buried in their homes. In the spring of 2023, a [violent tornado outbreak](#) claimed over 60 lives. These events demonstrated how treacherous a lack of preparedness can be to emergency responders during weather disasters. Many states, particularly those on the eastern seaboard, continue bearing the brunt of an unprecedented hurricane season due to record-warm sea surface temperatures, leading to more tornados, floods, and even [fueling wildfires](#). Incorporating preparedness and response technologies helps emergency preparedness professionals manage the onslaught of unique weather emergencies and severe climate conditions.

Lack of Preparedness During Severe Weather

State and local officials in every state need weather preparedness plans that reflect the increased

complexity of responding to natural disasters. Typically, northwestern states have timid weather conditions during spring and summer. Meanwhile, the southwest typically experiences extreme heat during these months. While state and local agencies know how to respond to these expected weather events, recent years have proven that the [downstream effects of disasters](#) exacerbate the impact of weather-related events. One example occurred in September 2023, when more than [70,000 Burning Man](#) festival attendees became stranded in the middle of the desert due to area flooding.

The results can be catastrophic if a state or city does not have an updated emergency management strategy. For example, a blizzard in Buffalo [killed 47 people](#) during the last days of December 2022. Some citizens who required emergency assistance lost their lives because the extreme snow, ice, and wind prevented first responders from reaching them, while others died due to power outages. Even though the city is accustomed

to winter storms, it did not have the infrastructure capable of responding to such an abnormally severe storm. Communication systems were overwhelmed, causing delays in rescue operations. While Buffalo is no stranger to winter storms, the city was unprepared for the intensity of this event. Contrast this with the heat waves in the Pacific Northwest during the last few summers. Triple-digit temperatures [took an estimated 441 lives](#) between June 27 and July 3, 2021, when many residents without central air conditioning died in what is a typically mild climate.

The Intersection of Technology and Planning

Emergency managers, public safety officials, and other community leaders are responsible for evaluating how prepared their regions are to respond to severe natural disasters and making the appropriate upfront investments to guard against them. By leveraging the right technology to assess their communication, coordination, and overall response plans, they can also consider the increase in national and regional weather-related disasters.

Technology can improve the efficacy of disaster response preparation and the competence of deployments during an incident, reducing potential loss of life and preventing millions or even [billions of dollars in damage](#).

However, some emergency management plans use antiquated processes and rely on spreadsheets, emails, and chat applications.

Leaders can better prepare their communities by pairing a modern emergency management platform with current and future response plans.

Emergency management software can help community leaders maintain situational awareness by automating

workflows, organizing crisis response strategies, and distributing notifications during critical weather events. The right platform provides a faster and easier way for community crisis managers to update necessary elements in their disaster preparedness strategies, communicate to enhance situational awareness, [create a common operating picture](#), and empower key stakeholders to access critical data when needed. Compared to the status quo, the right platform offers functionalities like real-time data analytics, geo-tracking, and centralized information sharing. This not only expedites updates in disaster preparedness strategies but also fosters enhanced communication, creating a unified operating picture.

In a comprehensive management approach to navigate the intricacies of severe weather, emergency preparedness and response technologies are critical in four phases:

- *Assessment* emphasizes recognizing and understanding potential risks – from power outages to significant infrastructure damage. Implementing proactive measures such as investing in the construction of levees or creating cooling centers in the summer requires long lead times that require compelling assessments that support these capital investments. An emergency management platform assists with assessment by evaluating current conditions and potential outcomes. For example, areas currently experiencing extreme drought could be threatened by flooding as climate conditions shift in response to large-scale meteorological forces and human-driven action.
- *Preparedness* involves designing robust, flexible response plans that outline all stakeholder

Deadly blizzards and violent tornado outbreaks are just two recent weather events that caught communities underprepared. Technological solutions can help.

roles – from emergency responders to private-sector partners. Ensuring situational awareness and enhancing real-time collaboration through integrated critical event management systems further solidify this preparedness. Preparation is about ensuring that the right people are in place and that these people are prepared for disasters. In the case of flooding, for instance, preparedness focuses on equipping community leaders with the training and technologies they need to handle potential hazards as they occur.

- *Response* signifies the crucial juncture where strategic planning transitions into tangible action. During a crisis, the need for clear, timely communication rises, with officials relaying vital updates in a clear and timely manner. Lapses in this communication chain can have serious consequences, causing a loss of public trust and potentially costing human lives. Battle-tested technology is pivotal in this phase, ensuring seamless communication and fostering robust team coordination. When a community faces power or network outages, the true value of modern software comes into play with features like offline modes and data synchronization when reconnected. Alternative

methods for connecting to the internet, such as satellite communication, will fortify this continuity.

- *Recovery* focuses on the aftermath of a disaster. The primary objective is to rebuild and restore affected areas to their former state or better. Modern solutions make it easier to collaborate with stakeholders to expedite damage assessments, crowdsource information, complete documentation for disaster declarations, and receive disaster relief funding.

The Imperative of Preparedness in a Changing Climate

In an age marked by climate challenges, the emphasis on proactive emergency management is critical. Severe blizzards and unprecedented heat waves highlight communities' multifaceted challenges. Navigating these challenges will involve harnessing technology to foster collaborative preparedness and response capabilities.

Emergency management technologies enhance communication, establish situational awareness, and empower decisive action in adversity. Charting the path forward, preparedness, adaptability, and commitment to leveraging technology to meet local and state needs will be the cornerstones of building resilient communities.



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**Let the Countdown Begin
of the Top 10 of 2023**



10. National Preparedness Efforts Among Tribal Communities

By Lynda Zambrano and Catherine L. Feinman

Shortly after the September 11 terrorist attacks in 2001, the lead author attended a Washington State Homeland Security meeting on behalf of the Tribe she was working for. Armed with the knowledge that the Tribe patrolled more than 4,417 square miles of Puget Sound, which included an international border, international shipping lanes, oil refineries, the statewide ferry system, naval bases, and more, the Tribe had great assets and intel to contribute to homeland security efforts. The primary mission was to learn more about the new U.S. Department of Homeland Security, its programs, and the new relationships that were being forged. The secondary mission was to learn more about the new grant opportunities that were being offered to help better protect the homeland. However, noticing that she was the only tribal representative and only female in the room – and that none of the allocated funding was going to the Tribes – she recognized that not including the Tribes could leave large gaping holes in the process and put the country at great risk. That experience launched an emergency management career that has been building interest in emergency management practices among tribal communities throughout the United States and Canada.

The National Tribal Emergency Management Council (NTEMC) originally began as a sub-committee of a regional homeland security council and a pilot project in 2002 and was formally established in 2008 as a 501c3 not-for-profit organization to assist the Tribes

with the development of all public health and public safety programs, to include their offices of emergency management, homeland security programs, and public health. The NTEMC announced in 2010 its mission to help build emergency management agencies and functions within Tribes across the entire country. With hundreds of years of combined experience, council members include tribal men and women who bring a wealth of background knowledge in emergency management, law enforcement, firefighting, forestry, emergency medical services, agriculture and food sovereignty, hazardous materials, utility and water resources, communications, and elected leadership. Tribal emergency managers share many similarities with their nontribal counterparts, but there also are key differences.

While adhering to the mission areas and core capabilities outlined in the [National Preparedness Goal](#), tribal emergency management tends to be more personal. Governing a Tribe can be likened to protecting a large family and extended families and all their homes and properties across a large geographic area. In addition, historically, nomadic people and cultures are now tied to specific geographic regions. Instead of their traditional movement toward food and survival resources, they are learning to adapt and overcome the challenges of modern society and influences that have altered their way of life. For example, the tribal custom of drying and storing food has transitioned to current freezing, freeze drying, and canning methods to preserve seasonal food sources throughout the year.

Annual Tribal Conference

The NTEMC Annual Conference was held in person on August 11-18, 2023, for the first time since COVID-19 restrictions were lifted in Tulalip, Washington. The Tulalip Tribe welcomed everyone (tribal and nontribal attendees) to their homeland with a prayer song, opening prayer, and full presentation of the colors by distinguished members of The United States Joint Services Command. The event brought together a mixture of rich cultures and many disciplines of emergency management.

Because tribal emergency management is a family endeavor, conference participants included husbands and wives, parents and children, and others described as “like family.” As relationships develop, they quickly move beyond typical business transactions. Tribes do not all have established emergency management agencies. Still, they naturally embody the traits of emergency preparedness and response by retelling stories passed down through generations about great disasters (e.g., Thunderbird and Whale, which is about an earthquake and tsunami) and passing down survival skills such as hunting, fishing, and gardening.

Common Concerns With Unique Challenges

Emergencies such as earthquakes, tsunamis, volcanoes, mudslides, and food insecurity are not unique to tribal communities, but there are additional considerations and challenges that tribal leaders must consider. Some issues shared by conference participants could be found within any jurisdiction – for example, identifying and addressing *all* the potential hazards, building hazard-specific programs for areas prone to that hazard (e.g., wildfire management), gaining leadership buy-in to build emergency management capabilities, and recruiting and retaining volunteers. The following concerns, though, are more specific to Tribes:

- Lack of coordination between tribal and nontribal communities;
- Losing cultural heritage and practices such as locally growing food, using traditional cooking methods, hunting, fishing, etc.;
- Lack of understanding of tribal sovereignty within multijurisdictional planning programs;
- Nontribal government agencies’ expectations that Tribes will handle their emergencies without outside assistance;
- Gaining agreement from tribal leadership within and across Tribes;
- Fear of food supply issues due to the interconnectedness of the ecosystem, climate, and species decline;

- Historical trust issues among Tribes concerning outside agencies;
- Conflicts between tribal, county, state, and federal politics;
- Misconceptions that tribal gaming equates to wealth and less need for external assistance;
- Cultural resources and properties not being included in national priorities; and
- Difficulty meeting requirements of federal relief funding when they conflict with the timeframes and resources Tribes need to apply.

Other issues include large-scale daily operations typically handled by federal agencies in international border communities. For example, the Blackfeet Reservation in Browning, Montana, which covers [1.5 million acres](#), provides a backup emergency operations center for NTEMC for future disasters that affect tribal communities in the northwestern region. Spanning about 60 miles of the Canada-U.S. border, the Blackfeet Nation is responsible for disaster and homeland security services, including air and land patrols for reconnaissance and surveillance of human trafficking, drug smuggling, terrorist threats, and other illegal activities.

The NTEMC also helps coordinate other large-scale disaster and humanitarian operations. For example, during the COVID-19 response, NTEMC joined forces with Farmer Frog (a sister non-profit and national distribution operation that specializes in farming systems and food sovereignty) to collect and distribute food, personal protective equipment (e.g., masks and gloves), and other supplies to tribal communities and the surrounding area. In the first two years of the COVID response, together, they distributed more than 200 million pounds of food, water, and supplies.

Action Items for Nontribal Agencies and Organizations

At the NTEMC Conference, leaders acknowledged that they want what is best for their Tribes, which sometimes means working with outside entities. However, some collaboration barriers still exist. Here are suggestions that tribal participants shared that could help outside entities bridge the gaps that exist between them and their tribal partners:

- Identify and build relationships before a disaster;
- Clarify the roles and responsibilities of outside agencies before a disaster;
- Establish and meet mutually beneficial expectations;

- Develop recovery plans together with tribal and nontribal governments;
- Consider coordinating with tribal communities to meet assistance thresholds when making county and state funding requests;
- Make informational resources more available, especially to remote villages;
- Include trauma-informed care into the plan for out-of-the-norm events;
- Ask the right questions before, during, and after a disaster (e.g., One Tribe answered “No” when asked if it was affected by a mudslide because the mudslide did not go into the village. However, if the Tribe were asked, “How did the mudslide affect you?” the answer would have been it disrupted the power, connectivity, transportation, and other critical resources the village depends on.);
- Understand that many tribal food sources are hunted and gathered seasonally and are not as replaceable in grocery stores as in other communities;
- Ensure that fundraising efforts match the resources needed for daily life, which may differ from nontribal community needs;
- Learn from Tribes about their resources, tribal customs and practices, spiritual needs, and leadership processes.
- Respect cultural differences such as ceremonial items, worship customs, and sacred places; and
- Avoid stereotypes and misconceptions (e.g., tribal members pay taxes, own vehicles, and do not all live in teepees).

Here are a few examples of federal agency efforts to build better tribal relations:

- Read and ensure that local tribal emergency managers are aware of the Federal Emergency Management Agency’s (FEMA) [2022-2026 National Tribal Strategy](#), which FEMA released in August 2023;
- Review the U.S. Government Accountability Office’s [Tribal and Native American Issues](#) webpage to learn more about tribal concerns;
- Learn how the Cybersecurity and Infrastructure Security Agency (CISA) and the [FirstNet Authority](#) are expanding tribal emergency communications with Tribes across the country;
- Consider building outreach programs and engaging tribal liaisons to bridge preparedness and response gaps (e.g., [U.S. Geological Survey](#) and [U.S. Bureau of Indian Affairs](#)).
- Learn about the National Advisory Council (NAC) to FEMA.
- Learn about the efforts of the [U.S. Department of Homeland Security](#) to establish the first ever Tribal Homeland Security Advisory Council (THSAC).

The NTEMC identified four main questions that tribal emergency managers must ask to reach their preparedness goals: (1) Who do we talk to? (2) What do they do? (3) How can we collaborate? (4) How can we reinvigorate our customs and traditions to better prepare the next generation? Nontribal emergency managers should ask the same questions and contact their tribal counterparts to build partnerships and collaboration. Mutual respect and understanding are the starting point for bridging the gaps in disaster preparedness, response, and recovery efforts.



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A unit dose vial of albuterol sulfate for inhalation (Source: Mark Oniffrey, CC BY-SA 4.0, via Wikimedia Commons.)

9. Perfect Storm: Albuterol Shortage & Supply Chain Upset

By Tom Cotter

As of 2020, albuterol was the [seventh most commonly prescribed](#) medication in the U.S., with more than an estimated 17 million patients receiving it and nearly 62 million prescriptions issued annually. Albuterol is a short-acting bronchodilator drug that helps treat or prevent respiratory issues by relaxing the smooth muscles in the airway to make breathing easier. Albuterol is a lifeline for many patients that helps them treat and manage chronic and acute respiratory illnesses such as asthma and chronic obstructive pulmonary disease. However, this lifeline is in short supply.

The Albuterol Solution Shortage

Right now, the solution formula of albuterol sulfate – used in nebulizers to treat acute and severe respiratory distress – is in critically short supply, with the [U.S. Food and Drug Administration listing a market-wide shortage](#). This shortage is especially dangerous for [infants, young children, and individuals with severe asthma](#) who rely on nebulizers and are unable to use other albuterol delivery methods, such as metered-dose inhalers (MDI). Two converging crises on both the supply and demand sides of healthcare delivery have pushed the industry to this moment:

- *Increased demand for albuterol* – The confluence of respiratory illnesses such as COVID-19, influenza, and respiratory syncytial virus (RSV) this past

winter led to more frequent nebulizer treatments to ease breathing and care for patients. In particular, the severe surge of these illnesses in young children strained the supply of solution because the nebulized product is easier to use and, in some cases, is the only option for treating young patients.

- *Supply chain disruptions and shuttering operations* – Increased demand due to the surge of winter respiratory illnesses put additional pressure on manufacturers and supply chains to produce enough albuterol solution to meet spiking demand. Furthering this shortage was the sudden [bankruptcy and closure of Akorn Pharmaceuticals](#), which accounted for 1.1% of the U.S. market share for generic pharmaceutical manufacturing, including generic forms of the albuterol solution.

Emergency Management Impact

This shortage is already having a considerable impact on emergency management strategy and services, while simultaneously posing considerable risks for some of the most vulnerable patients. For example, infants and young children who cannot use inhalers rely on nebulizers for respiratory care both in homecare settings and in healthcare facilities. In addition, patients of all ages with severe asthma depend on nebulizer therapy to treat major asthma attacks. Similarly, patients who experience respiratory distress as a complication of other illnesses, such as COVID-19, depend on

nebulizers to support recovery. Due to this shortage, many facilities – including children’s hospitals – are implementing conservation methods to protect the limited supply of albuterol solution for patients that need it most. Though MDI and dry powder inhaler forms of albuterol are not in shortage, many facilities now must evaluate which patients can be treated with those formulations instead of albuterol solution as part of their conservation strategies. While this strategy is necessary for conservation, it is not risk-free.

Similarly, emergency medical services (EMS) agencies that include albuterol solution in their formularies may find it difficult to source the product. This could result in changes to their processes that could impact their ability to provide emergency care.

The albuterol shortage could also impact treatment this wildfire season. Emergency managers should be aware that healthcare stakeholders in their communities – whether they are hospitals, primary care providers, or EMS – may have difficulty keeping albuterol solution in stock, which could have implications for their ability to treat patients for wildfire smoke inhalation and related breathing problems. In addition, wildfire smoke has been [associated](#) with increased prescription of albuterol inhalers, which means an intense fire season could exacerbate issues with albuterol supply.

A Call for Increased Collaboration to Fortify Supply Chain Resilience

The current albuterol solution shortage crisis stands to impact tens of millions of individuals, families, providers, and emergency management professionals. However, there are immediately actionable steps the healthcare sector can take to remedy the shortage and mitigate damage. The Children’s Hospital Association, in conjunction with STAQ Pharma, is already working to alleviate the current strain on albuterol solution. Together, these two stakeholders are looking to start the continuous production of albuterol sulfate – the active pharmaceutical ingredient in albuterol solution – domestically to ensure replenishment and continued maintenance of the U.S. supply. This

initiative is one example of what potential solutions can look like. However, broader collaboration and support between the federal government and private sector stakeholders are necessary to establish supply chain operations that safeguard public health.

Importantly, the albuterol solution shortage represents a meaningful opportunity for the federal government to leverage private-public partnerships and facilitate critical discussions around supply chain impact and mitigating solutions. For instance, the Administration for Strategic Preparedness and Response (ASPR) Office of Industrial Base Expansion could use this opportunity to consult with private sector stakeholders such as pharmaceutical manufacturers and associations to identify where to expand domestic production of these critical medical supplies to alleviate the current shortage while bolstering resilience going forward.

The albuterol shortage arose in response to several converging factors that have led to this inflection point. But it is also a warning the healthcare sector must act on collectively. If one severe winter illness season and the loss of one manufacturer can lead to a full-blown national shortage resulting in the rationing of a lifesaving drug, then the national healthcare infrastructure must find immediate and actionable ways to not only address the current deficit but identify other at-risk supplies and proactively begin resilience-building efforts now.

Stakeholders from the public and private sectors must work in lockstep to forge new partnerships, strengthen existing ones, and remove the bottlenecks preventing the implementation of solutions that enable recovery and promote resilience within the domestic supply chain. Promising partnerships, such as the Children’s Hospital Association and STAQ Pharma’s collaboration, are already taking shape. However, nationally expanding these collaborations is critical to ensure everyone can receive appropriate, often lifesaving care. The albuterol shortage began because multiple factors worked together to cause it. It will stop only when the whole community works together to end it.



Tom Cotter, MPH, serves as executive director of Healthcare Ready, a nonprofit organization established in 2007 to help strengthen the U.S. healthcare system and assist all communities in planning for, responding to, and recovering from disasters and disease pandemics. Over his 15-year career as a public health and emergency management professional, he has piloted and launched innovative international strategies to localize emergency response operations and build sustainable response functions worldwide. Most recently, he served as the director of emergency response and preparedness for Project HOPE, a renowned global health and humanitarian relief organization. Prior to that role, he developed and managed public health and emergency response programs in several countries for nonprofit organizations. He has a Master of Public Health degree from Boston University School of Public Health and a certificate from Johns Hopkins Bloomberg School of Public Health. He received his Bachelor of Arts in Public and Community Service Studies at Providence College in Rhode Island and attended the University of the Philippines as part of an international research team focused on the socioeconomic determinants of health. He has also served as an emergency response coordinator for the U.S. Department of Health & Human Services since 2013.



Unsplash/ eberhard grossgasteiger

8. Long-Term Care Facilities in Emergency Preparedness Planning

By Tanya Scherr & Daniel Scherr

An important part of community emergency preparedness planning includes long-term care facilities such as nursing homes, dialysis, home care centers, or hospice facilities. Older adults and those with disabilities have increased vulnerability during emergencies. This population may have more [limitations](#), require additional support, and may experience health emergencies sooner than others when faced with limited food, drink, rest, or access to electricity.

Concerns include the need for large-scale transportation for patients, which may require continuous care during transport, along with the ability to be moved in a nontraditional manner (i.e., patients may not be able to sit up). Complications may include: (1) the need to reach and communicate with individuals that can make decisions for any impaired patient population, (2) the need for electricity for durable medical equipment to keep patients healthy, and (3) temperature requirements for necessary medications. Based on the type of care these facilities provide, preparing for emergencies is simply not as high a priority as others they face daily.

During impending emergencies, when there is time to plan (e.g., hurricanes), each facility decides to evacuate its residents or shelter in place. Whichever action it chooses, each decision comes with unique challenges due to the complex care that most residents require.

Sheltering in place means that providers need training and skills to manage the post-event complications that can occur. Evacuation requires strong planning and community coordination to ensure the safety of the residents before, during, and after transport.

In 2016, the Centers for Medicare & Medicaid Services (CMS) published the “[Emergency Preparedness Requirements](#) for Medicare and Medicaid Participating Providers and Suppliers.” The rule impacted [17](#) different types of providers and suppliers.

However, in 2017, the U.S. Senate Committee on Finance published a [report](#) showing critical safety failures on behalf of nursing homes in Texas and Florida during and after Hurricanes Harvey and Irma. The report also notes that one county medical examiner ruled the deaths of 12 seniors in Florida as homicide, as they died due to heat-related complications when plans were not in place to accommodate the loss of their air conditioner for several days. The report additionally discusses the flooding in Texas due to Hurricane Harvey and the struggles at two nursing homes. One nursing home was evacuated only after pictures of the residents in [waist-deep water](#) circulated on social media. Another nursing home was evacuated only when someone held the director at [gunpoint](#). The director was later arrested when he refused to assist with the evacuation.

In 2020, CMS released updated [guidance](#) to the 2016 rule, which included revisions due to the recent

COVID-19 pandemic. The rule has requirements for both human-caused and natural disasters. Each provider requires four elements of emergency preparedness:

- Risk assessment and emergency planning,
- Policies and procedures,
- Communication plan, and
- Training and testing.

In 2021, CMS again released [additional guidance](#) to the 2016 rule, reducing the frequency of some emergency preparedness activity requirements and revising timelines for certain providers and suppliers. Emergency programs were decreased to a biennial review (from annually) for certain facilities, but this does not apply to long-term care facilities. While the training requirement decreased from yearly to every two years for certain providers, nursing homes are still required to keep the annual training.

In February 2022 – in response to the COVID-19 pandemic, [climate change](#), and specific instances where long-term care struggled to manage an emergency – the White House released its [reform fact sheet](#), which notes protecting seniors through strengthening emergency preparedness initiatives. Increasing emergency preparedness efforts in long-term care facilities can help minimize injury, illness, and preventable deaths.

Risk Assessment and Emergency Planning

Taken directly from its website, CMS requires that all risk assessment and emergency planning for long-term care facilities include the following [elements](#):

- Hazards likely in a geographic area;
- Care-related emergencies;
- Equipment and power failures;
- Interruption in communications, including cyberattacks;
- Loss of all or a portion of a facility;
- Loss of all or a portion of supplies; and
- The plan should be reviewed and updated at least annually.

Plans should follow the industry standard of using the all-hazards approach, including building plans to address a broad spectrum of emergency events or disasters. Consideration should be given to natural and human-caused emergencies, including hurricanes, tornadoes, earthquakes, cyberattacks, loss of essential supplies such as food and water, equipment/power failures, and loss of portions of the facility.

The National Association for Home Care & Hospice (NAHC) published an [emergency preparedness packet](#) in 2008 for home health agencies. This document provides a detailed analysis for facilities to identify areas that need to be addressed within their emergency plans. This packet has a template that facilities can use for their assessment, beginning with identifying the probability of specific emergencies such as ice, flooding, terrorist attacks, and electrical failures. For a higher-level overview, facilities can also use a [Hazard Vulnerability Analysis](#) (HVA) tool, such as the one created by Kaiser Permanente, to assess areas of risk that need to be considered in emergency planning. This tool helps each facility identify considerations, including probability, human impact, property impact, business impact, preparedness, internal response, and external response. Due to the age of the NAHC document (and the lack of an updated one on its website), it is important for facilities to think about cyberattacks and whether or not they are prepared. While not specifically noted in the packet, this scenario could be considered under vulnerability in terms of the terrorism section of the HVA.

The Federal Emergency Management Agency (FEMA) also provides a [Comprehensive Preparedness Guide](#), which reminds facilities of the need to engage the entire community in planning so that decisions reflect the actual community population. Risks should be analyzed using the question, “What could go wrong?” when building contingencies. Supplies and resources should be noted, along with any gaps that must be addressed before an emergency. The Centers for Disease Control (CDC) published a [COVID-19 preparedness checklist](#) for nursing homes and other long-term care facilities. This checklist includes several areas, including staffing contingency plans, communication protocols for interfacility transfers, and post-mortem care. CMS also published a [State Operations Manual](#) that provides emergency preparedness information for several types of providers and suppliers.

Building and Communicating a Strong Plan, Policies, and Procedures

Each facility needs to have a dedicated owner of the emergency plan. While this position is not dictated by federal law, it is a necessary step in setting up each facility for success in minimizing loss of life and property during an event. Evacuation plans should be posted on all floors in a prominent location to assist employees and residents with learning exit routes in an emergency. A minimum of quarterly communication should occur to help keep the plan’s location and the exit routes fresh in each person’s mind.

Each state website provides a wealth of resources for long-term facilities to build policies, procedures,

and plans for emergency preparedness. Facility administration should familiarize themselves with all available resources. Reviewing neighboring state websites can also provide additional resources and considerations that may not be included in current planning. State websites have guidance that is similar from state to state, such as the following:

Missouri lists specific requirements for emergency plans in [19 CSR 30-85.022\(33\)](#), giving the following structure:

- A phased response ranging from relocation within the facility to complete evacuation;
- Written instructions for evacuation of each floor, including:
 - Evacuation to areas of refuge, and
 - Floor plans showing the location of exits, fire alarm pull stations, fire extinguishers, and any areas of refuge;
- Evacuating residents from an internal area of refuge to outside the building;
- Location of additional water sources on the property;
- Procedures for the safety/comfort of residents during and after evacuation;
- Staffing;
- Staff instructions for initiating emergency services resources;
- Staff instructions for contacting alternative housing for residents;
- Responsibilities for administrative staff; and
- Understanding of who is responsible for accounting for all residents' locations.

[Colorado](#) includes additional information within their website, like Missouri but notes additional information such as:

- Accounting for food, water, supplies, and medications for staff and residents for both evacuating or sheltering in space;
- Determining alternate sources of energy to ensure continuity of necessities such as temperatures, lighting, sewage and waste disposal, and fire detection and extinguishment;
- Systems to track the physical location of staff and residents;
- Establishing a primary and secondary way of communication outside the facility; and

- Medical documentation plans that continue to secure resident information in compliance with HIPAA.

Several state websites also include resources specific to the probable events within their geographical location, such as hurricanes, tornadoes, earthquakes, and flooding. In recent years planning should also incorporate cyberattacks, as they are a [growing and persistent threat](#) to long-term facilities specifically and healthcare organizations overall. Dozens of long-term care facilities have been targeted by these attacks, with a [\\$14-million dollar ransomware](#) attack in 2019 serving as a case study. That attack impacted over 100 facilities and led to a halt in a number of critical business functions. Many long-term care facilities leave this scenario out of emergency planning due to either lack of resources and/or expertise in this area, which can result in critical loss to the facility and its residents.

Understanding the unique risks of each facility is critical for building a strong and reasonable plan. For example, if residents require communication with designated decision-makers for care, provisions should be implemented for emergencies if a decision-maker cannot be reached or it is not reasonably feasible to attempt to contact the person during the emergency event. Considerations also need to be made to address the fact that most long-term care facilities do not have a staff member specifically for cybersecurity or emergency management tasks. These duties generally fall to the administrator or their representative, placing them in a position to decide where to allocate resources: managing cases and today's patient needs or planning for future events.

Training and Testing

Training and testing must comply with both federal and state laws and need to occur annually. Long-term care facilities are included in the [National Preparedness Goal](#), which stresses whole community readiness for emergency events. The Homeland Security Exercise and Evaluation Program provides [guidance](#) for programs, including emergency preparedness exercises. They recommend establishing Training and Exercise Planning Workshops to engage elected and appointed officials in the emergency planning process to set appropriate priorities for each community.

The American Health Care Association created the [Nursing Home Incident Command System](#) (NCHICS) Guidebook, which can serve as a training and educational tool to better understand the organization and incident command process as it applies to each long-term care facility. The following criteria must be met for the exercise to be considered a formal drill:

- An overview of the scenario has been documented and communicated;
- The emergency preparedness plan has been activated;
- Evaluation has occurred for all areas/departments and participants;
- An after-action review/critique occurs; and
- Follow-up items/training/areas of improvement are identified, and documents and corrections are planned to close the gap.

Considerations for weather and time of year should occur when conducting trainings. Training should not be set during impending weather issues such as excessive heat, excessive cold, or the likelihood of storms. Long-term care facilities should engage community resources during exercises and drills to ensure smooth operations and continuity of care during an emergency.

Emergency Response to Long-Term Care Facilities

There are several things that first responders and emergency preparedness professionals can do to help the facilities within each community plan and prepare for emergencies. Suggestions include:

- Inviting and actively including facility leadership in community preparedness meetings;
- Collaborating with facilities on training and testing days;
- Offering to attend after-action reviews at the facility;
- Offering to review plans and assess areas of weakness;

- Asking for a tour of the facility to help identify areas of opportunity and to familiarize responders with the overall layout;
- Ensuring up-to-date plans are on file for each location with the local emergency management director; and
- Having local fire departments provide annual assistance to review fire and evacuation plans.

A review of all state websites produced a wealth of resources, including a checklist from [Arizona](#) that assists with surveying long-term care facilities. The document mentions that it is not comprehensive in developing the actual emergency plan but should be used more for researching long-term care facilities and ensuring they have adequate documentation to support emergency events.

When responding to long-term care facilities during emergencies, consideration should be given to the unique challenges that the facilities face. Having a dedicated person to own the emergency plan, as well as having a plan in place to assist with multiple limited mobility patients and understanding the increased need to monitor older people for temperature-related events, is necessary.

CMS's Quality, Safety, and Oversight group also publishes a [Special Focus Facility](#) list, summarizing facilities with a previous history of serious quality issues. If one of these facilities is within the local community, it is important to understand the deficiencies noted and be ready to accommodate the additional issues within that population in an emergency. It is strongly suggested that these entities are actively included in community emergency preparedness coalitions and training. Engaging high-risk populations empowers local communities to build strong emergency preparedness and response capabilities while minimizing the risk of preventable injuries, illnesses, and death.



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The Harlequin Produce farm grows a wide variety of organic crops like these corn plants in Arlee, Montana (Source: USDA NRCS Montana, June 2019).

7. Food and Agriculture Sector Perspectives

By Aurelia Berisha, Isaac Dietrich, Ben Dinsmore, Bert Cramer, & Heather Allen

The U.S. Food and Agriculture (FA) Sector is composed of complex production, processing, and delivery systems that can feed people and animals both within and beyond the boundaries of the United States. Beyond domestic food production, the FA Sector also imports many ingredients and finished products, leading to a complex web of growers, processors, suppliers, transporters, distributors, and consumers. These food and agriculture systems are almost entirely under private ownership, operate in highly competitive global markets, strive to operate in harmony with the environment, and provide economic opportunities and improved quality of life for American citizens and others worldwide. [Food, agriculture, and related industries](#) contributed more than a trillion dollars to the gross domestic product in 2021 and accounted for nearly 11% of total employment, including around 2.6 million farm jobs and nearly 20 million jobs in food- and agriculture-related industries.

If using the Department of Homeland Security’s (DHS) Infrastructure Data Taxonomy, this massive system critical to economies, public health and human culture would be described as being comprised of establishments primarily engaged in growing crops, raising animals, harvesting timber, fish, and other animals from a farm, ranch, or their natural habitats. Food establishments transform livestock and agricultural products into products for intermediate or final consumption.

What makes this sector critical to the nation, and what possible effects does it have on states and local communities?

The FA Sector underpins all aspects of U.S. society and national security interests. From large-scale commercial farms to local farm stands and farmer’s markets, the FA Sector is essential to the U.S. economy and American way of life. The United States has highly productive agricultural systems, a vigorous private agribusiness sector, extensive FA infrastructure, and supportive public policies and institutions that contribute to a dependable, affordable, safe, and diverse food supply. A strong and secure FA Sector fortifies the nation’s safety, prosperity, and well-being.

The federal government works with the private sector and state, local, tribal, and territorial (SLTT) partners to safeguard FA Sector production ability, technological advances, and global reputation for safety. All levels of government share responsibility for protecting access to food and preventing agricultural production shortfalls. During the Coronavirus COVID-19 pandemic, even minor disruptions to the supply chain and availability of certain products left a profound mark on the consciousness of the American consumer. These disruptions highlighted what many agricultural producers already knew: how important it is to build more resiliency and security into the FA Sector. The lessons learned from the early days of the pandemic have spurred partners around the country in both the public and private sectors and at all levels of government into action to further strengthen the FA Sector.

What are this sector's key assets and interconnected/interdependent systems (physical or cyber)?

The FA Sector is highly interconnected with other critical infrastructure sectors. Trends or incidents in transportation, water, distribution, energy supplies, and labor, for example, can all have an impact on the FA Sector.

FA relies heavily on the security and resilience of U.S. supply chain and transportation systems. In fact, [agriculture is the largest user of the freight transportation system in the United States](#), and the need for transportation services will only continue to increase as agricultural production, exports, incomes, trade, and world population grow. Beyond the freight system, waterways remain the United States' cleanest mode of domestic agriculture distribution – just one example of FA Sector water dependence.

Over the last few decades, the FA Sector has become increasingly reliant upon the use and development of technological and scientific advancements. Industrial farm machinery has grown beyond traditional tractor and plow practices. Large- and medium-scale farming operations now often rely on computer-assisted equipment, drones, imagery systems, and advanced irrigation systems for their day-to-day operations. More broadly, FA is also heavily influenced by research and development advancements which have been essential in the realization of stronger farm biosecurity, increased productivity, and continued competitive advantage in global markets.

Lastly, and most importantly, the FA Sector relies on the individuals who work every day to ensure that the sector is operational and productive. From family-run operations to large-scale farming to laboratory technicians developing stronger seeds, the people who are actively engaged in the FA Sector are its most important asset.

What are this sector's dependencies (physical, cyber, geographic, and logical) and interdependencies with other critical infrastructures?

FA constitutes a massive system of critical infrastructure that, by nature, is heavily reliant on the success of other critical infrastructures. Nearly every aspect of FA supports and is supported by the other 15 sectors designated by [Presidential Policy Directive-21](#). Several examples of this include:

- *Chemical* – The development of fertilizers, pesticides, soil, water additives, feed, and much more that bolster the ability of producers to maintain stronger, more resilient systems is reliant on the Chemical Sector and its intersections with FA. Additionally, FA has relied on the Chemical

Sector to ensure the continued availability of cleaning and sanitizing products used within food operations.

- *Commercial Facilities* – To obtain the food that Americans put on their tables, they usually rely on commercial facilities that hold, distribute, and sell food, water, and other agricultural products. This creates a heavy dependence on the Commercial Facilities Sector.
- *Critical Manufacturing* – Without many of the products manufactured in American facilities, the FA Sector would be unable to fulfill its demand or compete with the rest of the world. From even the smallest products like horseshoes to massive irrigation systems, FA is reliant on the ability of U.S. manufacturing to deliver daily.
- *Dams, Energy, and Water Systems* – As noted above, water is essential to the success of FA – and life, more generally. Not only does it function as a critical resource for the growth of FA products, but it also develops energy that FA facilities rely on. Waterways are used as a transportation method to move FA across the country and to ports for further international trade. Beyond water, energy is what moves the resources that produce FA. Nearly every level of the FA Sector depends on the availability of energy in the form of distilled fuel (i.e., gasoline, diesel), electricity, propane, natural gas, nuclear, and renewable fuels (including wind and solar energies).
- *Information Technology (IT)* – Like other sectors, FA has become increasingly reliant on the stability of IT systems. Satellite imagery, the global positioning system (GPS), and position, navigation, and timing technologies support programs aimed at improving agricultural and ecological practices and allowing farmers and other producers to make better use of their land and resources. Computers have become a part of the daily activities of both small- and large-scale agricultural producers, supporting the spread of best practices, as well as creating the ability to track and monitor production outcomes.

These examples are only a small part of the FA Sector's interaction and interdependence on other critical infrastructure sectors. According to USDA's National Agricultural Statistics Service ([February 2022](#)), there are [2,012,050 farms and ranches in the U.S.](#) These operations use different methodologies and practices based on location, size, and production focus. This means that farmers, ranchers, and other producers interact with U.S. critical infrastructure in diverse and wide-ranging ways. All of which are incredibly important – especially at the local level.

What are this sector's current and emerging vulnerabilities, hazards, risks, and threats?

Since the FA Sector is interconnected and primarily composed of private and non-federal entities, a broad range of international and domestic threats could exploit vulnerabilities within this critical infrastructure sector. Motivation for threat actors who may be targeting FA range across the spectrum: economic/commercial exploitation, trade advantage, science and technology intellectual property theft, and violent extremist ideologies. Some notable vulnerabilities, hazards, and risks include:

- *Transportation* – As noted, the FA Sector largely depends on the transportation industry for the storage, distribution, trade, and exportation of food and agriculture products. However, existing bottlenecks and aging transportation infrastructure are no longer sufficient to support the current operational activities within the FA Sector. Additionally, many food and agriculture products have a short shelf-life. Therefore, if shipments are disrupted or delayed, there may be significant loss in the supply chain.
- *Labor* – Labor shortages are another significant hurdle that FA Sector and FA-dependent industries must overcome, as there are not sufficient workers to handle a growing demand due to low wages, difficult working conditions, inflexible schedules, and other factors. This vulnerability was especially exposed during the COVID-19 pandemic and ongoing pandemic recovery.
- *Chemical, biological, radiological, and nuclear (CBRN) threats* – CBRN threats can be any poisonous agent, toxin, pest, pathogen, nuclear, or radioactive material used to disrupt agriculture and livestock. The FA Sector is vulnerable to CBRN attacks, as the introduction of hazardous contaminants in FA systems can have grave consequences and lasting impacts on the security and stability of the nation. The threat of CBRN continues to grow as novel advances streamline and facilitate certain scientific procedures that previously hindered malicious actors from acquiring, weaponizing, and dispersing hazardous materials. Thus, the elimination of barriers to CBRN presents a continuous and emerging threat for critical infrastructure as the reality of malicious actors introducing an agent to FA systems is becoming more salient.
- *Cyber* – Due to the growing reliance on the Internet of Things, Industrial Control Systems, cyber systems, and infrastructure within the FA Sector, cyberattacks present a rising threat to FA. Some of the most common forms of cyber risk include malware, phishing, and ransomware. The FA Sector

is not impervious to cyberattacks since most (if not all) of its industries and those it relies on are heavily dependent on technology for the production, storage, distribution, and service of food.

- *Climate Risk* – The effects of climate change present a significant threat to the U.S. agricultural production and economy, as shifts in weather patterns and elevated climate temperatures increase the frequency of natural disasters (such as severe storms, floods, hurricanes, droughts, and wildfires). The increased trends in natural disasters pose long-lasting consequences to crop and livestock production, land use, and water quality and availability. Additionally, these climate change effects have also contributed to the increased spread of pests and invasive species that harm the ecosystem, water resources, biodiversity, and agricultural and forest production.

How would a human-caused, natural, or technological disaster impact this sector's preparedness, response, and recovery efforts?

National Security Memorandum-16 ([NSM-16](#)) was issued specifically to strengthen the security and resilience of United States food and agriculture. As noted in NSM-16, any human-caused, natural, or technological disaster can have major and long-lasting consequences for the FA Sector – especially if the nation is not equipped to manage such events.

If a CBRN agent were released into agriculture products (whether deliberately or inadvertently), there would be major economic and social implications involved. The first response to a CBRN attack typically involves containment, decontamination, or depopulation within the impacted areas, which would affect the economy in three major ways. First, the implementation and execution of the response efforts require personnel and technical resources. Second, monetary aid would have to be distributed to compensate the affected stakeholders for any losses. Third, the contaminated products would not be exported, resulting in major trade loss for the nation. In addition to economic destabilization, the social implications of disasters and disaster response, like the stigma associated with the depopulation of livestock, are important impacts to consider as the range of disaster preparedness, response, and recovery is considered.

There are many processes in FA systems, so the sector uses robust access and control measures to prevent and mitigate the consequences of CBRN attacks. In addition, early warning systems are also vital to this sector as they provide situational awareness of potential threats that are circulating within a population. For example, the [Food and Emergency Response Network](#) is an integrated laboratory network that plays a central role in detecting threats and providing early warning to ensure food safety and defense.

Technological disasters are also becoming an increasing problem as the FA Sector heavily depends on IT for daily operational activities. For example, GPS technology is used for precision agriculture and for the transportation and distribution of food and agriculture products. Power outages, cyberattacks, or other technological disruptions have the potential to adversely impact the sector. The [National Institute of Standards and Technology Cyber Security Framework](#) provides standards and guidelines across the sector to ensure the detection and mitigation of cyberthreats.

Fortunately, USDA, which shares [Sector Risk Management Agency](#) duties and responsibilities with the Department of Health and Human Services for FA, also has significant experience in and resources for responding to, recovering from, and mitigating potential FA disasters and emergencies.

USDA serves as the coordinator for Emergency Support Function (ESF) #11, which provides the structure to facilitate federal support to states and federal-to-federal support during disasters and emergencies when agriculture and natural resources are impacted. This support helps feed people, ensure the safety of certain food products, address animal and agricultural health issues, and evaluate damage to natural and cultural resources and historic properties.

When it comes to hazards and risks, such as potential outbreaks of foreign animal diseases, USDA's Animal and Plant Health Inspection Service (APHIS) collaborates with stakeholders to conduct surveillance activities that provide key information on foreign and domestic animal diseases. APHIS laboratory services are carried out by the [National Veterinary Services Laboratories](#), which provide diagnostics and training services, support on-the-ground responses to animal health emergencies, participate in scientific associations, and serve as a global reference laboratory for 14 diseases.

It is also necessary to mitigate threats and not just respond once the worst happens in order to sustain the overall competitiveness of U.S. agriculture to maintain an abundant food supply for people and livestock, to support the farmers, ranchers, and workers who drive the FA Sector, and to sustain the vitality of rural communities, rural and urban agriculture infrastructure, and agricultural businesses. USDA's National Institute of Food and Agriculture supports the resilience of the FA Sector to biosecurity risks, and the many other risks already mentioned through the Food and Agriculture Defense Initiative Extension Disaster Education Network (FADI-EDEN) program.

This initiative is made up of three separate but critical networks. The first is [EDEN](#), which expands the

Cooperative Extension System's educational role with a focus on FA before, during, and after a disaster, using an "all-hazards" approach to enhance the nation's ability to manage domestic incidents.

The National Plant Diagnostic Network ([NPDN](#)) is focused on reducing the vulnerability of the United States food and agricultural system to chemical or biological attack. The network coordinates the development, implementation, and enhancement of diverse capabilities for addressing threats to the nation's agricultural economy and food supply. This network's main goal is to: produce educated and capable first responders, provide accurate, reliable, and timely diagnostics and surveillance, and supply useful, real-time data from innovative information and communication systems.

The third and final network in this program is the [National Animal Health Laboratory Network](#). Like the NPDN, the goal of the network is to provide early detection, rapid response, and appropriate recovery support from an adverse animal health event. Its activities supporting disease identification and surveillance focus on identification of high-consequence pathogens, including those that are transboundary/foreign animal diseases endemic to the U.S. as well as newly emerging diseases.

NSM-16 also assigned key roles to USDA, HHS/FDA, DHS, and other federal partners in the ongoing effort to protect the FA Sector. Together they will continue to integrate FA Sector efforts to promote the security and resilience of the nation's critical infrastructure. Together, federal partners continue to look for how research and development (R&D) of current and new capabilities meant to enhance the security and resilience of the FA Sector can be accelerated and expanded.

What else do emergency preparedness, response, and recovery professionals need to know about this sector?

This sector is not only extremely complex and heterogeneous (e.g., consider the differences between a tilapia farm, a seasonal vegetable farm, and a range-based cattle management operation), but it is also predominantly privately owned. A resilient FA Sector, therefore, largely depends on the overall involvement across private industry, SLTT governments, and other stakeholders. Integration and coordination within all levels of the FA community – not just at the federal government level – are essential to building more unified preparedness, response, and recovery efforts.

One of the single best things to do is to reach out and interact with EDEN. They not only offer a great network of extension specialists to interact with and learn from but can provide busy emergency managers with homeland security processes for disaster planning,

preparing, mitigating, responding, and recovering in a FA context. These educational resources are available on their [resource dashboard](#).

Increased interaction, communication, and information sharing across the sector are vital. They supply situational awareness during an emergency by identifying near-real-time vulnerabilities and threats that can bolster everyone’s strategic planning. More specifically, they ease and enhance technical assistance and risk management activities that reduce the overall consequences of catastrophic events.

Ultimately, not all human-caused or natural disasters are the same. The varying degrees of impact associated

with any given incident and the various FA equities it may or may not touch mean that preparedness, response, and recovery efforts will not (and should not) look the same in every disaster. There is no “one-size-fits-all” solution in FA. While that can be challenging when thinking about solutions for the sector in general, it also points to the importance of the inherent resilience that diverse and decentralized systems have. Any solution across the preparedness, response, and recovery spectrum that does not reinforce the already existing strengths of the sector is a solution that should be reconsidered.

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6. Targeted Violence in Schools: Are Future Educators Prepared?

By Danielle Arias, Jesse Spearo, and Kelley L. Davis

Schools have historically been and continue to be targets of gun violence. According to [Education Week's](#) 2023 School Shooting Tracker, 51 school shootings on K-12 properties resulted in injuries or death in 2022. As of June 15, there were 23 shootings in 2023, including a [six-year-old boy](#) who shot and injured a teacher in a Virginia Elementary School classroom. Recent high-profile school shootings, such as the 2022 Robb Elementary School in Uvalde, Texas, and the 2018 shooting at Marjory Stoneman Douglas High School in Parkland, Florida, remind educators that schools are targets. Despite personal or political opinions about gun laws or the role of educators who rightfully claim, "This is not what I signed up for," it has become their reality.

Citizens and media nationwide have criticized the law enforcement and school district responses to the Uvalde and Parkland school shootings. For instance, responders in Uvalde were [denounced for a long delay](#) in entering the classroom and engaging the shooter. The 2019 [Marjory Stoneman Douglas High School Public Safety Commission](#) report noted, "Forty-eight minutes and two seconds after the first shots were fired, law enforcement had gained control of all the halls and stairwells inside building 12." The criticisms reinforce the criticality of preparedness, training, and exercises for school employees. While teachers historically have been taught to rely on law enforcement in an active assailant response, many incidents are over before law enforcement arrives. Additionally, the varied circumstances of individual jurisdictions make

it difficult to ensure rapid law enforcement response times and necessitate a shift toward training teachers to respond before law enforcement arrives.

Educators as First Responders

Students look to their teachers for safety, guidance, comfort, and leadership. Whether by choice or not, teachers are the first line of defense for students' safety. Despite only receiving traditional educator training, academic, administrative, and support staff are now tasked with serving as first responders to events such as school shootings. Educators must be mentally and physically prepared to protect themselves and their students from harm.

As [school shootings increased](#), institutions implemented policies and technologies to secure schools and prevent intruders and violent incidents. However, technologies and procedures are only as effective as the trained personnel. Many teachers report minimal to no training on active shooter protocols. When training is provided, it is often infrequent and delayed until late into the school year, which is a significant concern on many levels.

For instance, the Government Accountability Office noted in its June 2020 [K-12 Characteristics of School Shooters Report](#) that the second-highest number of school shootings in the 2009-2010 through 2018-2019 school years occurred in September. When the statistic was narrowed to "school-targeted" shootings, September had the highest number. Since September marks the start of the school year in parts of the

country, the lack of knowledge, skills, and training for incoming teachers regarding school safety – particularly preventing and responding to an active shooter incident – is concerning. Teachers with minimal training likely need a refresher. New teachers entering the profession, and their students, are increasingly vulnerable.

A Critical Training Oversight

There is an apparent lack of formal discussion and training among preservice teachers concerning school safety. In this context, “preservice teacher” refers to a college student enrolled in a teacher education program who has not been employed as a teacher. In March of 2023, a fellow teacher at a public school in New Jersey directed student teachers – defined as students teaching in a classroom under the supervision of a certified teacher to qualify for a degree in education – to educator Danielle Arias to discuss school safety. The college students had several questions about school safety, none of which their veteran supervising teacher felt prepared to answer. They expressed fear of a safety situation occurring in their classrooms after becoming full-time educators and anxiety toward their current personal safety as students. When asked what their teacher program offered to prepare them for safety challenges as current students and future teachers, one of them replied, “They teach us nothing about this. It’s disturbing, actually; it’s like some big secret everyone is afraid to talk about. But we need to talk about it.” Those same students experienced an active shooter threat on their college campus a few days after that conversation. They later explained that many of their professors did not know what to do when they received a text message regarding a potential violent threat on campus.

The avoidance of school discussions does not seem to be a new phenomenon. Throughout 21 years of teaching, Arias observed a pattern of student teachers in the district lacking knowledge of response procedures during school safety drills. Despite their serious concerns about preparedness and response, none of the student teachers she worked with had any training in their teacher education curriculum on school safety or active shooter response. A student teacher in the Fall of 2021 said she wished her college had given her a basic idea of how to respond in a safety situation. Another current student teacher also did not know about active shooter response when he began student teaching. Although school shootings have increased throughout the years, personal observation shows that there has been little or no increase in the education and preparation of preservice teachers.

Magnitude of Deficiency

In March 2022, a preliminary study by Arias in an unpublished master’s thesis at Nova Southeastern University examined whether preservice teachers received active shooter training in their undergraduate teacher education program. The study analyzed the training’s effectiveness by determining how prepared preservice teachers felt about responding to an active shooter threat in a K-12 classroom. A request

to distribute a survey to undergraduate students in education programs who were currently enrolled or about to enter the student teaching part of their curriculum was sent to 15 accredited colleges and universities throughout New Jersey. The survey, which received responses from 63 individuals, was also sent to the superintendents of nine K-12 public school districts in New Jersey.

Most respondents (85%) had not received active shooter training in their education programs. However, several participants reported that the information they did learn regarding active shooter protocols was mentioned during their student teaching placement either by a cooperating teacher or by participating in a school drill. One student stated, “We participated in a lockdown drill during student teaching; however, this is the only training we get that is related to this topic.” Another said, “I have received no training, and my cooperating teacher has not told me any protocols regarding emergencies.” Moreover, only 38% of the respondents participated in an active shooter drill with students during their student teaching placement. The participants revealed a lack of active shooter education during this integral time in their teacher training.

A significant number of respondents (88.3%) did not feel prepared or confident in responding to an active shooter incident in a school. There was a small contingency of those who felt very confident and an even smaller number who felt completely confident. One student teacher stated, “I know what to do when asked, but I am not sure if the moment ever came, I would feel fully prepared.” Another student teacher who felt very confident stated, “I guess I don’t know what I don’t know. I feel like it’s not hard to close the lights and hide in the classroom.” Comments like these lead to questions about the actual preparedness of the student teachers who believe themselves to be completely confident.

Recommendations for Action

Given the insufficient emphasis on safety in teacher training programs, incoming teachers often experience a sense of unpreparedness and would benefit from active shooter training before the school year commences.

- School districts should include targeted violence training, protective action training such as ALICE (Alert, Lockdown, Inform, Counter, Evacuate), Run, Hide, Fight, or Department of Justice produced guidance, and school crisis response training as part of the onboarding process for new hires before the start of the academic year. This training should also cover other types of crises, such as natural, technological, and human-caused disasters. Additionally, the training should extend beyond response strategies and incorporate prevention and detection aspects, focusing on threat assessment and observation skills to identify potential threats and intervene proactively to ensure a safer learning environment.

- Schools should prioritize conducting regular and developmentally appropriate drills involving all staff and students throughout the school year to ensure preparedness and reinforce safety measures.
- College and university teacher education programs should begin a program review and consider a school safety and security course, including violent assailant prevention and protection training, as part of its curriculum. Students that participated in the study felt that adding a course or unit of study would be most helpful in preparing to respond to an active shooter event in a school. They also believe regular participation in drills and workshops would help increase confidence and preparedness.
- Colleges should integrate a dedicated unit of study within a course or offer regular training opportunities through lectures delivered by public safety professionals, workshops, and practical drills.

The benefits of colleges offering training on active shooter span beyond the scope of the classroom. Gun violence is impacting many areas of the culture, including but not limited to public schools, college campuses, workplaces, supermarkets, shopping malls, nightclubs, movie theaters, places of worship, and public gatherings. College students who receive active shooter training in their programs would be better prepared for an incident in their future classroom and other areas of their lives.

Conclusion

Active shooter events continue to threaten staff and students’ physical, psychological, and emotional well-being in public schools. The [increasing frequency](#)

[of school shootings](#) raises concerns about the preparedness of incoming teachers and current staff to handle such incidents.

The timing, consistency, and adequacy of school exercises and training for in-service teachers seem to be limited, as none of the student teachers in the study stated they had a course or unit of study on school safety or active shooter during their education programs. They report feeling ill-prepared to respond should an incident occur in their school or classroom when they become employed teachers. Implementing a more robust and consistent approach to active shooter training in teacher education programs is crucial and will yield more confident, prepared teachers entering the workforce.

Educators and public safety professionals understand that providing training at an early stage and with greater intensity increases people’s sense of preparedness. If teacher education programs made school safety and security – including active shooter response – mandatory, it would ensure that teachers are well-prepared to handle such incidents from the beginning of their careers. Preparing incoming teachers in advance would alleviate the burden on administrators to provide rushed training at the busy start of a school year. It would also enable administrators to plan more comprehensive training sessions, drills, and exercises for the staff and students as the year unfolds. It is imperative that training for preservice teachers be considered not as an option but as an essential component integrated into teacher training and education programs.



Danielle Arias, M.S., is an educator with 22 years of experience teaching in New Jersey public schools. Her passion for school safety led her to earn a master’s degree in Disaster and Emergency Management from Nova Southeastern University. Ms. Arias actively researches and enhances school safety measures and preparedness within her school district and local community.



Jesse Spearo, Ph.D., is a 20-year veteran of public safety. He has served at every level of government and responded to dozens of disasters in a command or general staff role. He currently serves as assistant director for the Department of Emergency Management for Miami-Dade County.



Kelley L. Davis, Ph.D., has been a faculty member at Nova Southeastern University since 2003 and has been a professor and director of Disaster and Emergency Management for over 12 years. Before her academic career, Dr. Davis spent five years in law enforcement. She specializes in training medical personnel in the recognition of and medical countermeasures for chemical and biological agents.



Source: A Madison Leevs Creation

5. Beyond Registries: Better Solutions for People With Disabilities

By June Isaacson Kailes

Emergency planners often identify volunteer disaster registries as a solution for assisting people with disabilities before, during, and after a disaster despite serious flaws with this approach. Perhaps this is because jurisdictions do not understand that there are better options and how to implement them. The National Council on Disability (NCD) asserted in a May 24, 2019, report that it:

[C]annot overstate how detrimental registries for people with disabilities are in disasters. Stakeholders across the spectrum of disability advocates and emergency managers still struggle to find ways to make registries a viable solution to identify, rescue and evacuate people with disabilities affected by disasters despite repeated failures of registries. Registries isolate and marginalize people with disabilities and create a false sense of expectation among people with disabilities and their family members. Like institutions, registries have been proven to be an ineffective method to ensure proper evacuation and sheltering of people with disabilities during emergencies.

People with disabilities have a right to equal access to emergency services. Registries have both impeded equal access solutions and established inadequate alternatives for using federal funds.

NCD recommends that no federal funds, including but not limited to federal funds from the U.S. Department of Homeland Security and the U.S. Department of Health and Human Services, be used in development, deployment, and maintenance of emergency “special needs” registries intended to include people with disabilities.

Registries, as used here – sometimes referred to as “special needs” registries – are sponsored primarily by a government as a disaster response and planning tool. The information typically collected includes at a minimum the individual’s name, location, contact information, and other details of people who voluntarily register and may need disaster help.

Registry Problems & Better Solutions

This article describes eight common problems with developing and using a volunteer disaster registry and suggests better solutions for each. The focus here is on disasters versus emergencies because local emergencies (e.g., house fires, downed power lines, and vehicle collisions) are generally dealt with using available response resources (see California Disaster Coalition Meeting, 2022; Kailes, 2023). Disasters cause severe disruptions to a community’s functioning that exceed its capacity to cope using available resources. These

widespread, large-scale events may cross geographic and political boundaries and require coordinated action across multiple entities and levels of government. Disasters can include natural, technological, or human-caused events, such as earthquakes, extreme weather, hurricanes, tornadoes, heat waves, tsunamis, wildfires, mudslides, floods, droughts, pandemics, power outages, chemical spills, terrorism, and cyberattacks.

While registries may work in small local emergencies, they fail during large-scale events primarily because of the mismatch between the magnitude of the needs and the availability of resources to address disaster-related needs. Voluntary disaster registries are based on seriously flawed assumptions by planners and potential registrants that involve planning (assumptions, evidence, response capacity, and data and planning tools) and modernizing communication. Sometimes, these assumptions can lead to fatal consequences.

Planning – Assumptions

Registry Problem 1 – A registry is assumed to be a straightforward, simple, and compelling approach to including and assisting people with disabilities and others with access and functional needs before, during, and after disasters. However, this commonly held belief has not been systematically tested and usually represents dis-, mis-, and [flawed information](#) (see also California Disaster Coalition Meeting, 2022). Instead, registries are based on guestimates that lack capacity specifics, including the who, what, where, when, and how. These guesses can lead to symbolic, unproven plans and overpromises. Thus, the registry model is a flawed approach to taking care of the “disability problem” and may be an attempt to appease the community and meet the superficial requirements of a planning checklist. Although a registry may have a specifically stated [purpose](#), such as evacuation transportation or life-safety [checks](#) after a disaster, registrants typically assume [implied rescue](#).



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Better Solution 1 – Engage the disability community in the development of plans that are tested, [exercised](#), revised, and sustained with a commitment to a continual improvement process. Involving these disability partners helps to address implicit disability biases, discrimination, lack of access, and accommodation. The support helps prevent civil rights violations by delivering assistance that allows individuals with disabilities to participate equally in and benefit from emergency services. Contracts, agreements, and memoranda of understanding (MOUs) with these partners can help provide needed resources such as accessible transportation, Communication Access Real-Time Translation (CART), accessible transportation, sign language interpreters, and life-safety checks.

An effective partnership tool employed for the first time during the 2007 California wildfires and subsequently during disaster responses is disability emergency briefing team calls. The group consisted of staff from disability organizations, state and county governments, and the Federal Emergency Management Agency (FEMA). The calls' focus is problem-solving regarding meeting essential unmet needs – for example, replacing left-behind, lost, or damaged consumable medical supplies and equipment such as wheelchairs, canes, walkers, shower chairs, hearing aids, etc. A similar practice started in 2018 in [North Carolina](#) during Hurricane Florence.

Registry Problem 2 – A registry is often based on the inaccurate idea that people with disabilities are sick, [homebound](#), and in need of disaster assistance.

Better Solution 2 – Recognize that rarely is anyone homebound. The Bureau of Transportation Statistics estimated that approximately [3.6 million](#) people with disabilities in the U.S. do not leave their homes. The U.S. Census estimated that, as of July 1, 2022, the country's population aged 18 and over is [260.8 million](#), of which the Centers for Disease Control and Prevention (CDC) estimate that about [27%](#) (70.4 million) are people with disabilities. This means that only about 5% of those with disabilities are homebound. Understand that most disabled people are not sick, nor do they live in institutions. Some people will need immediate help, and some will not. Some may even be disaster responders. (Note: These statistics are provided for reference based on available data. Due to different definitions, different timeframes, etc., the exact number of people in the U.S. with a disability varies between resources.)

Base plans on realistic projections that include people with disabilities and others with access and functional needs. People with disabilities are a “protected class.” This means protected from discrimination as defined

by federal civil rights laws such as the Americans with Disabilities Act (ADA) of 1990 and other federal and state civil rights protections. Beyond the CDC's estimated 27% of adults having some disability, others with access and functional needs may not meet the protected class definition but still benefit from these protections. These individuals can include people with the limited ability to walk, run, see, drive, read, hear, speak, remember, or understand. When planning integrates the known needs of people with disabilities, including physical, equipment, programmatic, and communication access, a larger segment of the population (others with access and functional needs) benefits. These two groups can [represent 50% of the population](#).

Planning – Evidence

Registry Problem 3 – Evidence has not proven that registries work. Registry failures have been repeatedly exposed in multiple reports during disasters in three states. In [Texas](#) during Winter Storm Uri in 2021, some registrants reported that the paperwork was “[cumbersome](#),” making it difficult to register. Then, after registering, those who needed help did not receive support they expected. In [California](#), issues included keeping registries current, retrieving the data, and responding when needed. In 2004, the Los Angeles County Office of Emergency Management conducted research that concluded that the costs of developing and implementing a voluntary registry [would cost nearly \\$1.4 million per year for the first three years](#). In [Florida](#), Hurricane Irma in 2017 highlighted issues with registrants being confused about what they were supposed to do with “special needs” registries. As a result, some were denied services because they self-evacuated or no longer met the registry's requirements for aid. As these examples demonstrate, registry failures lower [public confidence](#) and trust.

Better Solution 3 – [More research](#) is needed that analyzes the effectiveness of existing registries' outcomes, impacts, and results (see California Disaster Coalition Meeting, 2022). This research should consider the following factors:

- Community [partnerships](#) (see Planning – Response Capacity, Better Solution 5) response models;
- Tools individuals can use to signal for and get help (use of existing and emerging technology: apps, global positioning systems, satellite, etc.; see Modernizing Communication, Better Solution 8); and
- Community education and training that counteracts beliefs that help will come immediately (see Response Capacity, Better Solution 4).

Integrating genuine and accountable stakeholder involvement helps prevent research drifts, shifts, and sometimes a total change in the intended focus. Stakeholder involvement is “a must do, not a nice to do!”

Planning – Response Capacity

Registry Problem 4 – Emergency personnel may believe that [registry disclaimers](#) are sufficient. However, disclaimers do not mean that responders will act on or know what to do with the information, leaving registrants with a [false sense of security](#). Despite disclaimers, registrants persistently think that, “If I register, they know where I am, and they will come to help me.” However, this belief decreases and diverts attention from developing, reviewing, and strengthening personal preparedness plans (see California Disaster Coalition Meeting, 2022; Kailes, 2023).

Better Solution 4 – Help people with disabilities and others with access and functional needs to engage in specific preparation planning. This process requires ensuring a careful thought process, taking steps toward establishing preparations, and maintaining current personal support systems, helpers, and evacuation plans. Contracts with disability-led organizations that have staff with lived experience can be effective with these tasks. For example, California’s [Disability Disaster Access & Resources](#) program, through contracts with investor-owned utilities, provides resources to people with disabilities affected by power outages common to many disasters.

Registry Problem 5 – For planners, registries may divert energy from developing specific [procedures](#), assets, and response capacity needed for response and recovery.

Better Solution 5 – Use broad [community partnerships](#) and connections to build response capacity with government, businesses, community-based organizations, self-organizing groups, and Voluntary Organizations Active in Disasters (VOAD). It takes teamwork and hard work to build assets and resource capacity to operationalize, embed, and sustain viable and specific help. Partnering with community groups is more likely to result in better solutions and outcomes for disaster-impacted communities. For example, in [Puerto Rico, the Mayor’s Office for People with Disabilities coordinated a shipment of supplies and durable medical equipment in October 2017](#). However, after months of delays, the release of the shipment was still denied. It took “a strong advocacy effort led by local disability advocates and supported by Portlight and the Partnership finally succeeded in the release of these critically needed goods.” These partnerships include completing and sustaining contracts and agreements for:

- Helping people with disabilities with specific, not vague, personal emergency plans;
- Conducting life-safety checks; and, when needed,
- Providing:

- Food, medications, supplies, backup power,
- Evacuation assistance from structures,
- Transportation out of and back into affected areas,
- Personal assistant services to help an individual with bathing, dressing, eating, grooming, toileting, transferring, shopping, or communicating (personal assistants can be a family member or friend, paid or volunteer, and are sometimes called attendants or caregivers),
- [Telehealth and telemedicine](#) services, and
- Sheltering, temporary, and permanent housing.

By planning with and not for people, planners can integrate diverse perspectives. However, it will take more than one meeting. Developing, refining, and sustaining specific solutions may take months or years. Planning partners must include and represent diversity in perspectives to create equitable policies and conduct planning, programs, and response capacity that include and benefit all rather than harm the most disproportionately impacted groups and communities. Planning also must not use the lens of middle-class privilege, ageism, and ableism, which includes not assuming everyone has a stable internet connection, has money to buy emergency supplies, owns a working vehicle, and can walk, run, see, hear, speak, remember, and understand.

Planning – Data and Planning Tools

Registry Problem 6 – A voluntary list is [perishable](#) and can quickly become outdated because [registries](#) may be difficult to keep current.

Better Solution 6 – Partner with disability community organizations and vendors (independent living centers, durable medical equipment, and consumable medical supply providers, etc.) that actively support people, customers, clients, consumers, and members, because their contact information is more frequently updated (see California Disaster Coalition Meeting, 2022; Kailes, 2023).

Registry Problem 7 – Planners may assume that registries are good [planning tools](#) because of the expectation that “when you register, responders will know how many will need help, and they can plan accordingly.” This assumption is false because registries are always [incomplete](#), as they include only a small percentage of people who may need assistance. People with disabilities may not register because they do not believe registries work, have privacy reasons, are fearful of being tagged as vulnerable, have concerns regarding

5 EvacCorps helicopters deploy super-scoopers to hoist you up & safely whisk you out of harm's way.



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A close-up of a helicopter deploying its super-scoopers to grab & hoist a dangling terrified, shaking and teeth-chattering wheelchair user. Amused flying geese approach. Who could ask for better evidence of the great effective pluck-up!

© June Isaacson Kailes, Disability Policy Consultant, Artist Karin Melberg Schwier

legal status for themselves or their family members, or are afraid of losing their independence. Using a registry to define the size of the population that will need disaster assistance is a convenience sample that results in inadequate baseline numbers. This approach is dangerous and violates civil rights protections of people with disabilities who are not in the registry.

Better Solution 7 – Utilize more accurate planning data tools and ways to define needs (see California Disaster Coalition Meeting, 2022). Data sources for these tools could include:

- Program administrative data from sources such as human service agencies, social security, Veterans’ Administration, etc. (e.g., [Florida’s County Profiles for Access and Functional Needs](#) provides examples of both survey data sources and administrative data sources. A link at the bottom of the county profiles shows the data sources used) show locally relevant data for people with disabilities and other access and functional needs within jurisdictions;
- [Census Data](#);
- [Social Vulnerability Index](#); and
- [FEMA’s Resilience Analysis and Planning Tool](#).

Modernizing Communication

Registry Problem 8 – Because most people with disabilities are not homebound, [knowing where people live does not tell where people are before, during, and after a disaster](#).

Better Solution 8 – The focus must be on modernizing how people communicate when they need help and what they need versus assuming all people with disabilities need the same support and are in fixed locations (see California Disaster Coalition Meeting, 2022). When people can signal their need for help or the status of their safety, it eliminates the need for non-inclusive registries that use out-of-date lists and lead to unnecessary calls, wasted trips, and lost time for overstretched, scarce first responders and volunteers. Diverse applications and options for smartphones and wearables (like smartwatches) have applications and integrated sensors with prompts for users, such as “It looks like you have had a hard fall. Press emergency, SOS, or press I’m OK.” Use and improve the technology which:

- Allows signaling for help by a call, text, email, or button press;
- Uses precise location services and sensor technologies; and
- Uses global positioning system-enabled applications that allow users to choose contacts who can track their locations in real-time, and contacts receive an “I’m Safe” or “Need Help” message to their selected lists.

Implementing Better Solutions

The eight registry problems outlined above highlight some of the problems with using disaster registries for people with disabilities. As American journalist and scholar [H.L. Mencken](#) said, “For every complex problem, there is an answer that is clear, simple, and wrong.” Understanding the flaws in these assumptions and possibilities for better solutions and outcomes is the first step toward providing more effective support and safety for the diverse communities of people with disabilities and others with access and functional needs. Hold each other accountable for the partnerships, hard work, and problem-solving needed to create, embed, deliver, and sustain real impacts and outcomes. The time is now to make changes to help people protect their health, safety, and independence and successfully cope with and live through the increasing and inevitable disasters.

Additional Resources

California Disaster Coalition Meeting: Emergency Registries: A Misleading, Harmful & Non-Inclusive Fix:

- *Part 1 (2022, September 8)* <https://www.youtube.com/watch?v=mexNCwt1w8and>, Slides: <https://www.jik.com/2022%2009-08RegistriesSlides.pdf>
 - *Part 2 (2022 October 13)* <https://www.youtube.com/watch?v=oRyvS9TG1QQ>, Slides: https://mcusercontent.com/ee4ede4e4b843b579fff1fd86/files/6b7b1548-e1bd-a95b-c7ca-949ae83cc6c5/2022_10_13_registriesslides.pdf
- J. I. Kailes (April 10, 12, 2023) Disaster Registries for People With Access & Functional Needs: Pivoting the Model to Address Real Solutions, Colorado’s 3rd Annual Access and Functional Needs Conference – Getting it Right: A “Plan With” Approach:*
- *Pre-Conference 1 (at 17:55-minute mark)*, <https://www.youtube.com/watch?v=b412qBC3zaI&list=PLQDCae5hPt4aKzkVviKRraQIyqgo-YQRDK&index=2>.
 - *Day 2 (at 17:05-minute mark)*, <https://www.youtube.com/watch?v=OIEaGWeKtGY&list=PLQDCae5hPt4aKzkVviKRraQIyqgo-YQRDK&index=8>



June Kailes, a disability policy consultant ([jik.com](#)), has over four decades of experience as a writer, trainer, researcher, policy analyst, subject matter expert, mentor, and advocate. June focuses on building disability practice competencies and health care and emergency management capabilities. She uses actionable details, the “how, who, what, where, when, and why,” to operationalize the specificity needed to include people with disabilities and others with access and functional needs. June’s work converts laws, regulations, and guidance into tangible building blocks, tools, and procedures that close service gaps, prevent civil rights violations, and deliver inclusive, equally effective services.



4. CBRN Response Capabilities and Identified Gaps

By Kenneth Bell

Chemical, biological, radiological, and nuclear (CBRN) response has always been a challenge in identifying and quantifying a broad spectrum of organic and synthesized compounds that were once limited to laboratory analysis and research. Now, first responders have the luxury of instant field identification and classification of substances that were once a mystery. Previous field assays and test strips have been replaced by more advanced hand-held instrumentation and tools that are attached to a reach-back capacity with the power of remotely located science and research. However, one common gap remains. Comprehensive answers are still needed as to the proper decontamination of instruments and the people who use them.

When responding to CBRN calls or events, the operational layout and setup for most civilian and military entry teams are similar. Upon arrival at the scene, establish command and control, situational awareness, and personnel or robot deployment to identify and quantify the problem. Following best practices when working at or near a hazardous materials (hazmat) environment, the CBRN setup and entry process can be mustered and established in about an hour. However, what happens after that first entry is the most critical part of the response process – keeping the bad stuff contained. The entry team must understand

what to do if it finds that the containment has breached into the community.

More Than Wet and Dry Decontamination

Decontamination practices, products, and techniques have come a long way. Recent advancements in technology and science have led to the development of new methods of CBRN decontamination. These methods offer several advantages over traditional methods, including greater speed, efficiency, and safety. Some of these new methods include:

- *Electrochemical Decontamination* – This method uses electric current and a specially designed electrode to generate a reactive species that breaks down and neutralizes hazardous materials on contact. The process is highly effective in removing chemical contaminants. In addition, this method can be applied to surfaces and equipment of various shapes and sizes, making it an ideal choice for large-scale projects.
- *Photocatalytic Decontamination* – This method uses light energy and a photocatalyst such as titanium dioxide that generates reactive species to break down and neutralize hazardous materials when activated by ultraviolet light. The process is highly effective in removing chemical and biological contaminants.

This method is also more environmentally friendly, does not require harmful chemicals like bleach water, and can be applied to various surfaces, including concrete, metal, and glass.

- *Plasma Decontamination* – This method uses a plasma generator to create plasma (a highly reactive gas) that breaks down and neutralizes hazardous materials on contact. This process is highly effective in removing biological and chemical contaminants. This method is also more environmentally friendly, does not require harmful chemicals, and can be applied to various surfaces, including metal, glass, and plastic.
- *Nanotechnology-Based Decontamination* – This method uses nanoparticles that react with specific contaminants to break down and neutralize hazardous materials, which is highly effective for removing chemical and biological pollutants. Much faster than traditional chemical decontamination, this method can be applied to various surfaces, including concrete, metal, and glass.

Decontamination Teams at the Ready

There is no doubt that decontamination capabilities have advanced. So have detection and identification instruments and the abilities of hazmat entry teams, but the capacity of decontamination and deployment strategies have not kept pace. Currently, it is unknown exactly how many hazmat teams there are in the United States. What is known, is that hazmat response programs vary in size and capabilities depending on location and need. However, the National Fire Protection Association estimates that the United States has [almost 30,000](#) fire departments, and most of those have some hazmat response capability. Some of those were once heavily supported with federal homeland security grants [following the events of 2001](#). Many of those now compete for grant funding that is fractions of what was once available.

[Local hospitals](#), once funded with Public Health Emergency Preparedness dollars and outfitted with CBRN decontamination tools, now appear to be compartmentalized, trailered, or warehoused without use. As a result, hospital decontamination teams are often a notation in a Joint Commission or policy

binder in the charge nurse’s office. While there was a significant boost of funding during the COVID-19 pandemic, current detached, stagnant, and often disjointed approaches demonstrate the overarching issue. Dependence on the [Strategic National Stockpile](#), designed to fill the gap in such events, appeared to be lackluster and, in most cases, dysfunctional.

Notwithstanding funding and supply chain issues, local hospitals, fire departments, and EMS agencies are destined to fight in the same way they train. Much like the military, training is typically designed around previous experience. Unfortunately, such an approach could be harmful to the responder should they encounter a chemical or radiological event while wearing the wrong personal protective equipment.

The United States Environmental Protection Agency also has a [National Response Team](#) comprising representatives from 15 federal agencies, including the Department of Homeland Security–FEMA, the Department of Defense, and the Department of Transportation. The National Response Team is responsible for coordinating federal response efforts for hazmat incidents. Unfortunately, [access to these teams](#) at the local level has its own potential challenges.

Depending on the locale, requests for assistance can be delayed due to processing delays through the regional and state channels. Additionally, issues regarding the federalization of the event versus local control may impact the response.

The U.S. Department of Defense has its hazmat response teams, such as the Army [Technical Escort Unit](#) and the Navy’s [Mobile Environmental Team](#), specifically trained to respond to CBRN materials.

However, access to these teams is highly regulated and situational based on location and area of responsibility.

In addition to the larger federal agencies, there are currently 17 Chemical, Biological, Radiological, Nuclear, and Explosive Enhanced Response Force Package ([CERFP](#)) units in the United States, one for each of the 10 FEMA regions, as well as the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands. Each CERFP comprises National Guard personnel from the Army and Air National Guard, who are specially trained

Despite advancements in field identification and classification of substances with advanced instrumentation and tools, there is still a response gap in training and properly decontaminating instruments.

and equipped to provide immediate assistance and support to local authorities during a CBRN incident. The CERFPs are part of the more extensive [Defense Support of Civil Authorities](#) mission. They deploy to an incident site to rapidly assess the situation, provide medical treatment and decontamination, and extract and evacuate casualties to a medical treatment facility. The response time is about 24 hours from deployment to full operational status.

Unfortunately, CBRN incidents typically occur without warning, and the exposure to the public can be exacerbated with every minute. Radiation exposure, for example, can be intensified up to four times its destructive energy with every step a responder or victim takes toward the often-invisible source. Local emergency responders are the first to arrive and mitigate these often-unseen hazards, but with diminishing funding opportunities, maintaining capacity is a challenge. However, local communities can still prepare for emergencies and disasters using an all-hazards approach.

Bridging the Gap

Before a structured activation, state and federal partners have several opportunities available to meet the challenge, which include, but are not limited to, the following:

- State Emergency Management Offices can usually provide access to free hazmat/WMD training that is often available at the state and national level, including hazmat technician level training in accordance with National Fire Protection Association and ProBoard Standards.
- The [National Association of State Fire Marshals](#) offers a Hazardous Materials Training Program,

which provides training courses for emergency responders on various hazmat topics.

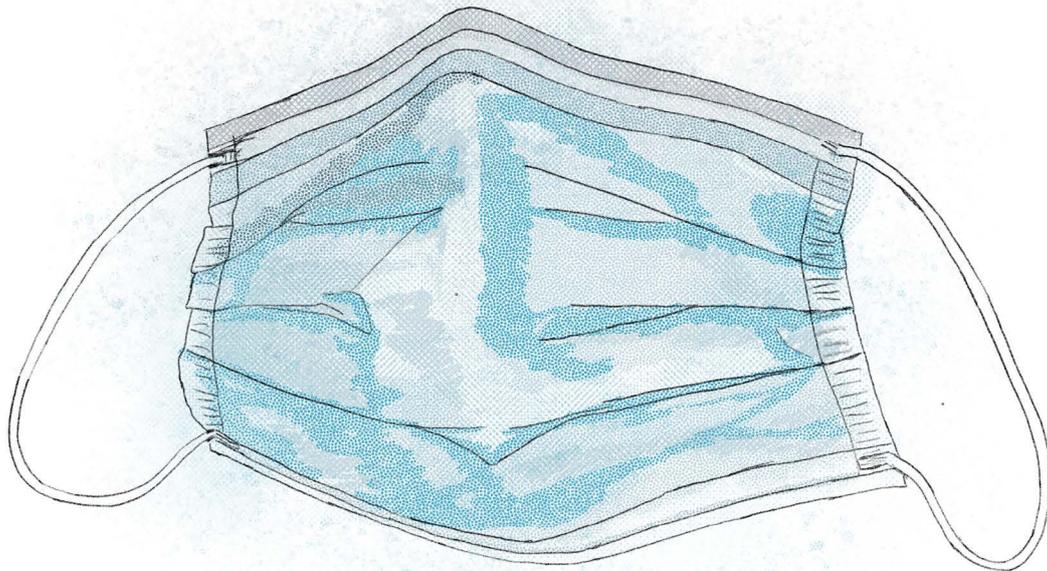
- The [National Fire Academy](#) offers free online courses on hazmat response through their online learning platform at the Emergency Management Institute.
- The [Federal Emergency Management Agency](#) (FEMA) offers various free online courses on hazmat response through their Emergency Management Institute.
- The [International Association of Fire Fighters](#) offers training programs for its members on various hazmat response topics, including hazmat technician training.
- The [International Association of Fire Chiefs](#) provides access to a wide array of international resources for responders in the transportation and industry sector.
- The [National Directorate Preparedness Consortium](#) is sponsored by the Department of Homeland Security/FEMA National Preparedness Directorate to identify, develop, test, and deliver training to state and local emergency responders.

Conclusion

Overall, while federal funding has diminished, some national programs are still available to fill gaps. Since all disasters begin and end locally, it is vital that local responders meet CBRN challenges by accessing these programs. It is through these training opportunities and experiences that techniques and technology like decontamination and instrumentation can continue to grow. While some federal assets exist to supplement local capabilities with CBRN events, program access, and interface could be delayed for effective response. It is vital that local communities examine their capabilities and capacity to prepare for the unexpected.



Kenneth Bell, CEM, serves as the Section Chief—Infrastructure and is a member of the Incident Response Task Force at the Texas Division of Emergency Management, where he oversees daily operations in preparation of disaster response and focuses on damage assessments and identification of impaired infrastructure with the goal of long-term restoration and recovery. He began his career in public safety in 1991, where he served as fire marshal/emergency management coordinator for the City of San Marcos. From 2003 to 2016, Ken oversaw the Capital Area Council of Governments CBRNE Regional Response teams as the team commander for Hays County. He has served in several organizations, including the Capital Area Council of Government Homeland Security Task Force since 2003. Ken served in several positions on the task force, including chair, vice chair, CBRNE Regional Response Teams, Long-Term Interoperable Communications Committee, Regional Emergency Support Education Teams (RESET), Executive Committee, and as a regional mutual aid coordinator. He has also served on the legislatively mandated Governors First Responder Advisory Committee, representing the local public safety responders, since its inception in 2003. In addition, he is certified in fire, emergency medical services, and law enforcement, holding international qualifications as a health and safety officer.



Source: A Madison Leeves Creation

3. Are Public Health Agencies Ready, or Just Prepared?

By Raphael M. Barishansky

Perhaps it is time to retire the term public health preparedness. [Public health emergency preparedness](#) has been defined as “the capability of the public health and health care systems, communities, and individuals, to prevent, protect against, quickly respond to, and recover from health emergencies, particularly those whose scale, timing, or unpredictability threatens to overwhelm routine capabilities. Preparedness involves a coordinated and continuous process of planning and implementation that relies on measuring performance and taking corrective action.” However, there is no currently agreed upon definition for public health readiness. As the COVID-19 pandemic emergency declaration sunsets and officials review their various public health actions, it may be time to collectively take the initiative to retire this term and replace it with public health readiness. Some background is in order before genuinely discussing the need for this paradigmatic shift.

The Preparedness Background

In the immediate aftermath of 9/11 and the anthrax attacks that followed, it became clear that the ability of the U.S. public health system to respond to a large-scale emergency was simply not in place, and the discrete discipline of public health preparedness emerged. Congress soon appropriated [nearly \\$1 billion](#) in FY2002 to the Centers for Disease Control and Prevention (CDC), which reorganized its preparedness activities to support states and territories, including creating a new national center known as the Center for Preparedness and Response. Interestingly, this center was initially

called the Coordinating Office on Terrorism Prevention and Emergency Response, then renamed as indicated previously and, only recently, again renamed as the [Office of Readiness and Response](#), reporting directly to the CDC director. Multiple grants, including the [Public Health Emergency Preparedness](#) and [Cities Readiness Initiative](#), were soon developed and funds distributed to state and local health departments. Simultaneously, the Hospital Preparedness Program was deployed to bring a similar preparedness initiative, and funding, to the healthcare sector. All these grants were geared toward a greater state of preparedness with, at the time, no true definition of the term public health preparedness.

Even without a clear definition of preparedness, state and local health departments formed public health preparedness units. They moved forward with the development of various public health-specific contingency plans, purchase of communications equipment, compliance with Incident Command Systems mandates to coordinate with other, more traditional emergency response entities, and many other initiatives, not the least of which was the recruitment of public health preparedness subject matter experts. Almost ten years later, in 2011, the CDC developed and promulgated a set of 15 emergency preparedness and response capabilities, which now serve as the national standards for public health preparedness planning. The CDC made the latest updates to these [capabilities in 2018](#).

Asking Necessary Questions

In this post-COVID-19 moment, it is necessary to reflect on whether the various preparedness grants made state

and local health entities adequately prepared for the pandemic. Consider whether the different emergency exercises and equipment purchases made state and local health entities fully prepared for the difficulty seen in the following aspects:

- Procurement of personal protective equipment,
- The media and public backlash over fluctuating guidance,
- The increasing politicization of public health, or
- Other elements that made COVID-19 so challenging to respond to.

When answering questions related to these and many more issues related to public health and the public health role in emergency preparedness and response, the industry needs a more all-encompassing term to describe the various actions health agencies take before, during, and even after an emergency. Perhaps that term is *readiness*, as in public health readiness. This term makes sense when viewing preparedness as more of a physical state that speaks to capability and capacity. In contrast, readiness is more of a mental state, specifically being able to apply preparedness when needed; it is a mindset.

Readiness takes into account all of the previous elements that the preparedness grants encompassed but also includes other areas that COVID-19 has shown to be lacking, including supply chain management, a stronger relationship with emergency management, and an organization-wide commitment to public health emergency response. The CDC is thinking along these lines as an element of the next five-year cooperative agreement cycle with state health departments. They have been developing a “Response Readiness Framework,” with ten areas through which partners can look at the current 15 capabilities to move to a better state of readiness – these areas include data modernization, health equity, workforce readiness and resiliency, and others.

Regarding the public health workforce, readiness speaks to understanding how mental health and burnout would impact public health workers who sometimes labor 12-plus hours a day, seven days a week, to make the best decisions for the public they serve. The COVID-19 pandemic saw this issue resurface repeatedly, and this

lesson should not be forgotten. Readiness also means considering the capabilities and capacity of the various volunteer community resources (such as Community Emergency Response Teams and Medical Reserve Corps units) and planning appropriately to utilize these resources to supplement health employees when and where applicable. These units were invaluable to many jurisdictions’ responses during the pandemic, and memorializing the lessons learned about their effectiveness is a critical readiness next step.

Another element of readiness, as it applies to the workforce, is ensuring that the public health workforce is adequately trained for the diversity of emergencies they may confront and that all feel comfortable in their roles. Again, look at the actions of the CDC, which recently announced that it would require all employees to be ready to deploy to combat national health crises, thus marking a drastic shift from a fragmented volunteer system that hampered its COVID-19 response. State and local health departments, which are integral partners in any large-scale public health emergency response, would also benefit from a paradigmatic shift such as this.

The Path Toward Readiness

Regarding preparedness and response roles, readiness speaks to a state where a jurisdiction or local health entity is ready for whatever emergency comes next and has the capabilities to respond appropriately. When looking at emergency planning efforts, there is a need to reconfigure existing emergency plans with the readiness factor in mind and ask the following questions:

- Do our plans speak to social distancing, such as what we experienced during COVID-19?
- As we absorb the lessons of COVID-19 and the outsized role of the media, have our efforts regarding crisis communication been sufficient?
- Is there some sort of training/exercise for public health officials to engage in when mitigating the politicization of public health seen in the recent past?

These elements of organizational readiness must, at minimum, be contemplated before moving forward.

The author would like to thank Andrew Pickett with the Pennsylvania Department of Health for his assistance with this article.



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The inaugural cadet class of the Texas Emergency Management Academy stands with Texas Emergency Management Chief Nim Kidd and Academy leadership during a graduation ceremony in the Texas Capitol Auditorium (Source: Texas Division of Emergency Management/Marcus Clark, March 24, 2023).

2. Inside the “Boot Camp” for Emergency Managers

By Michael Valiente

Monday, August 1, 2022, was a typical San Antonio, Texas, summer day, with clouds hanging low and humidity increasing as the sun rose. But nothing was ordinary to the 20 individuals who would become cadets in the first [Emergency Management Academy](#) developed by the Texas Division of Emergency Management (TDEM). Looking around, the cadets appeared apprehensive but excited that they had been selected to become the future of emergency management in the Lone Star State. TDEM Chief Nim Kidd spoke to the class and shared his expectations of The Academy. He indicated that the cadet demographics were intentionally diverse: military veterans, college graduates, recent high school graduates, and practitioners from fire, emergency medical services (EMS), and law enforcement backgrounds. The purpose was to garner different perspectives inherent to the cooperative and collaborative nature of the emergency management field.

Emergency Medical Technician – Basic

After onboarding into The Texas A&M University System, the cadets moved to a different location from its roots in the [Texas A&M–San Antonio](#) campus to

the Schertz EMS Academy in Guadalupe County. There, the cadets underwent a rigorous, condensed eight-week training (from the standard 16-week course) in emergency medical response, undergoing testing in academics and skills. Also, the practical application portion of the training was supplemented by clinical familiarity through ambulance duty on weekends, in which the cadets had to complete 40 hours of assisting ambulance crews. The final test was the [National Registry](#) exam, in which the nationally recognized EMS certification was awarded. The emergency medical response certification would enhance the cadet’s ability to augment EMS in their jurisdictions after graduating from the Academy.

Preparedness – Planning During “Blue Sky” Days

The cadets went back to the Texas A&M–San Antonio campus for the duration of The Academy. Before diving into the Preparedness training module, the cadets received a week-long series of classes on leadership development, team building, and stress management. Then, they took courses on the Foundations of Emergency Management, Science of Disasters, Emergency Planning, Homeland Security Exercise and

Evaluation Program, Threat and Hazard Identification and Risk Assessment, and Continuity of Operations. The cadets also became intimate with the federal laws governing emergency management, specifically the [Stafford Act](#) and the [Texas Government Code Chapter 418](#), the state’s statutory authority on disaster management. Additionally, the cadets were introduced to [the State of Texas Emergency Assistance Registry](#), a program administered locally for citizens with access and functional needs, and the [Emergency Tracking Network](#), where they learned to track evacuees and pets.

Hazard Mitigation Training – State and Federal Perspectives

The complexity of hazard mitigation was navigating through the idiosyncrasies of the various federal hazard mitigation programs and the processes from applying for the grant programs at the local level to the programmatic closeout between TDEM and the Federal Emergency Management Agency ([FEMA](#)). The instructors hailed from TDEM, giving the cadets the state-level perspectives, and FEMA Region 6, headquartered in Denton, Texas, providing the federal-level views. Also, the cadets observed that other state agencies, such as the [General Land Office](#) and the [Texas Water Development Board](#), were instrumental in providing additional funding assistance for hazard mitigation. The classes familiarized the cadets with the various funding assistance programs and their applications, conducting benefit-cost analyses, and grant application reviews and evaluations.

Response – “How Big Is Big? How Bad Is Bad?”

The cadets welcomed the New Year in 2023 with two weeks of the Incident Command System (ICS) for Expanding Incidents (G-300 and G-400), followed by Public Information Basics, in which TDEM’s own Media and Communications team interviewed the cadets who subsequently conducted press conferences fielding questions from the “press.” The cadets were

then introduced to various Geographic Information System platforms such as Survey 123, Individual (Assistance) State of Texas Assessment Tool ([iSTAT](#)), Public (Assistance) State of Texas Assessment Tool ([pSTAT](#)), State of Texas Assistance Request ([STAR](#)), and [WebEOC](#), the resource request tracking tool from local jurisdictions to the Texas State Operations Center (SOC). The data collected from the iSTAT and pSTAT digital surveys give an overview of the initial damage assessment for the Disaster Summary Outline ([DSO](#)). The DSO is transmitted to the SOC to assist in evaluating the extent of the damage within a jurisdiction.

“Every Day Is Recovery Day” Training

The recovery training module started with grant management for both Individual Assistance and Public Assistance programs. Emergency declarations and disaster declarations were also covered, starting with requests from the local level up to the president’s approval. Further, there was an emphasis on the importance of a debris management plan, as well as the roles of community leaders in disaster declarations, sheltering and feeding operations, engaging

The cadet demographics were intentionally diverse to garner different perspectives inherent to the cooperative and collaborative nature of emergency management.

[Volunteer Organizations Active in Disasters](#) and [Community Organizations Active in Disasters](#), establishing a [Long-Term Recovery Group](#), and choosing a fiduciary agent (a third-party entity to assist in processing monetary donations during disasters). An added feature was education in Disaster Finance, taught by a team from TDEM that manages and allocates federal and state funds to individual jurisdictions.

Off-Site Training

Although most of the training took place on the Texas A&M–San Antonio campus, the cadets had the opportunity to train off-site. The first field experience was on Sunday, November 20, 2022, attending the Texas EMS Conference in Austin, Texas, where they were introduced to the various [Emergency Medical](#)

[Task Force \(EMTF\)](#) teams throughout the state and the different types of assets, including mobile medical units. They also explored various technological advances in emergency response by talking to the vendors in the exhibit hall. A great event was experienced by all when the Emergency Operations Center (EOC) Operations and Planning class met in the Bexar County/City of San Antonio EOC to conduct scenario-based training in an actual EOC. Instructors from the Texas A&M Engineering Extension Service ([TEEX](#)) guided the cadets in operating an EOC by filling the roles in an ICS framework. The cadets also had the opportunity to tour the SOC in Austin, where they were introduced to the various emergency support functions (ESFs) and how the SOC would operate during activations. Moreover, during the recovery training phase, the cadets visited the San Antonio Food Bank to acclimate to its mission, capabilities, and valuable role in disaster resource assistance.

Job Fair – “The Academy Mixer”

To fully understand the uniqueness of each region and functional area within TDEM, and before applying for employment, cadets participated in a job fair organized by the TDEM Administration Division and the Human Resources team. To prepare for the job fair, cadets took classes on resume building, cover letter drafting, and job interview techniques.

Capstone – The Final Phase of the Emergency Management “[Boot Camp](#)”

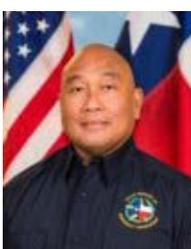
The Academy Capstone took place over three days in late March at [Disaster City](#) in College Station. Hosted

by TEEX, the multi-day exercise consisted of filling the roles of the ICS functions within the EOC. The simulation was divided into multiple operational periods wherein cadets switched roles. This “final project” enhanced the exercise’s realism and gave the cadets confidence in performing the essential tasks during disaster operations.

Reflections

The challenging yet fulfilling experience culminated at 4 p.m. on Friday, March 24, 2023, when 17 cadets walked across the stage to receive their diplomas, FEMA certificates, and badges – part of their reward for completing the 8-month “basic training” in emergency management. The keynote speaker was Governor Greg Abbott. Texas A&M University System Chancellor John Sharp, Texas Emergency Management Chief Nim Kidd, FEMA Region 6 Administrator Tony Robinson, and TDEM Academy Division Chief David Covington also delivered remarks. This academy cohort was unique for two reasons: This was a new and unique emergency management academy and this was the first cadet class to go through the training – an opportunity of a lifetime! Familiarization with the four phases of emergency management, receiving FEMA and EMS certifications, networking opportunities, and, most of all, performing the skills requirements of the emergency management field was a tremendous experience! The 17 cadets that completed the training became family, dedicated and eager to respond to assist the citizens of Texas as the next generation of emergency managers.

The author would like to especially thank TDEM Division Chief David Covington, Unit Chief Kade Long, and Unit Chief Angela Shook for their leadership and academic acumen in sustaining The Academy.



Michael Valiente currently serves as the Senior Training Officer – Preparedness Division at the Texas Division of Emergency Management. He is a retired U.S. Marine with 23 years of active-duty service. His initial emergency management experience came from participating in Operational Unified Assistance, the U.S. military humanitarian relief efforts during the December 2004 tsunami in Southeast Asia. After retiring in 2005, he taught at the University of Phoenix and Alamo Colleges in San Antonio, Texas. He has a master’s degree in international relations from Troy University and a Doctor of Emergency Management degree from Capella University.



Tulsa, Oklahoma, tornado damage (Source: Whataburger social photo, 2018).

1. Incident Management – The Whataburger Way

By Ron Derrick

A community’s level of resilience during a disaster often relies on the preparedness efforts of its private sector partners. Companies that invest in preparing for and responding to large-scale events are protecting much more than just company profits. For example, the thought and design that went into one hamburger restaurant led to a companywide culture of safety and community service.

Whataburger was born from one man’s dream in 1950 when Harmon Dobson opened a small building selling burgers for just 25 cents in Corpus Christi, Texas. His idea was for someone to hold up the burger and think, “Wow, What-A-Burger.” The name has stuck, and the company has gone from one little shack to over 950 restaurants across 14 states. The orange and white colors and the iconic “A-frame” building came from the founder’s passion. Dobson was a pilot, and he wanted to be able to see his buildings as he flew overhead. The orange and white colors come from aviation; most airports use these colors to signify obstructions and buildings. The “A-frame” shape is also iconic, and a version of it is used in all new construction along with the flying “W.” In 2001, the 77th Texas Legislature officially designated Whataburger as a “Texas Treasure.”

Whataburger restaurants grew rapidly into many southern states, and most restaurants are open 24 hours. Executive leadership knew that issues and incidents would need to be handled through an elite team with emergency management and crisis response experience and expertise. In response, the company formed the Whataburger Command Center, which initially consisted of four individuals dedicated to identifying potential threats and incidents that could impact or threaten employees, customers, restaurants, or brand reputation. After COVID-19 emerged in the U.S. in March 2020 and several company re-organizations between 2020 and 2023, the team now has one senior manager and one professional running a *high-level* Command Center at the San Antonio, Texas, home office. This team uses multiple vendors and applications to help identify, analyze, and verify incoming information.

The Command Center uses a hybrid form of the Incident Command System, and its mission is to prepare for, identify, respond to, and recover from a crisis or an unexpected event that threatens the stability, reputation, or operations of the company’s employees, buildings, franchisees, and support departments. It involves a wide range of activities and strategies

designed to mitigate the impact of the crisis and protect the interests of the company and its stakeholders. The main goal of the Command Center is to minimize damages and ensure the company's survival and quick recovery after a planned or unplanned incident.

Prepare

The Command Center's preparedness initiative is to not only ensure each restaurant and operator is prepared to respond to a myriad of emergent incidents but also to ensure its staff and the Core team are educated on incidents around the U.S. that may or may not have an impact on the entire footprint. The Core team is comprised of key stakeholders from each support department and Operations. These individuals are empowered to represent their departments, make "on-the-spot" decisions, provide knowledge from their areas of expertise, and make or influence decisions that impact Operations and brand reputation. The team is dynamic, and not all members are used for every incident. The Command Center will determine which

of the Core team members it will take to respond and recover from the incident.

The Command Center ensures that all restaurant management, field support teams, and each Core team member are prepared to deal with the myriad of incidents in the following ways:

- Operational and field teams are prepared through various platforms, including videos produced at the home office and provided to operators and field staff.
- Virtual training is offered to the regions that find it difficult and cost-prohibited to bring their entire team to one location.
- Quarterly training is available on a Teams call or provided by in-person training to restaurant teams as much as possible.
- Restaurant Operations and field support teams are kept abreast on all important information



Command Center preparedness training (Source: Whataburger, 2022).

and updates through numerous daily email and text communications concerning upcoming severe weather, heat preparedness, hurricane preparedness, personal severe weather preparedness, and other issues that could impact the business or employees.

- A mass communication program is used daily, making it much easier to send multiple messages rapidly to the same group through templates.

Identify

Most threats to company restaurants across the 14-state layout come from mother nature. Torrential spring rains and tornados, severe winter storms, active tropical seasons, and other weather phenomena keep the Command Center team busy year-round. To help identify severe weather threats, the Command Center team uses two weather vendors – one for severe weather on land and one for tropical weather during hurricane season. Extreme weather impacts one or more restaurants across its 14-state enterprise every day, so getting that information out expeditiously to restaurants and field leaders is imperative.

Receiving severe weather reports from weather vendors through texts, emails, and vendor applications, the Command Center verifies the information before sending on to restaurants and field personnel. In the case of tornado warnings, restaurants go through a specific process, closing and securing the building for at least 30 minutes or until the threat no longer impacts the facility. If the threat is winter weather, the Command Center will send this information to restaurants as soon as possible so they can begin staff planning and product needs if roads are closed. Many lessons were learned

from Winter Storm Uri in February 2021, but the most notable was to get information out early and often.

The Command Center also uses a tropical system weather vendor for threats from the Atlantic Ocean, Caribbean, and Gulf of Mexico during hurricane season. This vendor assists in identifying, analyzing, responding to, and recovering from tropical events that potentially impact coastal restaurants and employees. The tropical weather vendor provides the Command Center with daily assessments and forecasts of storms moving through the Atlantic, Caribbean, and Gulf. When it is evident a storm is going to make landfall near a Whataburger restaurant, the vendor provides the team with tropical meteorologists on all conference calls to give all engaged departments and franchisees the latest information and forecast so preparations and proper closures can take place. This information is used to make the best company and restaurant safety decisions.

Weather is not the only potential threat or activity the Command Center monitors and assesses. Other activities include power and water outages, boil water advisories, technology outages, fires, protests, demonstrations, social media, employee health, vehicle strikes, drive-thru issues, robberies, employee safety/injuries, fights, food safety, and new restaurant openings. The company is also currently opening an average of one new restaurant per week. There is an enormous amount of time taken each day identifying and assessing each of these events to see how it will impact the safety of employees and customers and potentially impact the company's brand reputation. Identifying threats across a wide area takes extraordinary threat intelligence.

The Command Center uses two threat intelligence vendors to receive clear vision and analysis of what occurs in and around restaurants, offices, learning centers, and Tier-1 suppliers. A quarter-mile circle is drawn around each of these locations. If any of these threats emerge in one of these circles, a notification is sent to the Command Center by email, text, app notification, and dashboard post. The information provided includes a brief description of the threat, the distance from the monitored location, the severity of the danger, when it occurred, and the ability to speak to an analyst to garner additional information about the incident. The team can then make decisions based on playbooks on who to engage, by what means, and how



urgent this incident is to the business. It is imperative to be able to send the right information to the right people by the right means at the right time.

Respond

Strong leadership, clear and concise communication, and the ability to adapt to rapidly changing circumstances when responding to escalated incidents is what the Command Center provides on a daily basis. This concept depends most on trust and understanding from the restaurants and field support departments. These field teams know when they receive direction from the Command Center, it is the “Voice of Truth,” and they feel comfortable following the directions.

The Command Center has 24 incident playbooks, which are step-by-step plans that outline the tasks and procedures each department will perform when responding to a specific incident. The tasks and procedures are updated annually and after each incident. Along with the playbooks is a communications matrix that outlines who the team communicates with, by what means, and how often. Response teams also use lists, checklists, and logs. Most major responses, such as hurricanes, are divided into phases, and procedures performed by each team depend on which phase of the incident.

Recover

The priority once the incident has concluded is employee and customer safety. Whataburger goes to great lengths to ensure all employees have time to recover personally. Once the Command Center team knows the staff is ready, they use the recovery process to restore restaurants and the business to normal operations and hours, address residual restaurant or field team issues and unmet needs, and ensure all employees are recovering.



The Whataburger Family Foundation addresses any employees’ needs. The quicker the restaurant can recover, the sooner the company and its resources can assist the community in recovery.

Through it all, Whataburger remains committed to investing in the communities they serve. Its marketing and public relations teams will infiltrate the impacted area to assess how the company can fill voids or feed recovery teams and first responders after a critical event and meet the community’s needs. Whataburger uses its food truck and volunteers to help communities in need by raising money for the community or feeding families in their time of need.

As the final recovery process, after all employees, customers, and communities fully recover, the Command Center will facilitate an after-action review, including lessons learned, best practices, and opportunities for improvement. These ideas and concepts are used to update all playbooks and task lists each department uses when responding to an escalated incident. This learned information is sent out again months later to ensure each team has addressed all issues.



Ron Derrick serves as the senior emergency manager at the Whataburger Command Center and oversees the daily operation of the Command Center and its staff. Ron spent over 30 years in fire and emergency medical services (EMS) and has been in emergency management since 1993. He has a bachelor’s degree in emergency management from Jacksonville State University. Ron spent more than 20 years in the Kerrville Fire Department and Fredericksburg Fire and EMS and another six years as the operations manager for South-Central Texas for Acadian Ambulance Service. After a long fire and EMS career, he spent five years as the regional director of safety and emergency management for the Baptist Health System in San Antonio and six years as a senior controller in the USAA Command Center before taking his current position at Whataburger over five years ago. Ron is a Certified Business Continuity Professional and a certified State of Texas Pyrotechnic Operator. He has been a speaker at numerous conferences, including the TEEX Leadership Development Symposium and the Texas Division of Emergency Management Conference.

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