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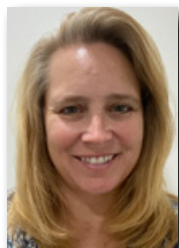


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Success Is Not Defined by Perfection

By Catherine L. Feinman



All disasters are innately different, so no two responses can be identical. If no two responses are identical, then no single plan can be perfect for any specific disaster. And that is okay. Successful disaster management is about implementing the most relevant plan, finding the most reliable information available, and making the best decisions based on that information and accessible resources. This August edition of the *DomPrep Journal* presents four imperfect yet critical components of disaster response: models, disaster case management, contact tracing, and citizen response.

Although there is no perfect formula, disaster management still depends on lessons learned and best practices from previous disaster responses. Recurring disasters such as hurricanes and wildfires – albeit each with their own unique characteristics – provide many opportunities to hone preparedness and response knowledge, skills, and abilities. However, new or rarely encountered disasters like COVID-19, present many unknown challenges for developing a plan and initiating a response. [Models](#) are one example of a tool that is imperfect yet still extremely useful in such scenarios – especially when used in conjunction with other models and information resources.

[Disaster case management](#) is another key tool for aiding disaster response efforts. In addition to managing the threat itself, there is also a human services side that adds many more complexities and uncertainties. The earlier these services are provided, the quicker the recovery phase can begin and possibly the shorter that phase will be.

In public health scenarios, [contact tracing](#) is crucial for identifying potential disease vectors and preventing further spread of the disease. However, it too is imperfect. The tracing process depends on human factors that could intentionally or unintentionally convey incomplete or inaccurate information. In any case, these mitigation actions prevent uncontrolled spread throughout the community.

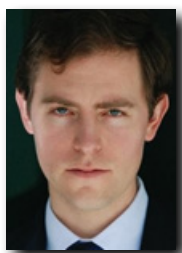
Disaster response is often planned and executed among public and private organizations, but there is one other important yet often unpredictable resource: the public. The “first responders” are often not the conventional first response organizations, but rather citizens who happen to be in the wrong place at the wrong time. Because many do not have formal training in emergency preparedness and response, they react on instinct. [Citizen response](#), though, has been attributed to saving many lives and filling gaps that cannot be immediately filled.

Professionals around the world are working tirelessly to fight a disease that previously had never been seen, that has no vaccine, and that will have no easy or timely resolution. These efforts may not be perfect, but they are not in vain. The lessons being learned and the best practices being developed will become key tools for future disasters to come.

All Models Are Wrong (But Modeling Is as Necessary as Ever)

By Terry Hastings & Colin Krainin

British statistician, George Box, famously stated that “all models are wrong, but some are useful.” The nation’s experience with COVID-19 has highlighted this fact as policy makers have struggled to calibrate their actions based on imperfect data and modeling. Yet, modeling is useful and will continue to be an important aspect of emergency management.



The United States has dealt with [major pandemics](#) before, but the scope and scale of the COVID-19 pandemic has stressed the nation’s public health system and the larger emergency management enterprise in a manner unprecedented in the modern era. The fragility of the global supply chain resulted in [shortages of personal protective equipment](#) (PPE). Limited hospital capacity led to [overflowing hospitals and scarce medical equipment](#). [Inadequate testing and tracing capabilities](#) led to invisible outbreaks that could only be controlled with blunt measures like lockdowns. The entire experience has exposed [weaknesses and tensions](#) within the nation’s emergency management system and will likely lead to major policy changes.

Different Models With Varying Accuracies

Effectively modeling the spread of COVID-19 has proven to be difficult. The Centers for Disease Control and Prevention ([CDC](#)) and numerous other experts and academic institutions, including the [Imperial College of London](#) and the University of Washington Institute for Health Metrics and Evaluation ([IHME](#)), have produced models with varying degrees of accuracy. For example, the heavily relied upon IHME model has been [criticized](#) for consistently underestimating the actual death count. If modeling was only an academic exercise, discrepancies would not be as impactful. However, policymakers at all levels of government are using these models to make major decisions, including whether to shut down or open up parts of society with life or death consequences on the line.

Models can be “wrong” in several different ways. All models are wrong in that they simplify the real world, including only the essential parts necessary to elucidate the phenomenon one hopes to understand. As Albert Einstein decreed, “[Everything should be as simple as possible](#),



but not simpler.” Herein lies the trick to developing a “useful” model. Oversimplifying a model risks missing important forces and the full range of possible outcomes. Overcomplicating a model risks muddling insights and worse – for example, rescuing a theory that is fundamentally flawed with increasingly ornate bells and whistles.

In statistical models, the estimation of model parameters is a further potential source of inaccuracy. In the case of the coronavirus pandemic, problems have included non-random data collection, sparse data due to disease novelty and insufficient testing, and misleading data due to possible manipulation of publicly disseminated data in some [countries](#), as well as failures to properly account for these measurement errors. However, it is important to distinguish fundamental issues with the estimation procedure from “imprecise” predictions due to fundamental uncertainty in estimation.

Having a basic understanding of modeling and data analytics is a key skill for emergency managers. Those relying on models to make decisions need to appreciate that they will always contend with some degree of uncertainty. Understanding the underlying assumptions associated with a given model and consulting more than one model before making major decisions are prudent courses of action. Going further to glean insights from disparate fields of study is even better. For instance, useful studies of terrorism risk have been produced in the fields of [criminology](#), [economics](#), and [political science](#).

A Collective Forecast Model

With so many different COVID models and methodologies to consider, one promising practice is [“ensemble” modeling](#) or the effort to compare and merge various models to produce a collective forecast. In doing so, researchers can synthesize the various models and develop a more accurate picture for policymakers to consider. Roughly, this process resembles throwing out the high and low scores in some Olympic events to eliminate data that could skew the overall result.

The National Hurricane Center uses a similar concept known as [consensus modeling](#), which averages the results of several models to achieve consensus on potential storm tracks. Consensus models are generally [more accurate](#) than relying on any one single forecast model.

All models are wrong in that they simplify the real world, including only the essential parts necessary to elucidate the phenomenon one hopes to understand.

Emergency managers, especially those in coastal areas, should also be familiar with the [“cone of uncertainty,”](#) which refers to a probabilistic path of a storm center based on historical error rates. The cone provides at least a rough idea of the storm track and areas of potential impact. However,

it is important to appreciate that the center of the storm generally has a 66% chance of occurring within the cone and a 33% chance of occurring outside of it. That is, these models help emergency managers allocate resources and manage risk intelligently but cannot perfectly predict the future.

Emergency managers often find themselves in the middle of policy discussions, helping to gather and interpret the necessary information so policymakers can make informed decisions. Modeling, whether for public health emergencies, terrorism risk, or weather events, [is here to stay](#), and its application will likely only increase along with concurrent increases in data collection and the computational power necessary to process massive data sets. Emergency managers must embrace, or at least understand the fundamentals of modeling, predictive analytics, data visualization, and other quantitative tools and techniques as the discipline adapts to meet COVID and other contemporary challenges.

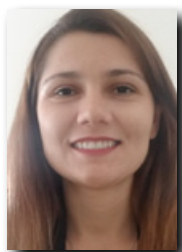
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Disaster Case Management: An Important Disaster Response Tool

By Senay Ozbay

Effective disaster response and recovery involves identifying and establishing an organization that serves the needs of vulnerable populations utilizing pre-disaster risk assessments and crisis management communication, with planned and tested tools and robust resources. Disaster Case Management is one such tool.



On 29 October 2012, Superstorm Sandy had a devastating significant impact on the East Coast of the United States. The densely populated east coast of New Jersey was especially vulnerable. Many of the people affected were senior citizens who lacked information and resources. Thus, Disaster Case Management (DCM) was so vital in connecting these vulnerable populations with available resources. In the aftermath of Sandy, the [Federal Emergency Management Agency's \(FEMA\) DCM program](#) was implemented by New York and New Jersey, under the supervision and a grant funded by FEMA, which was awarded to an existing nonprofit organization.

Federal Disaster Case Management is a program that addresses human services needs through state level partnership with Health and Human Services. Currently, this program is only available during presidentially declared disasters upon request by the governor through FEMA. DCM is a recovery partnership between disaster survivors and case managers. The process involves identifying unmet needs: monetary, advocacy, and other resources that are necessary to cope and recover from a disaster. Each disaster survivor has unique needs whether social, financial, or legal. Disaster case managers identify those needs and connect them with the necessary resources. When necessary, it sometimes involves “holding hands,” such as making calls to insurance companies and contractors on behalf of elderly survivors. Disaster case managers empower survivors.

DCM is a process [activated](#) during the earliest post-disaster response phase. However, disaster case managers incorporate the other three phases of emergency management – namely, recovery, as well as post-disaster mitigation and preparedness for future disasters – to help vulnerable populations in enumerable ways. This program can be implemented prior to and/or immediately in the aftermath of the disaster.

Identifying the Need

The 2019 ongoing COVID-19 response reemphasizes the similarly ongoing need for this program. Coronavirus relief funds ([Cares Act](#) enacted on 27 March 2020) provided individuals, businesses, and public bodies with direct and fast relief funds. Although rapid direct funds may be necessary in the immediate response phase of the emergency, ongoing

necessity of these funds for families and businesses should be determined through a proper vetting process. This can be accomplished by establishing or utilizing existing DCM services to avoid duplication of benefits and unnecessary distribution of limited funds.

During the current reopening phases across the states, some of these similar issues were apparent during Superstorm Sandy – for example, families unable to pay mortgage or rent; landlord-tenant disputes, and eviction processes related to the event. Pre-established dispute hotlines are inundated with calls related to multiple disputes with no clear guidance on how to address these issues. Landlords in Saint Petersburg, Florida and other states are currently waiting to file eviction notices as soon as a moratorium expires. After these executive orders expire, landlords will proceed with court proceedings.

Collaboration among stakeholders using the right tools will help identify needs and find solutions to assist communities during the response and recovery phases.

Some tenants have already been issued summons because the Cares Act of 2020, which prohibits landlords from evicting tenants, applies only to specific properties. Nearly half of rental housing in the United States is owned by private banks or individuals. The [act applies only](#) to mortgages held by or secured by government entities. [Not all homeowners](#)

[are wealthy](#), but they still have to pay mortgages and bills with the rent money they collect, which may be their only source of income. With disputes around the country, the court systems will be overwhelmed by an issue that could have potentially been mitigated or reduced by having a DCM program in place.

In Virginia, similar cases are emerging. Even when there are laws to protect tenants, it is not clear how they can be enforced without going through the court process. Meanwhile, landlords in large-scale properties have control over and can limit services to basic life-essential needs such as water. For example, they can cut off access to water for days. It is next to impossible for a vulnerable family with potential lack of understanding of available information and resources to address these issues. They may not know who to reach out to or when; or who will listen, empower, educate, and advocate for them. As the number of cases of post-traumatic stress disorder (PTSD) increases as everyone deals with a relatively unpredictable virus, influx in [suicide](#) rates [may not be avoidable](#) in the upcoming months.

Providing a Solution

DCM services educate all involved communities, identify needed resources, and address diverse needs of the impacted population. Disaster case managers listen to, support, investigate, educate, care for, and advocate for affected families throughout their long road to recovery. Disaster case managers also develop individual recovery plans to guide affected individuals throughout their recovery process.

Surviving a disaster is extremely challenging for affected families. Although hopelessness and PTSD resulting from social isolation, economic insecurity, and unpredictability may not be avoidable, much needed actionable information during the recovery phase can lift burdens and prevent a disaster from overwhelming the public. As such, the importance of DCM cannot be overestimated. Knowing there is an organization and/or a person specifically advocating and supporting individual recovery efforts reassures and gives hope to those severely impacted by this pandemic or any disaster:

- During the immediate *response* phase, the FEMA DCM program provides relief services such as food, clothes, and shelter for those severely impacted.
- In the *recovery* phase, disaster case managers incorporate post-disaster preparedness and mitigation phases of emergency management. In short, they educate affected communities on how to prepare for future disasters. An established DCM team can connect people to information about relevant codes as well as available local, state, federal, and nonprofit grants.

State, local, territorial, and tribal governments, as well as nonprofit organizations, should collaborate to utilize existing organizations and agencies to assist communities during recovery. Otherwise, without this type of program planned in advance, communities are left to establish new programs and locations with new untrained employees. This then slows the response and recovery processes, which are essential for effective disaster management.

Finding Material & Financial Resources

Ideally, nonprofits with emergency services may be cost efficient since these organizations can also activate teams for disaster recovery with internal donor funds. Federal, state, and local governmental funds can be dispersed among these nonprofits with specific guidelines. This is where multi-agency partnership plans and memorandum of understandings (MOUs) may be established. Disaster recovery is intensive and extensive, thus, very time-consuming. To use the time effectively, redundant, repeatable steps of looking for available resources at various multiple public, private, and nonprofit organizations should be minimized in order to expedite the services for individuals impacted by the disaster.

Materials and equipment that are necessary for rebuilding and rehabilitating may be obtained by creating partnerships with private industry. Implementing MOUs and memoranda of agreement among all governmental levels, nonprofits, and private sectors prior to a disaster may expedite the relief and recovery efforts and eliminate duplication of benefits – especially among large groups of people needing assistance and unable to find it. Providing businesses a tax credit for assisting communities in their recovery needs could be an incentive to build positivity among businesses as they discover this emerging new role. This process and program may even reduce price gauging and fraud activities that are common during and after disasters.

A coordinated effort can identify those that are abusing the system. In response to COVID-19, personal protective equipment donations were scattered throughout different healthcare settings. Coordinating resources through a platform previously established – to



identify and track donor funds and available resources – can nearly eliminate the duplication of benefits, which can create shortages of lifesaving resources in one area while others benefit.

Opening new offices at various locations may be costly. The limited financial resources should not be used to open new locations when there are existing organizations performing the same services

in the needed areas that are available for sharing. New offices require materials that are costly – for example, fax machines, telephones, and laptops. Therefore, allocating funds, which are already limited, for expanding sites and programs may be a financial burden on the local government. Moreover, although redundancy is essential in emergency and disaster management, it is not necessary for temporary dispersing of funds to the many different agencies during recovery. Federal DCM funding may be combined with an already established disaster management program to enhance funding.

On a final note, the DCM program does compliment “[The Post-Katrina Emergency Management Reform Act](#)” and can enhance the national efforts on behalf of resilience. One can only hope that it further compliments the Cares Act.

Senay Ozbay is a Certified Emergency Manager through the International Association of Emergency Managers (IAEM) and holds a Master of Public Administration in Emergency and Disaster Management from Metropolitan College of New York. During her career, she has supported multiple emergency operations and recovery efforts during local, state, and presidentially declared emergencies in Virginia, New Jersey, and New York. She worked as a disaster case manager for Catholic Charities Diocese of Trenton, the Federal Disaster Case Management Program, and helped survivors recover and return to new normal from Superstorm Sandy. Shortly after, she moved to Virginia and took on the role of district health emergency planner and coordinator for the Central Virginia Health District, Virginia Department of Health, where she managed the Emergency Preparedness and Response program and accreditation process. She is the public health emergency management coordinator for the city of Alexandria, Virginia, where she oversees the Public Health Emergency Management Division and serves as the ESF8 public health and medical coordinator. In preparation for the COVID-19 response, she coordinated city efforts in addressing human services and policy level issues around isolation and quarantine process.

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Remote Contact Tracing: A New Twist on an Old Practice

By David Reddick & John Anthony

The idea of contact tracing is nothing new. It has been practiced for decades to help stop the spread of infectious diseases such as smallpox and HIV. It has been taught to public health professionals for decades. However, with the global explosion of the COVID-19 pandemic in 2020, it has emerged as a key strategy to control the spread of infection.



The practice of interviewing people who have COVID-19 is an effort to determine where they may have gotten infected and who they were within close contact with while infectious. It is widely accepted as one way to interrupt disease spread. In its recently released [COVID-19 Testing and Tracing Action Plan](#), the Rockefeller Foundation lists increasing the use, speed, public trust, and support services for contact tracing as one of the 10 action steps essential for defeating the disease.

The Basics of Tracing

The steps for proper contact tracing sound simple, but can become quite complex depending on the severity of the disease, the number of close contacts, the willingness of the public to participate, and the availability of human capital to undertake these steps:

1. Identify a person with the disease (i.e., a “case”)
2. Interview the person and determine how they may have been exposed (“Where were you and who were you with the past xx days?”)
3. Explain the importance of staying away from others who may catch the disease (i.e., “isolation”) [Note: For COVID-19, the length of isolation is 10 days from the onset of symptoms and at least 24 hours after the last fever that was not treated with medication.]
4. Determine who they have been close to and may have passed the disease on to (i.e., a “contact”) [Note: A person with COVID-19 is considered infectious two days before they become symptomatic and for at least 10 after symptoms emerge.]
5. Reach out to all contacts identified by the case and encourage them to stay away from others for 14 days after the last exposure to the case (i.e., “quarantine”); as opposed to “isolation,” which has a similar effect, remaining at home and separated from others, including family members as much as possible [Note: The [Department of Health and Human Services notes](#) that isolation separates sick people with a contagious disease from other people who are not ill, while quarantine separates and restricts the movement of people who have been exposed to a contagious disease, such as family members, to see if they become sick. Those contacts may have been exposed to a disease and not know it, or they may have the disease and not show symptoms.]

Given the virulence of COVID-19, most people in the United States know about isolation and quarantine. Although remaining sequestered in their homes for two weeks is no easy task, most people who have been told they are infectious agree to comply.

The Centers for Disease Control and Prevention ([CDC](#)) reports that COVID-19 spreads mostly person-to-person through respiratory droplets, which result when the infected person coughs, sneezes, speaks, etc. Spread is more likely when people are within six feet of one another because the virus-laden droplets are more likely to reach the mouths, noses, or eyes of nearby people.

Preventing the Spread of Disease

Keeping infected people away from others is how public health specialists believe the disease can be brought under control. The global public health initiative Resolve to Save Lives calls this “[Boxing in](#)” the disease by limiting the number of people it can infect. The concept of boxing in the disease involves a four-step process:

1. Expand and prioritize testing
2. Isolate all infected people
3. Identify those who have been in contact with infected people
4. Quarantine those contacts

According to Dr. Tom Frieden, the head of Resolve to Save Lives and former director of the CDC, “All four are crucial; if any step is lacking, the virus can escape and spread explosively again.” Contact tracing is a key element in these steps.

When people test positive for COVID-19, they are contacted and given their results. They are also told the importance of isolating from others for a set number of days. In late July 2020, the CDC [updated](#) its recommended length of isolation to 10 days from the onset of the first symptom and at least 24 hours after the last fever that was not treated with medication.

After receiving a positive confirmation, contact tracers reach out to cases in order to collect comprehensive health data, such as the symptoms they experienced, lists of people with whom they had close contact before becoming ill, and others they may have passed the disease on to. Since COVID-19 patients are infectious and can shed the virus two days before they develop symptoms, they may unknowingly pass it on to others.

[Studies indicate](#) the level of infectiousness peaks early in the disease. This makes it even more important to quickly identify who may have been in contact with a case before the case became symptomatic and alert those contacts to the potential of infection.

As the number of COVID-19 patients increases rapidly, the requirement for qualified contact tracers has also increased, but the supply has not. Most local health departments have historically relied on full-time staff, often nurses, to do the new contact tracing work along with their normal job responsibilities. As the number of cases grow, departments often cut back on the work normally performed by their nurses and others in order to take on these new responsibilities.



Some departments have turned to volunteers to do the contact tracing work, sometimes using members of existing groups such as their Medical Reserve Corps – a program modestly supported by the federal government through the Office of the Assistant Secretary for Preparedness and Response. These volunteer groups are comprised of residents who have offered to provide

support to local public health efforts in more than 800 communities. Many are retired medical professionals whose experience makes them ideal for the job, but their volunteer status may limit the number of hours or days they can be expected to work. The volunteer management expertise also varies dramatically among the groups. The advantage of this method is to maintain close control over the volunteers, but this is a resource-intensive effort, as the volunteers must be trained and managed.

Some health departments have hired consulting organizations to handle some or all of their contact tracing. Benefits may include:

- Recruiting, training, and management are handled by the firm, not the health department.
- Costs are controlled since no additional benefits or overtime pay is required.
- The department maintains control over its data.
- HIPAA compliance is maintained by the consultant.
- CARES Act funding may be used.

Developing a Program – One Company's Lessons Learned

One Kansas county engaged the Bio-Defense Network to conduct contact tracing. In the first month of work, the company was able to reach 367 people who had tested positive for COVID-19. The calls took 481 hours to complete – an average of 1.3 hours per call – which included time for quality assurance.

By June, the company positioned itself as a clearinghouse for qualified people wishing to help with contact tracing and departments needing the support. The model is simple: the company recruits, screens, and engages people qualified to do the work, pays them a modest hourly rate, and then assigns them to departments that need the service. The company collects an hourly fee and manages them on a daily basis.

Because the work is done by telephone, the contractors can be anywhere and can work for any department in the nation. The contact tracers work from their homes or dormitories, and the company tracks and reviews their work.

Recruiting part-time contact tracers has been done through colleges and universities with a focus on public health, nursing and allied health graduate students, recent graduates, and alumni, many of whom have been unable to locate internships or other jobs due to the pandemic and the associated economic downturn. For current students, the experience has proved valuable, with some universities awarding academic credit for internship or offering credit for clinical hours worked as part of the program.

As the nascent program was rolled out in the early summer, the company was faced with the challenge of recruiting contact tracers on the expectation it would generate sufficient business for them, even before it had finalized any agreements with a health department. Once it had begun working for a county in Kansas, it quickly recognized another unexpected need: Spanish-speaking contact tracers. Kansas officials noted that, although there was a relatively modest Hispanic population, nearly half of the patients who tested positive early in the process were Hispanic. By contacting officials at the Medical Campus of Miami-Dade College, the company was able to recruit a number of bilingual graduates from a special contact tracing course being offered for Spanish speakers.

Scheduling for contact tracers was also a challenge for the company, since its student contact tracers were not generally interested in working more than 12-16 hours a week, and many were not willing to commit to work on weekends, when many cases required calls. To address this challenge, contact tracers were asked to commit to four-hour blocks and were encouraged to work on sequential days of the week. This was especially important since few contacts answer telephone calls from unknown numbers. As such, contact tracers often were forced to leave messages that may not be returned until the next day.

As the fight against COVID-19 continues nationally, it is clear the need for qualified contact tracers will remain strong for months to come. Innovative methods of meeting this need – either within or outside the organization – will be required. Develop a contact tracing program that fits the needs and addresses the challenges of the population that is being identified.

David Reddick is chief strategy officer and co-founder of Bio-Defense Network, a public health preparedness consultancy which has worked with more than 40 local public health departments over the past nine years. He also was co-founder of PandemicPrep.Org, a non-profit organization that conducted dozens of public workshops and programs on preparing for pandemics such as COVID-19.

John Anthony is senior consultant for Bio-Defense Network and program manager of its contact tracer program. He has been a Medical Technologist certified by the American Society of Clinical Pathologists for more than 20 Years and served as a Laboratory Manager for ten years and an Infection Control Infection Preventionist. He won a NACCHO Model Practice Award for his Public Health Liaison Project in 2007, and a NACCHO Certificate of Promising Practice for Bio-Defense Network in 2012. His work has also been recognized by two Bi-State Infectious Disease Conference Partnership Awards (NoFluForYou Project in 2011 and Closed POD Network with Bio-Defense Network) in 2013. He formerly served as the Laboratory Services Coordinator, Public Health Liaison Program Manager, Emergency Preparedness Manager for the St. Louis County Department of Public Health, co-chair of the STARRS Public Health Committee and Finance Committees for the STARRS UASI region, secretary of the regional radiological MRC and member of the region's ESF-8 planning committee.

What Happens in Vegas: Harvest Music Festival Mass Shooting

By Andrew Roszak

While much of the news media has been focused on the coronavirus pandemic, violent incidents continue to occur throughout the United States. The shutdown of sporting events, schools, concerts, and other large events has led to an overall decrease in active shooter incidents. In fact, March 2020 was the first March without a school shooting since 2002.



While active shooter events have recently declined, that does not mean they have not occurred. The past several months have seen many violent encounters, including:

- May 20, 2020: Westgate Entertainment District, Glendale, AZ (3 people injured)
- May 21, 2020: Naval Air Station, Corpus Christi, TX (1 person injured)
- May 27, 2020: Centennial Bridge, Platte County, MO (2 people injured)

During this year's July 4th weekend (Friday-Sunday, July 4-6), the nation experienced [21 shootings](#). These shootings resulted in staggering numbers, which left 16 dead and 98 wounded. The shootings occurred at shopping malls, nightclubs, large private gatherings, and protest sites.

Since July 4, there has been a continued uptick in violent incidents. A brazen attack on July 20 led to the [death of a federal judge's son](#) after an individual dressed up as a FedEx worker. Also on July 20 in Las Vegas, numerous people ran for cover after a [multitude of gunshots were fired](#) outside of the Bellagio and Paris hotels. Even houses of worship have seen violent incidents. In Virginia on July 19, an [assailant stabbed two individuals](#) who were attending a Bible study class – including the police chief of Fairfax County, who was attending the event.



These incidents serve as an important reminder that violent incidents do not stop during a public health emergency.

Lessons Learned From the Las Vegas Mass Shooting

On 1 October 2017, Lacey Newman's life changed forever. While attending the Route 91 Harvest Music Festival in Las Vegas, Nevada, a gunman opened fire. While many, including Lacey, began to run, a lot of attendees thought the gunfire was fireworks, and they falsely believed there was no cause for alarm.

After ducking for cover a few times, Lacey realized she had been shot in the leg and was bleeding profusely. Her friend, with no prior medical training, sprang into action. She took Lacey to a safe space and called out for help; a passerby stopped and provided a belt. They applied a makeshift tourniquet to Lacey's leg, while her friend applied pressure to the wound, primarily using her entire body weight to stop the bleeding. Thankfully, these efforts saved Lacey's life, and she was able to make a full recovery.

In July 2020, DomPrep Advisor Andrew Roszak conducted an interview with Lacey Newman about her swift response to the mass shooting, and lessons learned. Visit Lacey's website for more information about her efforts and current training initiatives: <https://www.bleedingandbarefoot.com/>

Andrew Roszak, JD, MPA, EMT-P, serves as the executive director for the Institute for Childhood Preparedness and as an advisor for the Domestic Preparedness Journal. He is the author of the Preparing for the Unexpected Series of books, which includes "Preschool Preparedness for an Active Shooter." He has spent over 20 years working on emergency preparedness, response, and recovery issues. He is admitted to the Illinois and District of Columbia Bars and is admitted to the Bar of the U.S. Supreme Court. Find him on Twitter: @AndyRoszak.





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