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Volume 13, Issue 4, April 2017



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By Kenneth Comer

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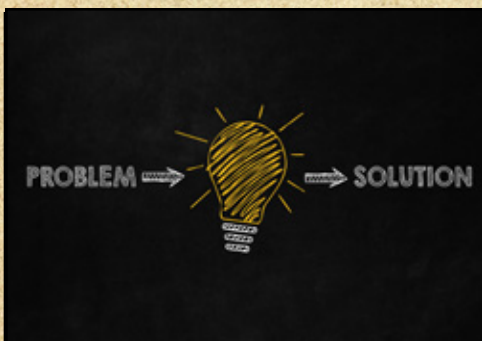
Building Community Resilience Through Health Equity
By Nicolette Louissaint

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Podcast: Protecting Children in Disasters
Moderated By Andrew Roszak

Educating Leaders on Hardening Schools
By Robert Boyd



“Emergency Management” – A Misnomer
By Chas Eby

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DomPrep Journal is electronically delivered by the IMR Group Inc., P.O. Box 810, Severna Park, MD 21146, USA; phone: 410-518-6900; email: subscriber@domprep.com; also available at www.DomPrep.com

Articles are written by professional practitioners in homeland security, domestic preparedness, and related fields. Manuscripts are original work, previously unpublished, and not simultaneously submitted to another publisher. Text is the opinion of the author; publisher holds no liability for their use or interpretation.



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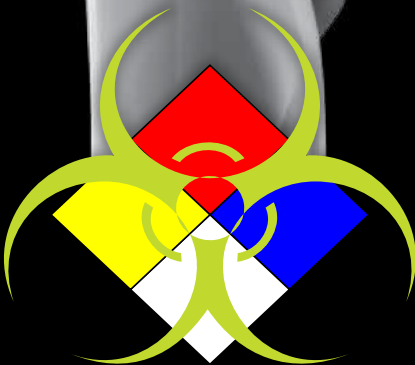
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Editorial Remarks

By Catherine L. Feinman



Each disaster is unique because of the infinite combinations that can be created with various threats, hazards, risks, and people. This edition of the *DomPrep Journal* focuses on the people factor – different types of people, different leadership/management styles, and different decisions about tools to use. Preventing a disaster is desirable when possible, so some researchers and technology designers are finding new innovative ways to help prevent or mitigate violence and homeland security threats. Although predictive analysis can be difficult within complex systems, promising techniques are being developed to help prevent and, when necessary, manage potential human-caused threats (see [Kenneth Comer's](#) article). Evaluation and biometrics technologies are other ways that communities are improving their detection and mitigation efforts to protect against high-consequence threats (see [Ernest Baumann & Delilah Barton's](#) article).

When a disaster does occur, education, training, and leadership skills influence survivability and effective management of the incident. Much can be learned across disciplines, including leadership skills instilled during military training and combat deployments (see [Kevin Lacz's](#) article). Leaders and emergency planners must be able to recognize the many factors and consequences that can occur during a disaster in order to build true community resilience. Overlooking any particular vulnerable population can have devastating consequences for the ability of a community to recover following a disaster. For example, low-income, minority, physically/mentally disabled, etc. populations (and thus their communities as a whole) are often disproportionately affected by public health threats (see [Nicolette Louissaint's](#) article). Promoting health equity before a disaster would reduce the negative impact on the community during and after the disaster.

Children certainly form a large group within the vulnerable population category and require special attention. Legislation and community action offer promising steps toward protecting these young and dependent survivors, but more is needed (see [Andrew Roszak's](#) article and [podcast](#)). More education about school vulnerabilities is recommended to show the value in hardening schools against external threats (see [Robert Boyd's](#) article). Regardless of the situation, leaders and emergency managers are tasked with solving complex problems at any stage of a disaster, even when no emergency is imminent (see [Chas Eby's](#) article). Whether instilling knowledge and skills or installing physical protective barriers and equipment, community preparedness must continue to evolve in new and innovative ways. Even effective management of yesterday's disaster may not be the best solution for tomorrow's threat, so preparedness professionals at all levels must continuously learn, train, evaluate, and educate.

Civil Unrest – Prediction & Preparedness

By Kenneth Comer

Civil unrest, regardless of cause, creates unexpected risks to lives and property. Predicting the timing and scale of these events would allow for better tactical management and a more effective training process. However, theoretical work by complex systems scientists and real-world experiences of first responders make a strong case that such forecasting may be impossible. Still, recent advances in understanding complex systems can provide profound contributions to the preparedness community.



Many researchers have come to focus on the concept that some natural world systems are complex and adaptive and that these systems share universal properties regardless of their character. Complex adaptive systems include markets, national and local economies, political movements, ecosystems, revolutions and insurgencies, crowds, and civil unrest and riots. Several institutions have evolved in the 21st century to study complexity – the prominent examples including the [Santa Fe Institute](#), the [Center for the Study of Complex Systems](#) at the University of Michigan, and the [Center for Social Complexity](#) at George Mason University. The patterns in complex systems are more than the sum of their parts. In fact, the pattern that emerges – recessions, riots, or revolutions – cannot be understood or predicted in the traditional way: breaking the systems down into individual parts.

Moreover, the adaptive character of individuals makes such systems impossible to predict. In traditional systems like a car, a factory, or a computer, past performance can be analyzed statistically to predict future behavior. Given the same inputs, the system (most of the time) produces the same output. The adaptivity in complex adaptive systems means that people learn, plan, anticipate, adjust, and react. Thus, when the same inputs, the same policies, the same interventions are applied, the system will not respond in the same way.

Expecting the Unexpected

For emergency preparedness planners, the most important implication – and one that any good police department understands – is the need to expect the unexpected, managing each situation in its own context. Emergency preparedness planners have to think more like stock traders than like airline pilots. Their “system” – a neighborhood of people with many backgrounds, cultures, and ages – is never going to be predictable. For that reason, it is probably impossible to create a “flight simulator” for a civil disturbance response situation. And, the constant adaptation means that people’s attitudes about police change daily. The same event that triggered no public response in March might create intense, destructive protests in May, and vice versa.

There are many other situations in which public planners must operate without the ability to predict. The precise timing and location of large earthquakes or winter storms (beyond a few weeks) are good examples. The precursors that exist are unreliable, producing more false alarms than accurate warnings. As in these examples, propagating a false alarm about

impending civil unrest among the public or even only in official channels can cause more harm than good. It creates “numbness” and unwillingness to act decisively in the face of a real violent incident.

Strategic Planning Teams, Information Sources & Simulations

Planners still need to plan even if traditional prediction is not appropriate for the onset of civil unrest. One of the most effective tools is the inclusion of a broad, diverse range of thinkers in the strategic planning team. University of Michigan researcher [Scott Page](#) has generated an excellent body of thought that helps guide the creation of more adaptive and effective management teams – especially in the face of complex adaptive systems. If all members of a community engagement team share the same background, the same education, the same knowledge base, it may be beneficial to draw in people who think differently and who draw from different experiences.

Another key element in managing the unknown is the need for constantly evolving sources of information. Decision-makers often get “channel-locked” into looking at particular indicators that, while appropriate for a time, become ineffective sensors of the overall situation. A police department, for example, may have a process to monitor the spread of graffiti “tags” or specific segments of social media. Months later, however, this source of community knowledge goes stale: everybody realizes these things are monitored, gangs and other threats to the community move to alternative channels. The only solution is a constant reanalysis of how the community moves information around, and an expectation that it will always change.

In complex adaptive systems, when the same inputs, the same policies, the same interventions are applied, the system will not respond in the same way.

The third component that complexity scientists have found effective is the use of simulation – sometimes called a “computational” approach because of the leverage provided by modern computer systems and object-oriented software. Crowds and communities are far too complex to simulate precisely, but much progress has been made by a “divide and conquer” approach. By [simulating simple components of human behavior](#), such as the belief in the legitimacy of government or the level of “grievance,” scientists have been able to replicate the unpredictable bursts of violence.

Using the “Wrong” Civil Unrest Model

Prominent mathematician [George Box](#) famously wrote in 1978, “All models are wrong. Some are useful.” An agent-based model of civil unrest is shown in Figure 1. It is certainly “wrong” in the sense that it fails to include the many factors that constitute a neighborhood. Streets and buildings, for example, are not depicted and do not constrain the movement of people. Such models cannot determine the precise optimum number of police patrols necessary to suppress violence. They can help, however, guide an assessment of risk. If properly validated, models and simulations can show the impact of doubling police patrols or cutting them in half. They can also suggest whether there is a point of diminishing returns, where adding or reducing police patrols makes no difference.

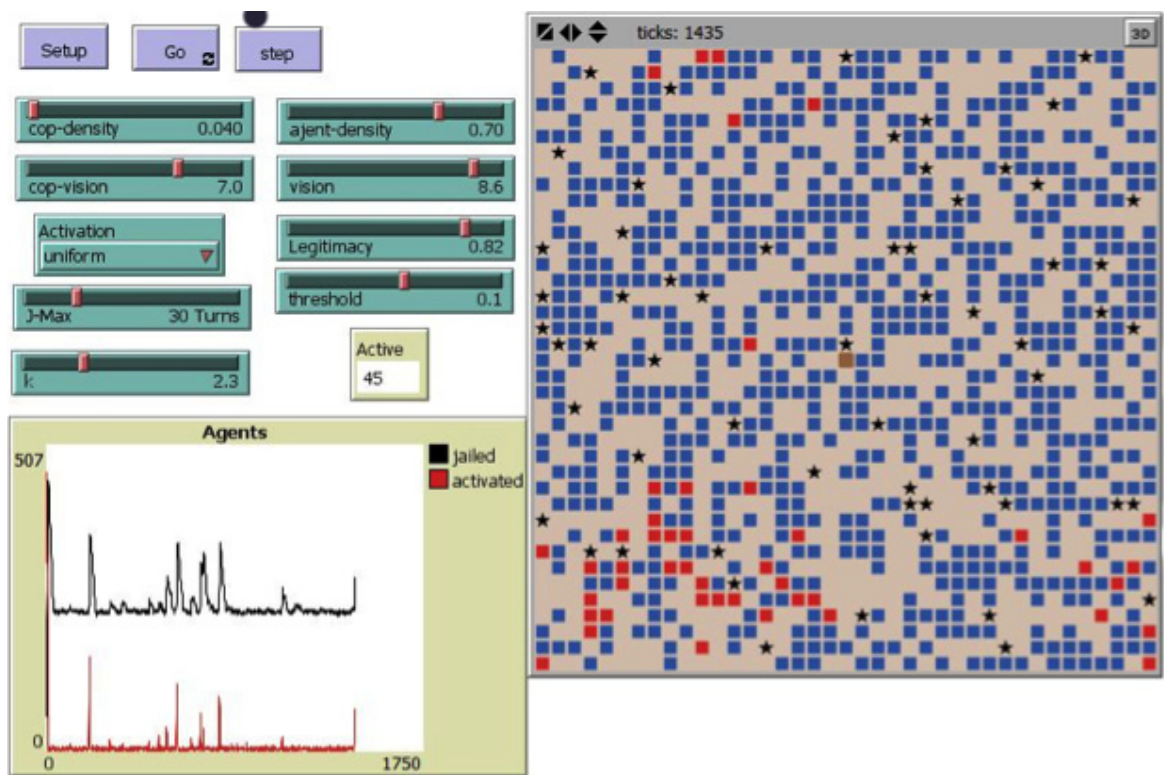


Figure 1. An agent-based model of civil unrest (rioting). Active rioters are red, passive citizens blue, “cops” are black stars. The unpredictable outbreaks appear as spikes on the red graph (Source: Author).

Complex adaptive systems, therefore, require a complex adaptive response. Diversity in thinking and experience in the strategic planning team helps to harness the power of creativity and evolving ideas. An adaptive situational awareness process is vital to avoid drawing information from obsolete or misleading sources. Just as important is the need to apply this creativity and adaptivity to the response system. Methods of community engagement are vital to managing good police-community relations, but they lose their effectiveness in time. This requires a process of constant innovation and adaptation. Such a process is intuitive and difficult to formalize, train for, and even describe and define. It is part of the “blue sense” that comes from front-line experience.

The good news is that the strategic approach on the part of first responders has evolved to encompass many of these concepts. Successful police leaders realize the simple fact that they are never “done.” There is no permanent solution – no “best practice” that will create a permanent solution. Instead, they must be constantly innovating, avoiding unproductive mindsets, and questioning assumptions. New ideas can come from a variety of sources: within the force, the community, other emergency preparedness professionals, academia, the military, or even international sources.

Future Development

These are the early days in understanding how to manage complex adaptive systems. The techniques presented here, and others, are under active development by economists, market

analysts, the insurance industry, public policy designers, traffic engineers, the military, and cybersecurity professionals – just to mention a few who recognize the unique challenges of complexity. New concepts and ideas surface all the time, and many communities learn from one another. The cross-pollination is enabled by a growing community of academic researchers, who experiment with new ways to analyze the massive data associated with these large-scale systems. In the coming years, it is highly likely that emergency preparedness planners will be able to draw from these successes and significantly improve the ability to plan for and adapt to the challenge of “black swan” events.

Kenneth W. Comer, Ph.D., is an associate professor in the Volgenau School of Engineering at George Mason University as well as a decision sciences expert with Booz Allen Hamilton. His current research centers on quantitative analysis and modeling of social systems and self-organizing social networks. In August 2012, he retired as a senior executive from the Department of Defense (DOD), where he had a number of assignments, culminating as deputy director of the Joint IED Defeat Organization (JIEDDO). His work was featured in an article in the 31 March 2011 article of Nature, entitled “Web of War.” He also served five years as a U.S. Navy nuclear submarine officer, and 22 years as an analyst at the Central Intelligence Agency. He holds a Ph.D. in systems engineering and operations research (from George Mason) and master’s degrees from The George Washington University and Georgetown University and a B.S. from Cornell.

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Leadership Lessons From a Navy SEAL

By Kevin Lacz

Valuable leadership principles learned in military operations can be effectively applied to leaders in the civilian world. However, complacency and comfort zones are often the barriers to such success. Being moved to join the military after watching the towers fall on 9/11 was a turning point that broke these barriers for this Navy SEAL.



Members of a Sea, Air, and Land (SEAL) team have to “[earn their trident everyday](#).” Hard work and determination through any circumstances are necessary, but the key is to push beyond comfort zones in order to gain a sense of humility, which in turn is the greatest weapon to have in an ever-changing and dangerous world. The same philosophy for success could be applied to civilian leaders and teams.

Being a “Teamguy”

One challenge that many teams face is the ability to disseminate information and, more importantly, have the grit (inspiration) to push the team to the next level. When leaders are underprepared to rapidly read and react to various situations, the entire team is put at risk. This is where humility comes in. When team members or leaders think they know everything, it can lead to failure. In such cases, they lack the humility needed to acknowledge and manage the unknown. Threats can come from anywhere, so situational awareness (“keeping your head on a swivel”) is critical.

Highly functional teams need to maintain an awareness of the teams’ needs and weigh priorities in order to not weaken team efforts. This may mean putting the team first, even before personal issues. [Hell Week](#) for a SEAL instills dedication and decision-making skills, and demonstrates how much members are willing to sacrifice. From that time on, SEALs make being teamguys their top priority. Team-building activities in the civilian world similarly can expose the strengths and weaknesses of team members.

Although some leadership skills can be taught, it became apparent during training that highly effective leaders tend to be born rather than made. However, leaders must understand and capitalize on everyone’s roles and capabilities, which include managing themselves before they can be expected to effectively lead others. This entails examining an organization not just on a broad base as a team, but on the individual base as well (e.g., Do team members present their workspace in a professional manner? Do they show up on time?). For example, teamguys are accountable for their own gear, which has to be secured and functional at all times because the team depends on it. Interdependencies within a team environment become apparent when one teamguy does not maintain a sufficient level of personal accountability.

True leadership in unknown circumstances involves attacking the situations and not avoiding challenges by taking the easy road. At all times, leaders must be prepared for any outcome. However, it is not about the elemental factors, but rather the team that pushes the leader to do better. This includes leaders becoming comfortable with being uncomfortable.

Regardless the circumstances, a true leader must always remember to represent the team well and to keep the team safe.

Exploring Talents

Everyone has his or her own talents they bring to the job, but the various circumstances in life are what elicit these talents. When faced with diverse challenges, true leaders use hurdles as resources to build strength and further the effort, rather than seeing them as obstacles and hindrances. They also instill these characteristics in their team members, so they can think on their feet, take control of situations, and lead others as circumstances dictate.



BUD/S (Basic Underwater Demolition/SEAL) training (Source: [Richard Schoenberg](#), 2013).

Outside of being a teamguy, SEALs are experts in multiple disciplines. For example, being a physician assistant, going back to school, becoming a professional in the field, being a motivational speaker, performing charity work, and staying active in the community is not surprising for a retired Navy SEAL. To tackle all these and other tasks, it requires facing different battlefields each day and going beyond what is already familiar. Leaders need to use all of their skill sets, even those that may not seem to transition to other scenarios. Talents must be used in creative ways to be effective in every task and every operation.

The 2nd of August 2006 was a day that demonstrated how SEAL Team THREE brought its best under the worst of circumstances. It was a hot day in Iraq when Ryan “Biggles” Job was injured with shrapnel to the face and Marc Lee was killed with a direct hit. After getting out of the fight, the team got up and went back in. Overworked by upper level leadership that demanded results, the team dealt with its first two man-down scenarios in the same day. More casualties would have been likely had it not been for middle management leadership and the dependability of each member’s training and skillsets, which had been burned into muscle memory. Despite being pushed to the point of failure, effective middle level leadership kept the team focused on its goals and responsibilities.

Leadership does not stop on the “battlefield.” To reach their full potential, leaders must be present in everything they do: in the company, in the home, and in the community. They are multifaceted, which is necessary because they do not know when they will be challenged. Of course, success is a stepping-stone rather than the end goal. Effective leaders should serve as mentors to challenge and build the next generation of leaders. The team-building process and training begins on Day 1 and never ends.

Kevin “Dauber” Lacz currently serves as a physician assistant (PA) with Regenesi LLC in Pensacola, Florida. Before his civilian life as a PA, writer, and inspirational speaker, he served with the U.S. Navy SEAL Team THREE as a sniper, breacher, and medic on two combat deployments during Operation Iraqi Freedom. He received a Bronze Star with Valor and two Navy and Marine Corps Commendation medals for his service. He was inspired to join the military following the 9/11 terrorist attacks. More about the author and his 2016 book, “The Last Punisher,” which is his personal account of the Battle of Ramadi, can be found at <http://www.kevinlacz.com>



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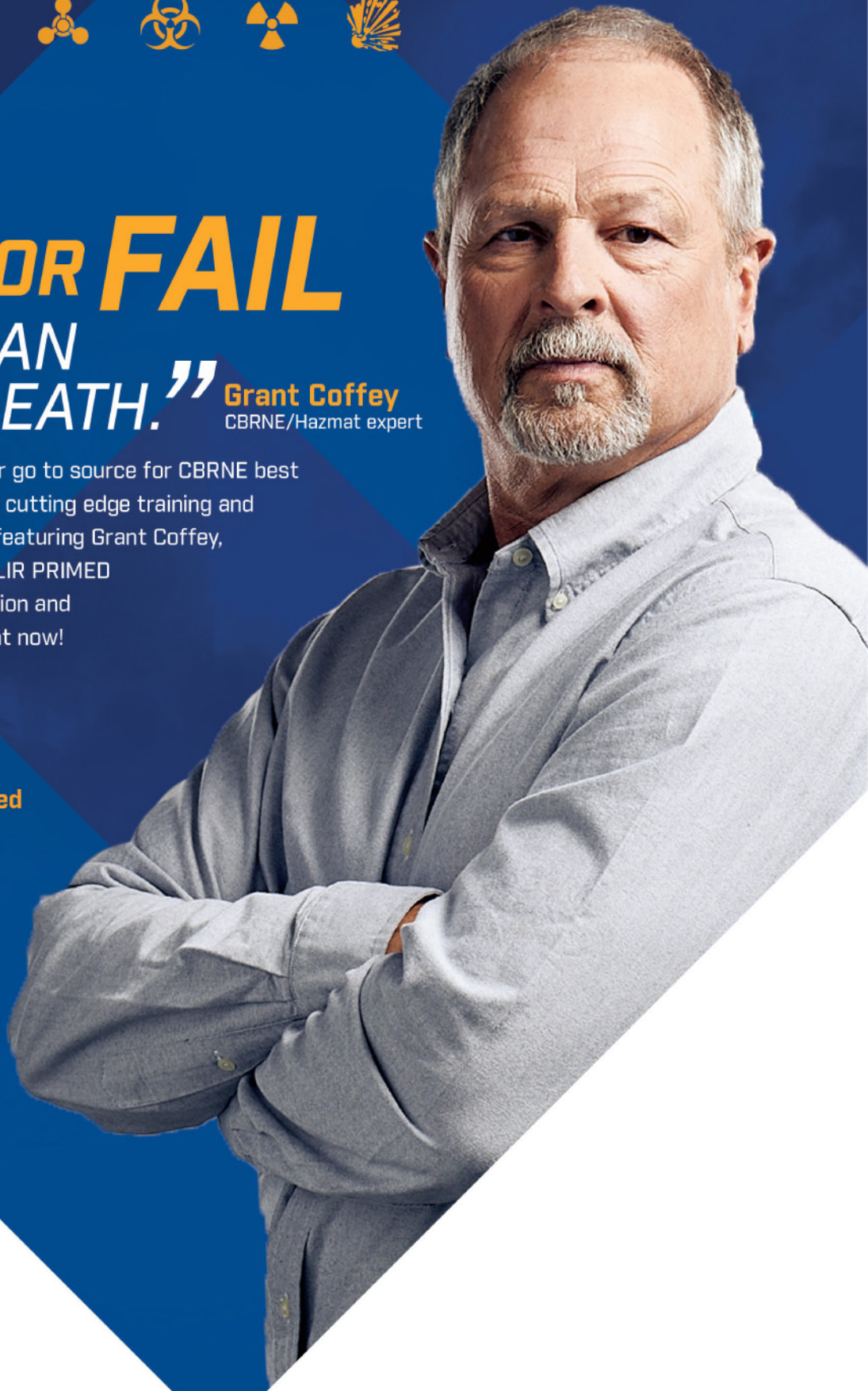
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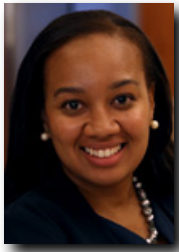
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Building Community Resilience Through Health Equity

By Nicolette Louissaint

Each person is affected by disasters in different ways. However, the reasons for these disparities stem from factors that can and should be addressed pre-disaster. The public health field is implementing measures to address at-risk communities and to help mitigate public health threats, which increase in magnitude during disasters. The equitable efforts of five cities are shared in this article.



In the past few years, the public health field has moved to account for the conditions in which people are born, grow, live, work, and age that positively or negatively influence health. These social determinants are affected significantly by unequitable systemic policies, which are then experienced disproportionately by individuals and populations. For example, low-income communities and communities of color in the United States bear a disproportionate burden of disease in part due to access to preventative healthcare.

Framework for Disaster Health Resilience

This burden can only be fully explained by examining the environment and systems that these communities (and individuals) interface with daily. The [social determinants framework](#) has broadened the focus of disease management to include societal issues that affect health outcomes including: housing, food security, education, and systemic policies. This change has pushed public health to consider the true causes of disease and to look more fully at the communities that are most burdened by them, providing a health equity lens through which to consider health disparities and healthcare.

Similarly, a health equity lens should also be applied to healthcare preparedness and response policies in communities to contend with the disparities so they are not exacerbated during disasters. The incorporation of health equity into preparedness policies would acknowledge that systemic policies result in disproportionate access to public health services and healthcare, as well as disparities in health outcomes. This acknowledgment would foster improved emergency planning that accounts for and works toward addressing inequities. This shift is critical to emergency preparedness and response because these groups are also more vulnerable to the negative impacts of emergencies, especially natural disasters.

Low-income and predominantly minority communities are typically underresourced, have an overrepresentation of vulnerabilities to disease, and include large populations of individuals [without consistent access to healthcare](#). Many of these communities are found in urban (or hyper-urban) regions, as well as the Gulf Coast and [rural areas](#) – regions prone to natural disasters and other threats. These communities are less able to cope with natural hazards due to continuous stressors and gaps in community resilience, which often result in disasters. Gaps in community preparedness and resilience are revealed during a disaster, exacerbating poor health outcomes that were already present. Disasters that disrupt public

health and healthcare operations are happening more frequently, necessitating preparedness policies and practices that account for health inequities and build resilience.

Best Practices Across the Country

Finding ways to build and bridge relationships and improve resilience at the community level will require dedication to building trust and capacity by giving “the most to the least.” Community resilience can be promoted by prioritizing resources and preparedness efforts to communities with high need and vulnerability. Several cities are beginning to integrate equity-minded practices into their community resilience planning. [Seattle-King County’s Department of Public Health](#) is one such example, with focused inclusion efforts to remove systemic barriers for a wide range of groups and ensure that the entire community is better equipped to prepare for and respond to disasters. Its team has made a concerted effort to go into communities to engage populations, especially vulnerable populations, to hear their concerns and work to resolve the challenges faced by these groups. The population segments identified by Seattle-King County as being disproportionately at risk during a disaster are people who are: blind; clients of the criminal justice system; chemically dependent; children; [deaf, deaf-blind, hard of hearing](#); developmentally disabled; [homeless](#) and shelter dependent; immigrant communities; impoverished; [limited English](#) or non-English proficient; medically dependent, medically compromised; mentally ill; physically disabled; seniors; and undocumented persons. By connecting with these groups in an equitable manner, Seattle-King County has fostered resilience by creating materials and resources specifically to assist these groups with emergency preparedness and resilience.

Other cities have taken similar measures to link their resilience work with health equity:

- [Boston, Massachusetts](#), has created a chief resilience officer position to advance racial equity as a cornerstone of its work to improve community resilience.
- [New York City](#) has a health equity expert at the deputy commissioner level also directing its health equity work to eliminate health disparities.
- [Baltimore, Maryland](#), is working through its Sustainability Commission and mayor’s office to create resilience hubs placed in communities to lead local preparedness efforts and serve as a primary conduit to emergency management and public health.
- In 2016, [Austin, Texas](#), followed and created a chief equity officer position to help the city identify and resolve disparities in programs and policies.

There is still a need for more widespread consideration of the inequities disproportionately experienced by communities in disasters. Only in doing so will these communities have true resilience during disasters.

Nicolette Louissaint, Ph.D., is the director of programming at Healthcare Ready. Most recently, she served as a foreign affairs officer at the U.S. Department of State in the Bureau of Economic and Business Affairs as the lead officer for health intellectual property and trade issues. During the height of the Ebola Epidemic of 2014, she served as the senior advisor to Ambassadors Nancy J. Powell and Steven A. Browning, the State Department’s special coordinators for Ebola. She holds degrees in Chemical Engineering and Biological Sciences from Carnegie Mellon University, as well as a Ph.D. in Pharmacology and Molecular Sciences from Johns Hopkins University School of Medicine.

Legislation Protecting Children in Disasters

By Andrew Roszak

Emergencies and disasters can have a profound impact on children. However, in 2004-2012, less than \$0.01 of every \$10 invested by [federal emergency preparedness grants](#) went to activities geared toward improving children's safety. As the federal government plays a major role in funding and directing emergency preparedness, it is encouraging to see recent legislative and policy developments designed to increase planning and preparation for children of all ages.



The reauthorization of the Child Care and Development Block Grant ([CCDBG](#)) Act in November 2014 was the single biggest piece of legislation affecting child care in recent memory. CCDBG is administered to states in formula block grants, which are used to subsidize child care for low-income working families (around 1.5 million children per month) and to support activities that improve the overall quality of child care for all children.

As a result of the CCDBG Act, the Administration for Children and Families ([ACF](#)) updated regulations for the Child Care and Development Fund ([CCDF](#)) for the first time since 1998. The new law and regulations represent a major shift in the primary federal grant program that provides child care assistance for families and funds child care quality initiatives. New requirements, including: background checks, health and safety standards, emergency preparedness planning, increased consumer education, and new quality initiatives are a small portion of the changes.

Reauthorizing CCDBG was a feat nearly 20 years in the making. As such, the CCDF must remain fully funded so these much needed improvements can be completely implemented. Child Care Aware® of America recommends Congress approve \$4.2 billion toward these efforts for next year.

While many states and providers are working to fully implement CCDBG, Congress and the Administration have been busy with other initiatives aimed at increasing preparedness efforts for children. The partnership among the State and High-Risk Urban Area Working Group Act, Homeland Security for Children Act, and the Hospital Preparedness Program and EMS for Children seeks to ensure children are included in federally funded efforts. A detailed description of these initiatives is below.

H.R. 4509 – The State and High-Risk Urban Area Working Group Act

Status: Became law on 23 December 2016

Background: Passed the House of Representatives on 13 April 2016. The bill then headed to the Senate and the Committee on Homeland Security and Governmental Affairs. The bill was ultimately incorporated into [S.2943](#) – National Defense Authorization Act for fiscal year 2017, which passed both the House and Senate and was signed into law by President Barack Obama on 23 December 2016. The law amended the [Homeland Security Act of 2002](#) to

include a new requirement for jurisdictions receiving federal funds under the state Homeland Security Grant Program ([HSGP](#)) or the Urban Areas Security Initiative ([UASI](#)).

How this helps children: The new requirements modify the membership of the planning committees. Under the new requirements, the planning committee must now include a member who represents educational institutions, including elementary schools, community colleges, and other institutions of higher education. Although there is not a specific requirement to include the child care community, jurisdictions should recognize the value of including diverse stakeholders, especially those stakeholders that represent vulnerable populations. Hopefully, including elementary schools will further open the dialogue about the need to include children in disaster planning.

For more information: [Read the entire bill](#) (the changes to the Homeland Security Act referenced above are on page 684).

H.R. 1372 – Homeland Security for Children Act

Status: Introduced in House on 6 March 2017

Background: This bipartisan bill would amend the Homeland Security Act of 2002 to better integrate children into the Department of Homeland Security's policies, programs, and initiatives. This includes work performed throughout the Department of Homeland Security, including the Federal Emergency Management Agency (FEMA).

- First, the bill modifies the responsibilities of the under secretary for strategy, policy, and plans (known as the DHS Office of Policy), to include a new charge to lead, conduct, and coordinate identification and integration of the needs of children into the Department of Homeland Security's policies, programs, and activities. It also allows for this work to be performed in coordination with relevant outside organizations and experts, as necessary.
- Second, the bill directs the administrator of FEMA to "identify and integrate the needs of children into activities to prepare for, protect against, respond to, recover from, and mitigate against the risk of natural disasters, acts of terrorism, and other manmade disasters, including catastrophic incidents." It also includes authorizing language for FEMA to appoint a technical expert, "who may consult with relevant outside organizations and experts, as necessary, to coordinate such integration, as necessary."
- Third, the bill mandates the creation of an annual report, each year for five years, that describes the efforts the Homeland Security Department has taken to identify and integrate the needs of children into policies, programs, and activities.

How this helps children: The introduction of this bill and the holistic approach it takes to ensure the needs of children are met not only at FEMA, but also within the entire Department of Homeland Security. As the federal agency charged with ensuring the safety of the homeland, the Department of Homeland Security has a wide-ranging mission. Per statute, the under secretary for strategy, policy, and plans, is the principal policy advisor to the secretary, and is appointed by the president, by and with the advice and consent of the Senate.

Expanding the under secretary's responsibilities ensures that children will be considered in all of the department's activities. As the federal entity charged with counterterrorism, border security, enforcement of immigration laws, safety and security of cyberspace, as well as response and recovery to disasters, ensuring that the needs of children are considered is of paramount importance. This bill correctly recognizes that children interface with the Department of Homeland Security in far more situations than just disasters. This is an important reminder of the ramifications that the surge of unaccompanied minors that were apprehended in 2014 and again in 2016.

For more information: [Read and track the progress](#) of this bill.

Hospital Preparedness Program and EMS for Children Program

Status: Ongoing programs

Background: The Hospital Preparedness Program is administered by the U.S. Department of Health and Human Services' Assistant Secretary for Preparedness and Response. The program provides funding to states, territories, and eligible municipalities to improve surge capacity and enhance community and hospital preparedness for public health emergencies. In recent years, this funding has been used to encourage the establishment and maintenance of health care coalitions. [Funding for the Hospital Preparedness Program has declined](#) over the past several years – the funding level for fiscal year 2016 was \$228 million, down from nearly \$500 million in fiscal year 2005.

The Emergency Medical Services (EMS) for Children Program is administered by the U.S. Department of Health and Human Services' Health Resources and Services Administration. EMS for Children was established in 1984 and provides state governments and institutions of higher learning with funding to support improvements in pediatric emergency medical care. EMS for Children was funded at [\\$20.162 million](#) in fiscal year 2016. Although the Hospital Preparedness Program and the EMS for Children Program are run out of two different agencies, there is a lot of synergy between these two programs.

As legislation and policies change, it is important to follow federal government developments designed to increase planning and preparation for children.

How this helps children: Both of these programs, on their own, perform great work and help to bolster emergency medical systems and services. The good news is that the Hospital Preparedness Program requires a joint letter of support between EMS for Children awardees and Hospital Preparedness Program awardees. Requiring this level of cooperation is a big win for children, especially in jurisdictions where the two funding streams are housed within separate entities. This coordination ensures that hospitals are better prepared for pediatric patients and that the voice of children is included in planning efforts. The health care coalitions created by the Hospital Preparedness Program are an excellent forum for examining the needs of children in everyday emergencies and in mass casualty events. Already convened and comprised of experts, these coalitions could make substantial changes within their communities to better prepare for the needs of children. To fully maximize efforts on pediatric readiness, response,

and recovery, coalitions should consider including a child care provider or child care resource and referral staff member to the coalition.

For more information: Visit the websites of the [Hospital Preparedness Program](#) and the [EMS for Children Program](#).

Undeniably, emergencies and disasters have a major impact on children and families. A systemic and deliberate approach is needed by emergency managers, first responders, and public health officials to ensure the needs of children, including infants and toddlers, are being acknowledged, planned for, and met during disasters. The federal government should ensure funding for emergency preparedness, response, and recovery efforts that benefit all citizens, including children. Even in a partisan environment, one issue bridges the gap: there is a need to protect children during emergencies and disasters.

Andrew Roszak, JD, MPA, EMT-P, serves as the senior director for emergency preparedness at Child Care Aware® of America. He is a recognized expert in emergency preparedness, public health, and environmental health. His professional service includes work as the senior preparedness director of environmental health, pandemic preparedness, and catastrophic response at the National Association of County and City Health Officials; at the MESH Coalition and the Health and Hospital Corporation of Marion County, Indiana, as the senior preparedness advisor supporting Super Bowl 46 and the Indianapolis 500; as a senior advisor for the U.S. Department of Health and Human Services; on the Budget and HELP Committees of the United States Senate; and at the Illinois Department of Public Health. Before becoming an attorney, he spent eight years as a firefighter, paramedic, and hazardous materials technician in the Chicago-land area. He has an AS in Paramedic Supervision, a BS in Fire Science Management, a Master of Public Administration, and a Juris Doctorate degree. He is admitted to the Illinois and District of Columbia Bars and is admitted to the Bar of the U.S. Supreme Court. Twitter: @AndyRoszak

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Protecting Children in Disasters

On 18 April 2017, DomPrep hosted a podcast recording with a panel of subject matter experts to discuss the topic of children in disasters. The discussion was moderated by Andrew Roszak, senior director for emergency preparedness at Child Care Aware® of America. This 40-minute discussion addressed the following key topics:

- Planning for children to help increase community resilience
- The importance of addressing the needs of younger children (0-5) that are not yet in school in emergency planning and response
- Unique approaches to involve child care providers in emergency planning
- Child care to help parents, businesses and community-wide recovery after a disaster
- Ways in which child care resource and referral agencies are poised to assist communities with preparedness, response, and recovery efforts
- Reasons for public health agencies to prioritize children and child care
- The benefits of bringing together child care providers and local emergency managers
- The value of the federal Child Care Development Block Grant as it relates to families with young children
- The importance of pending legislation that would put more of a focus on children at FEMA and at DHS
- Ways healthcare coalitions and other existing groups can be leveraged to enhance preparation for children in disasters

[Click](#) to listen.

Andrew Roszak, Moderator, *Senior Director for Emergency Preparedness, Child Care Aware® of America*

Leadell Ediger, *Executive Director, Child Care Aware® of Kansas*

Paul E. Petersen, *Director, Emergency Preparedness Program, Tennessee Department of Health*

Richard Serino, *Distinguished Visiting Fellow, National Preparedness Leadership Initiative, and Former Deputy Administrator, Federal Emergency Management Agency*

Melissa K. Spencer, *Deputy Coordinator, Story County Emergency Management*

Resources for Additional Information

[Child Care Aware® of America Preparedness Page](#)

[Child Care Aware® of Kansas Preparedness Toolkit](#)

[Preparing Child Care Programs for Emergencies: A Six Step Approach](#)

[Tennessee Department of Health, Healthcare Coalitions](#)

[Tennessee Department of Human Services, Child Care Emergency Preparedness](#)

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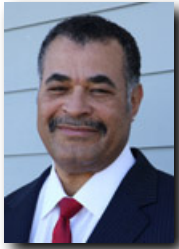
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Educating Leaders on Hardening Schools

By Robert Boyd

The recent release of the [2017 Infrastructure Report Card](#) is notable – not simply because it gave U.S. public schools a D+ grade on their overall condition, but due to its failure to address upgrades needed to the security infrastructure, security technology, and life safety systems of schools. As the new administration and Congress consider a major national infrastructure bill, it is time to invest in upgrading the security infrastructure of K-12 public schools.



Although the report card mentioned the secondary use of public school facilities as “emergency shelters during man-made or natural disasters,” it failed to address the primary use of school facilities. Every day, public schools in the United States house nearly 50 million students and 6 million adults, in 100,000 buildings, encompassing 7.5 billion gross square feet of space, on 2 million acres of public land.

Investments in Security

Per the [Education Commission on the States](#), the average school year is 180 days, or 49 percent of the calendar year. According to the [2016 State of Our Schools](#) report, state and local governments invest more in K-12 public schools (24%) than any other infrastructure sector outside of highways (32%). In fact, that report stated annual capital investment, maintenance, and operations spending from state and local governments on K-12 facilities is \$99 billion per year. On the other hand, the report card noted, “the federal government contributes little to no funding for the nation’s K-12 educational facilities.” Given the “staggering scale” of investment, spending, and use of schools by so much of the U.S. population (17%), it can be argued that the federal government should invest more in protecting children and those who care for them daily during half of the year.

Note everyone agrees – some still argue that K-12 public school facilities are the responsibility of local school districts and states. However, there is a clear role and responsibility for the federal government in contributing to the protection of schools, which has been laid out by the Department of Homeland Security. [The National Infrastructure Protection Plan](#) lists schools as a subsector of “government facilities” and calls for their planning and protection. Since 9/11, the federal government has done an admirable job of protecting high-value targets – such as federal office buildings, power plants, and dams – from attack. Now, with the rise of both global and homegrown terrorism, the domestic homeland security emphasis has shifted to soft targets.

Internal & External School Threats

The [Journal of Police and Criminal Psychology](#) noted that schools and other educational institutions represent soft targets. A soft target is a relatively unguarded site where people

congregate, normally in large numbers, thus offering the potential for mass casualties. According to Brenda Heck, deputy assistant director of the Federal Bureau of Investigation (FBI) Counterterrorism Division, “soft targets are now a priority for terrorists determined to inflict damage in the United States.... This is a world where soft targets are the name of the game” (quoted in National Defense Magazine in 2011).

Terrorism is not the only threat of violence that schools face. One study, [Violence in K-12 Schools 1974-2013](#), found almost all mass incidents of violence in elementary schools were committed by intruders and most often committed by adults. In middle and high schools, most violence came from within (students), but intruders – which can be stopped – committed 35% of violence.

The common denominator in the threat to public schools, then, is not the attacker, but the security readiness of the facility. The [Sandy Hook Advisory Commission](#) made specific recommendations for improving school facility security, and the state of New Jersey has gone as far as [mandating security improvements](#) for new and existing schools.

Taking Steps Toward Securing Facilities

With appropriate attention and funding, public schools can conduct the security steps needed to stop intruders before they have an opportunity to commit violence. In fact, most security improvements to school facilities also aid in the reduction of school-based violence and assist authorities in the identification and containment of violence when it occurs.

As schools face internal and external threats, leaders must take steps to secure these soft targets and protect the nation’s most critical asset – its children.

The first step in the process is to formally assess each school facility because each facility is different. The [Secure Schools Alliance Research and](#)

[Education](#) (the Alliance) organization has released a list of no-cost safety and security facility assessments for K-12 public schools. The Alliance partnered with the [Police Foundation](#) and [Dr. Erroll Southers of TAL Global](#) to develop [the list](#), which is based on a review of existing open-source federal and state information, so school officials can access the most comprehensive assessment tools available.

In addition to an assessment, each facility needs a security plan. No-cost planning guidelines are available through the [Partner Alliance for Safer Schools](#). Both assessments and plans should be conducted and developed by experts in critical infrastructure protection, in consultation with local law enforcement and local school leaders.

In the coming weeks, the Alliance will be releasing three briefs prepared by the Police Foundation: “Starting the Conversation About School Safety,” “Partner Roles and Responsibilities for Securing Schools,” and “Secure Schools: Part of Healthy Learning

Environment.” The briefs are intended to show that the entire community has a role in securing schools and that a secure school does not have to resemble a prison to be effective.

The Alliance has additionally launched a first-of-its-kind tool with the help of the Police Foundation and Southers: An [interactive map](#) of state-by-state security policies and resources for K-12 public schools. By selecting a state on the map, school decision makers can access a breakdown of “promising practices,” including state policies and resources related to school safety and security requirements in the following areas: security and assessment; creation and identification of roles and responsibilities for state school safety centers and related committees; school administrators and faculty; allocation of funds for improving school safety and security; and all-hazards emergency planning and preparedness.



Although the Alliance has identified state-by-state resources, local communities and state governments cannot and should not bear sole responsibility for the cost of securing school facilities. For this reason, the Alliance is working with industry and education organizations, parents, fire protection and law enforcement officials, as well as public safety experts to request that the president and congressional leaders designate matching funding to leverage and support the work states, local schools, and communities are doing to improve the security infrastructure, security technology, and life safety systems of K-12 public schools.

“Education and learning cannot happen in an environment that is unsafe. The protection of schools, as an element of our nation’s critical infrastructure, should be deemed a priority for homeland security,” said Southers, a former California deputy director of homeland security for critical infrastructure, during a personal discussion in April 2017. “It is time to have federal financial support for securing U.S. school facilities and protecting the nation’s most critical asset – its children.”

Robert Boyd was formerly an executive at several education nonprofits, including Donorschoose.org, the National Alliance for Public Charter Schools, and the Community Education Building in Delaware, where he led the \$26 million conversion of an 11-story office building into a state-of-the-art campus for charter schools. It has been heralded as the safest building in Wilmington as well as one of the safest schools in the nation. In addition to his role as chief of staff to a senior congressman, he also previously worked in the New York City Mayor’s Office and was public safety chairman for University Park, Texas. He holds degrees from Brown, Harvard, and Southern Methodist universities and can be reached at rboyd@secureschoolsalliance.org

“Emergency Management” – A Misnomer

By Chas Eby

“Emergency management” is a term broadly defining a field that includes federal, state, and local government agencies, voluntary organizations active in disasters, and private-sector stakeholders that conduct a variety of activities to prepare for, mitigate against, respond to, and recover from incidents. However, “emergency management” does not accurately describe the discipline or represent the most valuable skillset of emergency managers and their agencies: complex problem solving.



Emergency managers require the ability to perform complex problem solving and enabling other agencies to conduct their operations more efficiently and effectively. In order to increase relevancy, accurately portray their best characteristics, and move toward the future of emergency management, federal, state, and local government emergency management agencies should emphasize their problem-solving ability and focus on building up and supporting other agencies within the whole-community emergency management system while reducing risks regardless of cause.

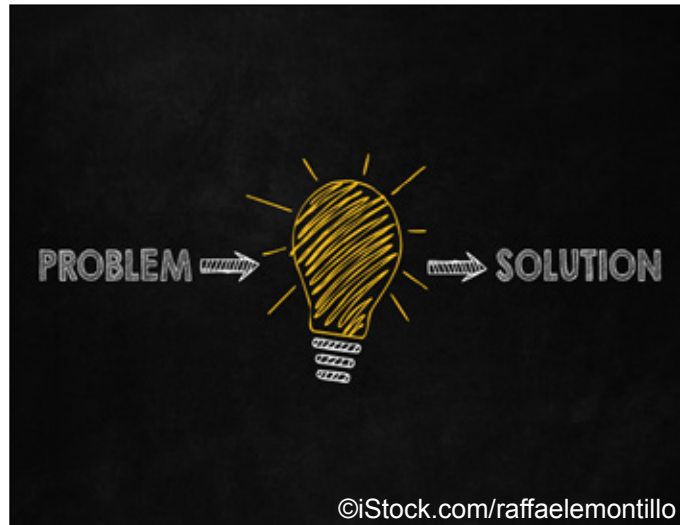
Problem Statement

Emergency managers typically are relied upon as the subject matter experts for incidents such as hurricanes, tornadoes, winter storms, wildfires, and floods. Emergency management agencies may even focus their programs and personnel on the specific hazards that affect them most often. Potential issues may arise by developing an agency’s mission around specific hazards, even ones that are common to an area. Hazard-specific planning increases emergency management agencies’ vulnerability to one-off incidents, black swan events, and disruptive threats with cascading consequences. Emergencies are not perfectly predictable. For this reason, many emergency managers have adopted an all-hazards planning approach, per guidance in the [National Response Framework](#). But perhaps an all-hazards approach is too narrow a scope for the mission of emergency management.

Proficiencies in Emergency Management

The term “emergency management” squanders the competencies of emergency managers. These professionals are uniquely capable of conducting coordinated, effective problem solving for any issue or incident that is multidisciplinary in nature. These attributes may well have been learned through experiences responding to complex emergencies such as large-scale weather or manmade disasters. In any case, broad support and connections across disciplines and the ability to conduct efficient coordination are necessary qualities for resolving or planning for complex situations. Emergency managers are uniquely qualified to lead interdisciplinary coordination for such work, which could include problems such as emerging agricultural, environmental, and public health threats and social issues that necessitate collaborative work among multiple agencies, organizations, and businesses.

Although many agencies have expertise in and a mission focused on their respective disciplines, emergency management's subject matter expertise is building the linkage between and across these disciplines. Emergency management is the discipline best suited to lead a coordinated and efficient multiagency and multisector response to the aforementioned issues. These areas would be in addition to natural, manmade, and terrorist-caused disasters, which inherently impose complex problems.



Evolving Nature of Emergency Management

This is not an argument for emergency management becoming the subject matter expert for every issue, incident, or plan. Rather, the emergency managers' subject matter expertise is the problem-solving process and coordination of multiple agencies, resources, and information from a variety of sources. Emergency management agencies should primarily focus on two areas – increasing consequence management capability and reducing risk caused by disasters.

The Federal Emergency Management Agency and state and local emergency management offices must be able to effectively manage the consequences of complex situations. These capabilities can be increased by emergency managers focusing on a variety of areas that are hazard agnostic, which include, but are not limited to:

- developing a consistent and efficient multiagency planning and operational process;
- conducting stakeholder outreach and building relationships with government agencies and nongovernmental organizations;
- honing training, exercise development, and resource management expertise and enabling other agencies' personnel to build their skills in these areas;
- advocating for new and improved emergency management and homeland security policy to elected officials; and
- strengthening local first-responder systems.

By shifting the scope from managing emergencies to performing problem solving and enabling other agencies to better perform their subject-matter-specific operations, emergency managers ensure an effective unity of effort within their jurisdictions. In some instances, emergency managers may be able to quickly set up the necessary processes through established systems, like the [National Incident Management System](#) to organize a response and the plan development process to develop multiagency strategic plans, and then extract themselves from the long-term operational component of the issue at hand.

In addition to increasing consequence management capabilities, emergency management should also focus on risk reduction, in addition to already-occurring activities such as planning, training, and exercising for incidents. Threats, vulnerabilities, and consequences of disasters are affected by a number of factors that can be influenced by government agencies. Disaster risk reduction is the effort to reduce the overall severity of disasters. Interestingly, the majority of projects conducted by government agencies that reduce risk from disasters are neither led by nor are ostensibly related to emergency management. These areas include: chronic public health and social issues; transportation, water, and energy infrastructure; climate change adaptation; and community and economic vitality.

The agencies charged with conducting projects in these areas may not consider them linked to disaster risk reduction. However, the successful completion of these projects reduces the public's risk. For example, a transportation department that installs more efficient storm drainage systems in highways could be reducing the risk of flooding. Concurrently, an environmental protection department working on climate change adaptation in a nearby area could also be reducing the same risk.

The role of emergency management agencies is to seek and prioritize projects and activities aimed at reducing overall risk from disasters and to coordinate the seemingly disparate groups working on these projects in order to create a synchronized effort. It is unlikely that the genesis of each individual project has anything to do with emergencies. However, the combined effort coordinated by an emergency management agency reduces the risk associated with a future disaster.

Of course, multiagency coordination across a broad scope of issues requires well-trained and available human resources in emergency management. Emergency management agencies need to be fully funded in order to effectively lead. It would be challenging to successfully conduct coordination with inadequate staffing. Furthermore, if other disciplines face human resources shortages or budget cuts, it will become even more necessary for emergency management to intensify coordination efforts for complex problems and cascading incidents that affect the nation, states, and communities.

More Than Just "Emergency" Management

"Emergency management" is a limiting name. Any emergency management agency that is solely focused on coordination and support activities before, during, and after disasters is missing the point – emergency managers bring more to the table. These professionals are experts in performing complex problem solving, enabling others, and conducting multiagency coordination for a multitude of issues, whether or not they are emergencies.

Chas Eby is the director of disaster risk reduction and chief strategy officer at the Maryland Emergency Management Agency (MEMA), where he oversees the directorate charged with reducing the state's risk profile with effective emergency management programs. Previously, he was the external outreach branch manager, where he developed strategy and oversaw programs that included disaster recovery, public information and outreach, digital engagement, individual assistance, and community and private sector preparedness. Prior to joining MEMA, he was the chief planner for emergency preparedness at the Maryland Department of Health & Mental Hygiene (DHMH). He received a Master of Arts degree in Security Studies from the Naval Postgraduate School. He previously graduated from Boston College. He has completed the National Emergency Management Executive Academy and is an adjunct professor teaching both bioterrorism and public health preparedness and homeland security planning and policy at Towson University. Follow him on Twitter @chas_eby.

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Biometrics & Continuous Evaluation: A New Approach

By Ernest Baumann & Delilah Barton

Increased focus on insider threats has resulted in greater attention to background screening and automated methods to assist the vetting process for initial and continued access to secure facilities and classified information. Recent technology applications can provide investigators with an ever-increasing variety of data for screening and continued vetting. Applying this model to homeland security and emergency management, however, presents broader cultural issues, including information privacy and interoperability.



Background screening refers to the process of checking for the presence or absence of specific information that would affect the candidate's eligibility for the position. Vetting refers to the overall evaluation of the candidate's behavior and temperament for initial and continued suitability for the position. Combining biometric-based and non-biometric searches into background screening processes has enabled one successful program to use the approach known as continuous evaluation (CE). The result is a significant reduction in cost and investigator effort, and more rapid notification of behavioral events that could jeopardize personnel or protected assets.

However rigorous an initial background screening check and vetting process may be for a new employee or contractor, the vast majority of screenings represent only a snapshot of the person's past behavior at the moment the information is requested. Traditionally, public agencies and private employers have dealt with the inherent risks of this snapshot view by mandating a periodic reinvestigation. However, the screening information used for the vetting and evaluation process remains a snapshot. The limits of traditional background screening approaches can be dramatic and tragic. Attitudes and behaviors sometimes change either purposefully or due to factors outside people's control, such as: radicalization; employee disillusionment; mental and emotional instability; substance abuse; financial stress; or purposeful infiltration. Therefore, the current background check system does not work because it introduces risk into the system through unmonitored periods of time.

During the timeframe between investigations a person can have documented contact with authorities that are not transmitted until the next snapshot reinvestigation. The [Navy Yard shooting](#) in September 2013 is an example where the subject had several potentially disqualifying encounters in the interval between the most recent snapshot screening and the date of the incident.

One solution is to shorten the interval between snapshots. However, this approach increases costs substantially and may not be practical because of the increased resource requirements placed on personnel who conduct the investigations. The current clearance program does not uniformly meet the current reinvestigation timeframe targets, much less, shorter ones. An alternative to the snapshot approach – known as continuous evaluation (CE) – is technologically available and has been discussed for several years in the Department

of Defense, U.S. Office of Personnel Management, and intelligence environments. The CE approach allows for ongoing reviews of cleared people so their continued eligibility can be more easily monitored without the need for periodic reinvestigations.

Importance of Biometric Identification for CE

The most efficient and reliable method of providing positive identity and for updating law enforcement information to the screening authority is based on biometric identity and the use of rap back technology. “Rap back” is a technology offered under the Federal Bureau of Investigation’s (FBI) [Next Generation Identification \(NGI\) Rap Back Service](#) that notifies authorized agencies and organizations when a person who holds a position of trust and has fingerprints on file within NGI is arrested or has criminal activity against those fingerprints. The technology and procedures are fully operational at both state and federal Criminal Justice Information Service (CJIS) authorities. Some of the benefits for both an initial and continuing evaluation include:

- Eliminating multiple identity matches (false positives) and missed matches (false negatives) compared to character-based searches;
- Returning criminal history record information under current, new, and former names and aliases;
- Uncovering identity theft and/or erroneous records; and
- Adjudicating rap back notifications, as with initial criminal history records, to determine if the event affects the individual’s suitability for the specific position held.

Another technology critical to CE is data matching, which involves comparing and matching identification fields in different sources of data to build a more complete profile of a person. Basic individual data matching uses name, date of birth, social security number, and possibly other data from a primary source to determine if a record in the primary database is listed in a secondary database. For CE, this matching is highly automated and is triggered by certain changes in either the primary or secondary database.

The accuracy and completeness of both data sources and tightness of matching criteria affect the quantity and quality of data-matching results. Adding identity data from a fingerprint-based request significantly improves subsequent data matching. Ultimately, having data matching combined with biometrics in a continuous evaluation process results in more accurate identification, and reduces overall costs associated with background checks – as demonstrated by an innovative program administered by the U.S. Department of Health and Human Services.



Biometric equipment in Kabul, Afghanistan (Source: FBI, 2010)

Successful Example of a CE Program With Biometrics

The National Background Check Program ([NBCP](#)) is a biometric-based CE screening program best practice. The NBCP, a federally supported grant program out of the Centers for Medicare and Medicaid Services, helps state agencies develop more robust methods to screen employees of certain healthcare organizations. CNA, as the technical assistance provider, designed a CE approach that has been implemented in 20 states since 2010. The solution has used a combination of biometrics and data matching to conduct initial screenings and provide CE on several million people. This program is a useful example of the power and challenges of integrating data and technologies while adhering to myriad state and federal privacy and data security requirements. The development of this program and the experience of implementing it in diverse state regulatory and technical environments can inform homeland security policy makers and developers in biometrics and data integration.

The NBCP, under the [Affordable Care Act Section 6201](#), requires participating states to conduct fingerprint-based state and federal criminal record checks, search relevant state and federal databases, and use techniques, such as rap back, to eliminate duplicate fingerprinting. A single state agency is required to manage the program and to receive, investigate, and notify people and their employers whenever eligibility changes due to rap back. NBCP's biometric-based CE screening program incorporates the following key features to ensure that the requirements result in effective, efficient, economical, and equitable screening and eligibility decisions:

- *Collection and retention of fingerprints for all applicants* – Fingerprints are collected electronically for each new applicant into the affected industry in the state. All fingerprints are retained by the state CJIS agency and (optionally) by the FBI, and immediately subscribed to rap back. Under rap back, civil applicant fingerprints are retained at the state or federal CJIS repository as long as certain conditions are met related to the reason for the fingerprints. The retained prints are matched against all subsequent incoming criminal fingerprints. If a match occurs, the requestor (who submitted the civil applicant prints initially) is notified of the criminal CJIS event, again under certain rules governing which events will trigger a notification. If the requestor no longer has a legitimate interest in the person, the fingerprint notification service is no longer available to that requestor.
- *Centralized screening information and eligibility decision* – A single agency at the state level maintains the background screening response information, performs the investigation to determine if any information is disqualifying for the position, and maintains the eligibility decision. The agency also establishes an independent authority and process for appeals (challenging the correctness of the decision or information used) and/or waivers (permission to work, in spite of disqualifying information, on the basis of individual circumstances).
- *Rap back* – The state agency (eligibility authority) is notified by electronic transmission whenever a CJIS event is recorded for the applicant on file. The new information is automatically matched to the person's information on file with the state agency. The information is investigated, and the person's eligibility is updated in accordance with the state agency's eligibility criteria

as needed. All current employers of record get a secure notice whenever the person's eligibility status changes.

The practice of using fingerprints and rap back to provide the basis for continuous evaluation of criminal justice involvement has been slow, and not all NBCP states are participating. Cultural and political resistance has prevented the passage of needed authorizing legislation in seven NBCP states. For the states that do use mandatory fingerprinting and rap back, a substantial number of subsequent notifications ("hits") have been received and adjudicated. As of 31 December 2016, four NBCP grantee states had received 93,492 rap back notifications. Not all rap back notifications result in a loss of eligibility. In fact, only 35,185 were subsequently deemed ineligible to work based on state program decisions and individual case review.

Continuous evaluation pertaining to noncriminal justice information events (e.g., mental health, professional misconduct) requires a non-biometric approach. Relevant noncriminal justice information data is generated and maintained by a plethora of state and federal agencies. NBCP, for example, supports data matching from a variety of sources that contain information affecting a person's eligibility for healthcare employment, including:

- *State health professional license and misconduct records* – To be eligible, people must have the required license or certificate, and must not have an active finding or other license action due to certain types of misconduct;
- [*State sex offender and adult abuse records*](#) – Individuals on these lists are not eligible for employment; and
- [*Federal Medicaid List of Excluded Individuals and Entities*](#) – Individuals on this list are prohibited from performing Medicaid-covered services.

Current technology makes near-real-time data matching on registries not only possible, but nearly instantaneous and transparent to the investigator. The NBCP and its technology platform can match multiple large databases interactively when an applicant is entered into the primary database, and it can conduct background matching in different ways whenever a secondary database is updated. As a result, the NBCP platform performs a daily automated all-on-all data-matching routine, known as "registry recheck." Where unique identifiers are available, the match returns virtually no false positives, similar to the biometric-based rap back. In cases where unique identifiers are not available, the data-matching routine is adjusted to minimize the number of potential matches to be resolved.

The expansion of the data matching has also been more constrained by organizational issues than by technology or cost. Even in such a homogenous and limited scope of data and usage, cultural issues arise; typically because some state agencies choose to maintain tight control, and do not allow public access to their abuse registries.

A challenge for automated registry rechecks is that state-maintained database content, quality, currency, and technology for access vary widely by state. In addition, effective access and data matching often require agency agreements, technology upgrades, and data integrity improvements regarding the secondary databases. This challenge is magnified with the NBCP provision that participants must search the health licensing and professional misconduct files of all other states where the person may have lived or worked. Rather than relying on

people to provide an accurate list of states and for the investigating agency to search them all, the NBCP now supports a secure data-matching approach for the healthcare eligibility programs in several NBCP states.

A common web service automatically calls and returns the most current results from 11 states' professional misconduct registries for each individual applicant in any of the 11 states. The web service approach allows states to retain control of their data while making the latest data instantly available to users of the common service. During 2016, five states processed 163,039 applications through this web service. A total of 140 matches were returned identifying people who were ineligible to work.

A notable achievement of this biometric-based CE screening program is that it greatly reduces the costs because of the reduced time and resources needed to conduct repeated background checks. One NBCP state, for example, reported a cost savings of more than \$10 million in six years as a result of the program.

Applicability to Preparedness & Homeland Security

Homeland security has many needs for background checks of wide-ranging complexity. Currently, there are different background check requirements based on varying metrics for federal government employees, state and local government employees, or contractors in different fields such as transportation and emergency management.

Implementing a CE process in even a segment of the broad and diverse homeland security field will require a combination of technology and organizational and political collaboration. The technology for CE is available now and will continue to enable more effective, efficient, and economical solutions as biometric data collection and large-scale data processing improve. The bigger challenge to implementing any meaningful CE process in the homeland security and emergency management field will be the cultural, privacy, and political issues, which are much larger than those faced in the smaller and less complex NBCP example.

Emergency management alone has physical credentialing requirements, a vast array of access authorizations, and complex needs for interoperability at the local, state, and federal levels, as well as many other cultural constraints. A monolithic CE process is not desirable or practical, but a collaborative sharing of source data can facilitate customized CE programs in different segments. Whether a background check is needed for a clearance for access to sensitive information, suitability determination for fitness to perform a function, or a credential to allow a qualified responder access to a disaster site, each process can benefit from continuous evaluation because it is critical to know if each person is still trustworthy.

A bill introduced into the House of Representatives ([H.R. 876](#)) on 6 February 2017 to amend the [Homeland Security Act of 2002](#) would require biometric identification technologies and continuous vetting through the FBI's Rap Back Service for airport workers with a goal of rapidly detecting and mitigating insider threats to aviation security. Bills like this one will become more common across the various homeland security fields (e.g., land and sea ports of entry, federally declared disasters) because there is need for continuous evaluation, and the biometric technology exists to make it more effective and efficient.

Progress toward biometric-based and non-biometric CE will be determined by organizational and political processes, not technology. One strategy for consideration is to establish a pilot project in one or two closely related functions in the homeland security credentialing and access practice. Such a pilot project could identify solutions to cultural issues, clarify performance metrics, and provide an indication of the returns on investment for the approach. The NBCP experience has produced operational, multi-state continuous evaluation programs in the public sector across more than 20 states, each with their own legislative requirements, engaging multiple state agencies within each state, and with interfaces into the FBI NGI and other federal offender and exclusion lists. This program can provide some best practices and inform future efforts to move toward a biometric-based CE program in homeland security and emergency management.

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