DomPrep Journal

Preparedness Puzzle

Volume 16, Issue 2, February 2020

- Police as Medical Responders
- Role of Federal Agencies
- Future of Emergency Preparedness
- Old School Florida Smuggling
- Triggered Collapse, Part 2

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Featured in This Issue

Pictured on the Cover: Centers for Disease Control (CDC), 2020

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Solving the Preparedness Puzzle

By Catherine L. Feinman

Emergency preparedness and response professionals have a lot to consider when getting ready for future disasters. Some threats have been around for years, but the methods for handling them have evolved. Other threats are new, requiring strategies and resources to evolve to address these threats. Like a puzzle, these professionals are tasked with finding the right combination of best practices, equipment, and resources.

Law enforcement agencies have been dealing with active shooter events for many years. However, the tactics and priorities beyond subduing the assailant have changed. The role of law enforcement officers in such scenarios increasingly includes the role of medical responder as well. This means that training and exercises must help develop the necessary skills and knowledge for addressing an old threat in a new way.

Unlike active shooter events, which have a long history of lessons to build upon, emerging threats may need to be addressed with little or no previous building blocks. When these threats are highly portable like viral pandemics, they can spread across jurisdictions where preparedness levels and resources vary significantly. Technology and science may have been used to make the viruses more lethal, or they may be used to better combat the threat. In either case, jurisdictions must work together to collect and analyze information in order to stop the spread and mitigate the consequences.

Regardless the type of threat, all stakeholders must understand their roles and perform their responsibilities when a disaster occurs. However, this is another piece of the preparedness puzzle that does not always fit. Federal agencies, for example, play a significant role in disaster, but that role and the expectations of that role by state and local agencies do not always coincide. This is one gap that needs to be closed.

This edition of the *DomPrep Journal* pieces together new solutions to address threats from common active shooter events to unpredictable viral outbreaks. In addition, do not miss the new nonfiction series that journeys back in time to follow one small family through a life of crime and drug smuggling.

Police as Medical Responders in Active Threat Events

By Charles H. Kean

April 20, 1999, was a bellwether day in American law enforcement history. An act of mass murder occurred at Columbine High School in Colorado that left 13 people dead and 21 injured, and the old model of responding to active threat events was changed forever. The active pursuit of the killer would no longer be a Special Weapons and Tactics (SWAT) problem to solve – it would be a first-arriving officer's problem. Fast forward 18 years and the mass killing event at Florida's Marjory Stoneman Douglas High School shows how far the nation has come and needs to go to prevent more deaths.

In the aftermath of the 1999 Columbine High School mass shooting, there was a paradigm shift in the way police in the United States responded to active shooter events. In short order, rapid law enforcement deployment using the first responding officers to enter the crisis site and engage the killer(s) became the new paradigm. Officers deployed into the crisis site to provide 360-degree protection as they moved through the target to confront the threat.

The Old Model

In the old model, officers would establish a perimeter, contain the suspects, and await SWAT teams to resolve the issue. When the person(s) committing the act of mass murder only wants to kill, the old response model results in more death. A basic tenant of previous active shooter response plans was to bypass injured and dead people in order to rapidly confront the shooter and end the threat, either by law enforcement eliminating the threat, suicide of the offender, or the offender's surrender. The next step in that process was to secure the location and conduct a thorough search for other suspects or threats. The injured and dying were an afterthought.

In the old model, police would not allow fire and emergency medical services (EMS) into the crisis site to render aid. This policy was based on the belief that the medical aid providers lacked training, ballistic-protective equipment, and the tactical mindset to enter the area where the shooting had just occurred. While police are concerned with suppressing the threat and securing the scene, the rapid response model does nothing for those people bleeding and dying. To this point, law enforcement officers were and still are trained to deliberately avoid engaging in patient care activities.

The U.S. Fire Administration published a report that dissected the Columbine shooting and indicated many changes that needed to occur in the response to mass killing events. One of those suggestions was a closer partnership between law enforcement and fire/EMS, as well as better emergency medical training for law enforcement. Unfortunately, it would be more than a decade before any concrete steps were taken toward those ends.

The Current Model

The next evolution of active threat response and care saw the development of the Rescue Task Force (RTF). RTFs combine law enforcement and fire/EMS into a single unit with the purpose of pushing into the warm zone and providing life-saving patient care and evacuation, before the target location is secure. Many drills and actual events have revealed that, while RTFs have a valid purpose and vital need, victims in active killing events are still dying from severe bleeding and could be saved if care was rendered sooner. To that end, law enforcement contact teams need to be trained and equipped to switch roles from suppressing/ending the threat to rendering medical aid to those casualties who have significant penetrating trauma but are capable of being saved.

Two decades of war in Afghanistan and Iraq have yielded a tremendous amount of data and research on the benefits of some simple emergency care tasks that control life-threatening bleeding. The U.S. military has invested vast amounts of time and money in developing and advancing Tactical Combat Casualty Care (TCCC) and pushing that knowledge into the civilian world. The current doctrine within the U.S. Army's 75th Ranger Regiment is to train all members of the unit in TCCC. The rate of preventable combat death within the regiment is less than 3%.

American law enforcement officers are learning the skills included in TCCC, as well as the civilian version, Tactical Emergency Casualty Care (TECC), and the national Stop the Bleed (STB) campaign in order to shift focus during the response to emergency medical care.

During the shooting at Marjory Stoneman Douglas High School on 14 February 2018, 17 people were shot to death and 17 others were wounded. Of the 17 who survived, all were initially treated by police officers using equipment that they had on their person. Once it was determined that the shooter was not in the immediate area, the officers switched focus and without doubt saved lives.

In the aftermath of the mass shootings at Virginia Tech in 2004 and Northern Illinois University in 2008, police also shifted roles from warrior to caregiver. Officers at Northern Illinois were unique in their response in that they were all trained and certified as emergency medical technicians (EMTs). Officers must be equipped, trained, and prepared to switch roles as soon as the threat is neutralized or no longer present.

The Future Model

The advent of the RTF model and its increasing acceptance by police and fire/EMS departments is laudable and should continue to be developed and nurtured. However, the people charged with developing responses to active shooter/threat events must consider how to deliver emergency medical care at the same time. The threat continues to evolve, and with the lessons learned from each event, the responders must evolve as well.

Those charged with developing active shooter/threat events responses must consider how to deliver emergency medical care at the same time.

One of the drawbacks to the RTF model is that it takes time for both police and fire/EMS units to arrive and stage. Even the most robust and well-trained RTF programs can take 10-15 minutes to establish the initial RTF and enter the crisis site. In that time, victims continue to bleed and die. To counter the time delay between wounding and initial medical care, law enforcement needs to take on the mantle of providing life-saving medical care.

Time and money for training are at a premium in most law enforcement jurisdictions and agencies. However, there are many types of training programs available from a variety of trainers and organizations. Hospitals often sponsor and host free Stop the Bleed training programs. For a two-hour investment of time, officers can learn life-saving skills that can not only be used to protect the public, but also to protect themselves if necessary. Most of these STB programs provide not only training, but also tourniquets and other supplies.

In 2016, a regional Level 1 trauma center and a city police department in central Illinois partnered to create a training model using the TCCC principles to meet the needs of their

jurisdiction. In addition to learning these skills, officers completing the training were issued a Combat Application Tourniquet (CAT), Combat Gauze™, a SWAT tourniquet and nitrile gloves. The original goal of the training program was for self-aid/buddy-aid, yet it quickly showed its benefit for victims of crime and accidents.

Although it was initially developed for one agency, it rapidly spread to all police departments in the county. Within a month of the training there were several instances in which police officers saved lives with the skills and equipment provided. Since then, the training has been requested by law enforcement agencies outside of the original county and even by some state-level law enforcement agencies.

A Call to Action

Modern law enforcement officers have many things asked of them and are placed in high-stress situations regularly. The most stressful of those situations is an active threat event. The officers responding will be confronted with the threat to their own safety, but also with the scared, injured, and dead victims of the offender. Fear and anxiety are often born out of one's lack of training or knowledge in dealing with or confronting a situation.

Law enforcement officers need to be provided with training and equipment that will enable them to switch gears in an active threat event. Once the threat is suppressed, contained, or eliminated, police need to be able to recognize life-threatening injuries that can be treated with simple skills, such as severe bleeding and correctable airway problems. It has been demonstrated that police officers providing initial medical care in the active threat environment, prior to the assembly and deployment of RTFs, equates to increased survival of victims who otherwise may not survive.

If an agency or jurisdiction is unable or unwilling to provide this simple life-saving training, individual officers need to seek out the training themselves. A good place to start, whether as an individual or as an agency, is https://www.dhs.gov/stopthebleed. Also, do not hesitate to reach out to local hospitals, healthcare coalitions or community groups to provide the training or funding for the training.

Charles Kean served in the U.S. Army and Army Reserve (23 years); as a police officer in a midsized Midwestern city (22 years), including 13 years as a SWAT team member and Tactical EMS provider; as an EMS provider from basic to paramedic (36 years); as an EMS adjunct instructor since 2011 with a local community college; and currently works as the emergency preparedness manager for a 400-bed hospital which is a Level 1 trauma and regional burn center. He has a bachelor's degree in Organizational Management and a master's degree in Crisis Management and Emergency Preparedness, with a graduate certificate in Homeland Security. He helped develop a tactical medical training program for law enforcement officers and other emergency responders.

Poll and Comment: What role should federal agencies have in a disaster?

By Martin (Marty) Masiuk

Memo to DomPrep readers:

On December 31, 2019, I published another end-of-the year message. This one was different. I worry that many federal agencies created to prepare and respond to man-made and natural disasters have returned to pre-9/11 status. Too many important positions are filled by acting personnel or are vacant. Discontent is on the rise and retention is low. That is why my message was negative and critical.

Mr. James M. Rush, Sr. replied. Jim has over 45 years of healthcare administration and community emergency management experience in the U.S. armed forces, the U.S. public-health community, and the nation's civilian healthcare industry. Having served as the Region III project officer for the National Bioterrorism Hospital Preparedness Program, and the CDC's National Pharmaceutical Stockpile, he is always dedicated to assisting healthcare and public health organizations prepare for "all hazards" events and incidents. He has written for DomPrep and his articles are always spot on.

Click for report – Poll and Comment: What role should federal agencies have in a disaster?

His letter moved me. He provided logical and reasonable explanations and solutions to my concerns. As a follow on to his points, we asked DomPrep's readers to answer a flash poll and provide comment on the role that federal agencies should play in a disaster. We received a good response, with over 100 professionals taking the time to provide insightful feedback.

This report includes (1) my end of year message, (2) Jim's reply, and (3) flash poll responses, and comment from DomPrep readers and friends, without analysis. Many of the responses are disturbing.

If you find this to be valuable, please share with your colleagues or friends on social media. Also, let me know if you would like more of this type of content.

Best regards,

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The Future of Emergency Preparedness

By William H. Austin

The National Archives Building in Washington, D.C. has an inscription on the Northeast corner that reads, "What is past is Prologue." This simple but profound advice may easily be the emergency manager's most calming guidance. The journey starts right now.

This article tells a story about a future that will be much different than the past for any occupation delivering emergency services and especially those who are leading these emergency services. Three recent major disasters – wildfires in Australia and California and the Coronavirus (2019-nCoV) currently confirmed in 24 countries – will be used to illustrate how future disasters may be handled very differently from today. The examples also suggest an expanding skill set that future emergency managers will need to embrace.

According to the National Oceanic and Atmospheric Administration (NOAA), there were 14 billion-dollar disasters in the United States in 2019. The disasters ranged from floods and storms to wildfires in multiple locations. NOAA also documents that 2019 was the 10th consecutive year of 10 or more billion-dollar loses in the United States. This is a startling reality to many citizens and an alarming reality to many emergency managers. The plans, mutual aid agreements, evacuation procedures, and communication systems are all in place. Understanding the politics, logistical requirements, and hard work is required for containing any major disaster. In the past, the event trigger may have been different, but the incident response often looked the same.

With an appreciation for technology, emergency managers often know when to use it and how. For example, NOAA's Joint Polar Satellite System (JPSS) is used every day. The satellites are the heart of daily weather predictions and provide a range of 3- to 7-day forecasts that are vital for containing wildfires. NOAA satellite imagery is also key to situation awareness. However, there is a phenomenon occurring today in plain sight that will change the value of situational awareness forever. That phenomenon is artificial intelligence or AI. Although AI has been around for many years, learning how to use it for a more effective, faster, safer, and less expensive outcome will take time and patience.

Predictive Technology

The Pentagon wants to use AI to predict the next wildfire or earthquake. Officials and scientists agree this could be done. In 2018, the Department of Defense released its AI strategy, entitled "Harnessing AI to Advance Our Security and Prosperity," which makes incorporating AI part of its operational goal for the future.

One observation of how AI can help would be the actions of the Los Angeles Fire Department (LAFD) and numerous other California Fire Departments occurring now. LAFD uses a cyber-infrastructure system called WIFIRE, which helps predict the real-time movement of

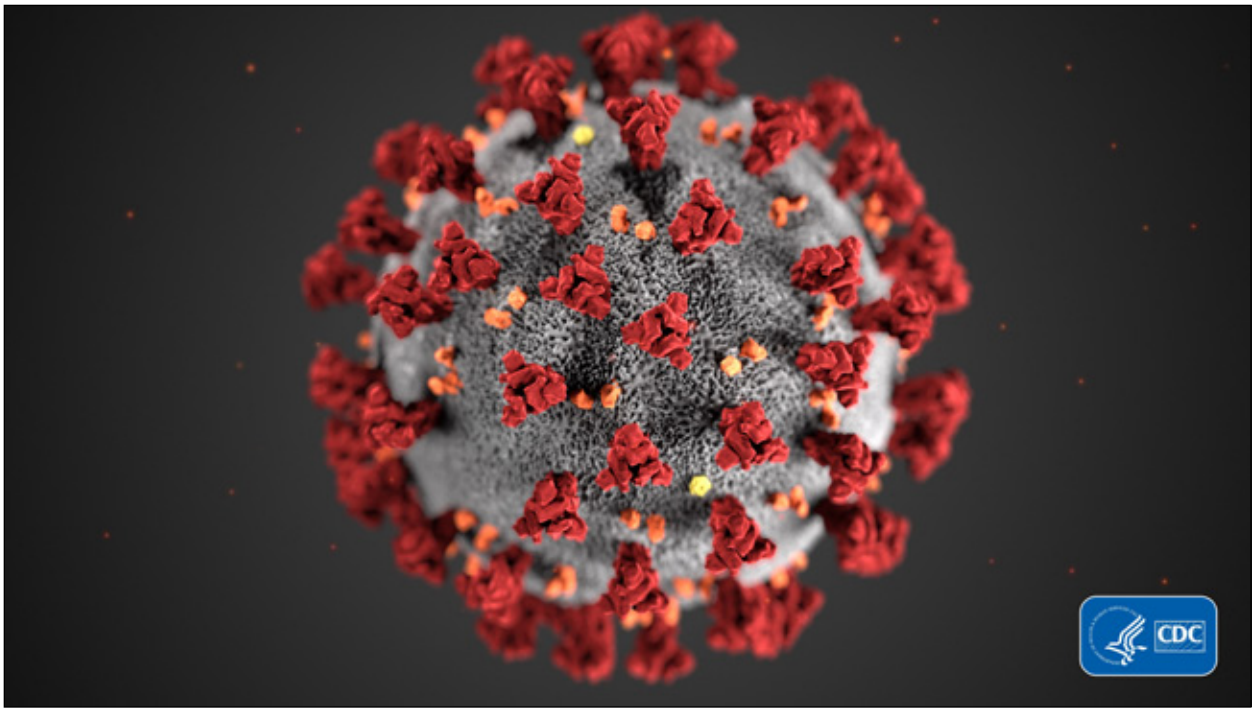
wildfires. This is an early illustration of machine learning. Another example would be how the Cincinnati Fire Department uses data analytics to optimize 80,000 emergency medical calls each year.

In a disaster situation, AI can predict and evaluate needed response actions. This feature is a valuable resource in emergency response efforts. Also, when coupled with the predictive capabilities of the internet of things (IOT) it provides a limitless source of data.

AI tools use technologies such as deep neural networks to find potential risks and threats that would never have occurred to a human. In addition, by using predictive analytics, an AI system may be able to determine appropriate actions ahead of time before reaching a point of failure.

On 30 January 2020, the World Health Organization (WHO) declared the Coronavirus a global emergency. In the period of several weeks, it had already exceeded the number of people infected during the 2002-2003 SARS (Severe Acute Respiratory Syndrome) in China. Technology such as AI helped with this global health problem by using natural language processing (NLP), machine learning (ML), and vast amounts of data. The company named BlueDot made its Coronavirus call on 31 December 2019. This was a week before the U.S. Centers for Disease Control and Prevention made its determination on 6 January 2020.

The illustration below, created at the Centers for Disease Control and Prevention (CDC), reveals ultrastructural morphology exhibited by the 2019 Novel Coronavirus (2019-nCoV). Note the spikes that adorn the outer surface of the virus, which impart the look of a corona surrounding the virion, when viewed electron microscopically. This virus was identified as the cause of an outbreak of respiratory illness first detected in Wuhan, China.



Another AI illustration is the robots that minimized human contact and stopped the transmission of the virus via person-to-person, potentially saving lives. According to news reports, robots were also delivering meals to persons quarantined in a hotel and in hospitals to deliver medicine.

Response Technology

Finally, no story that hinges so much on AI would be complete without addressing unmanned aerial vehicles (UAV) or "drones." Drones have become highly recognized and more effective over the past five years, especially in the fields of fire service and law enforcement. Initially, the general public's view of a drone was from a military action report in the news media, but that view has evolved.

There is a concerted effort on the part of academic centers, governmental organizations, entrepreneurs, industry leaders, and drone enthusiasts to research every type of potential drone use that would enhance service to citizens. For example, the California and Australian wildfires illustrated that drone technology is shaping wildfire response.

With predictive analytics and response capabilities, artificial intelligence tools can help emergency services find and mitigate potential risks and threats.

Smoke inhalation is very dangerous to helicopters flying over wildfire drop zones or conducting situation awareness missions. A drone will not be affected by the smoke and still will be able to perform as anticipated. Care is being taken in mission development to ensure that drones and AI systems in general do not outpace safety.

AI systems can fail if they are deployed outside of the context that they were designed for. A significant hurdle for AI systems is overcoming their limitations for being used in other related tasks, such as operating aircraft at night or using drones as aerial flamethrowers (Dragon drones), which are used to light back fires that help stop the advancing fires. At the same time, AI systems such as drones are very adaptable to different applications of the same skill.

Artificial intelligence and knowledge of it will increase the skill set of every emergency manager in the future. Without doubt, AI and drones will have missions in the future no one has even considered yet – and emergency managers should be ready for the challenge.

William H. Austin, DABCHS, CFO, CHS-V, MIFire, currently teaches in the Emergency Management master's degree program at the University of New Haven in Connecticut (2016-present). He formed his own consulting firm, The Austin Group LLC in 2011. He served as fire chief of West Hartford, CT (1996-2011) and as the fire chief of Tampa, FL (1985-1995). He has a master's degree in Security Studies (Defense and Homeland Security) from the United States Naval Postgraduate School (2006) and a master's degree in Public Administration from Troy State University (1993). He is a member of the Preparedness Council and has served in various Governing Councils both in Florida and Connecticut.

A Family Tradition – Old School Florida Smuggling

By Robert C. Hutchinson

The evolution of drug smuggling and related crimes in south Florida can be viewed through one family and its many criminal associates. The Barker Family entered the smuggling business in the 1970s and transitioned from marijuana to cocaine and illegal aliens by the 1990s. Through drug and alien loads, broad conspiracies, and multiple deaths, the smuggling group was active, successful, and notorious. This is an account of old school Florida smuggling through the long thread of one small family. It is a bit of a history lesson and a fascinating journey back in time.

Follow this intriguing true story in a new 16-part DomPrep series. Catch up on this month's installments:

Ch. 1: Introduction to the Barker Family

Ch. 2: Barker Family's first known Colombian drug smuggling capers

Ch. 3: Amazing story behind a prolific pilot associated with the Barker Family

Ch. 4: Barker Family's cross-border smuggling techniques

NEW TODAY Ch. 5: Intricate criminal world of conspiracy, fraud, and extortion involving the Barker Family

Look for updates each Wednesday (DPJ Weekly Brief & DomPrep Journal) and Fridays (special edition), and online at DomPrep.com

Triggered Collapse, Part 2: Viral Pandemics

By Drew Miller

The nation currently faces an age of bioengineered viral pandemics and collapse. Advances in biotechnology enable nations, terrorist groups, or even lone wolves to create genetically modified organisms (GMOs) such as a human-to-human transmissible version of avian flu or to modify a lethal virus to facilitate a longer period of contagion and undetected spread before symptoms manifest. Bioengineering enables almost anyone to modify and release a new virus that, in addition to a pandemic, could cause an ensuing collapse in economic activity as well as loss of law and order as people react to the threat. Some experts say that the threat of a natural or bioengineered viral pandemic is already here. As it becomes increasingly easier to modify existing pathogens, the threat will also rise as these pathogens are made to be more lethal and more transmissible.

In 2012, scientists from the Center for Biosecurity of UPMC, Baltimore, warned that H5N1 avian influenza kills about 60% of its victims, compared to just 2% (or 50 million people) for the 1918 Great Spanish Flu Pandemic. With some cases of unsustained human-to-human spread of H5N1, scientists are concerned that the virus will eventually mutate to a form that is easily spread from person to person:

> *Like all influenza strains, H5N1 is constantly evolving in nature. But thankfully, this deadly virus does not now spread readily through the air from person to person. If it evolves to become as transmissible as normal flu and results in a pandemic, it could cause billions of illnesses and deaths around the world.*

Dual-Use Research, Increasing the Threat

History shows that there is an increasing ability to modify viruses and access laboratories to create new and more lethal pathogens. In some cases, research begins with good intentions but, in the hands of someone with nefarious intentions, could be extremely dangerous. Laboratory accidents, do-it-yourself biologists, and individuals conducting virus experiments at their homes or in small rent-a-lab spaces introduce many intentional or unintentional safety and security concerns. In addition to the following examples, other legitimate lab incidents have likely occurred without being publicized:

- In 2001, Australian researchers attempting to make a contraceptive vaccine for pest control inserted a "good" gene into mousepox virus and accidentally created a lethal new virus that resisted vaccination.

- In 2002, a team of researchers at SUNY Stony Brook created a live polio virus as part of a Department of Defense (DOD) project to prove the threat of synthetic bioweapons. The head of the team, Eckard Wimmer said that, "You no longer need the real thing in order to make the virus and propagate it."
- In 2011, a team of researchers at the Erasmus Medical Center in The Netherlands attempted to turn H5N1 virus into a human-to-human flu. The goal was to repeatedly infect ferrets until a new form of H5N1 emerged that could spread through the air from one mammal to another. Although human-to-human transmission was not reached during that study, the lesson learned from this research is that high-tech bioengineering is not required to alter current pathogens. In this case, researchers used a simple process of swabbing the noses of the infected ferrets and using those samples to infect other ferrets.
- In 2011, international media reported that scientists had created a virus with 60% lethality. The U.S. government expressed concern about the risk of terrorists exploiting this information if the results were published.
- In 2013, at China's National Avian Influenza Reference Laboratory, scientists combined H5N1 with genetic attributes found in dozens of other flu strains. The results included "man-made super flu strains" with lethal airborne transmission between guinea pigs. Scientists around the world condemned such experiments as "appalling irresponsibility." Those scientists recognized the threat this experimentation poses should a new viral strain (mixed with human influenza) escape.

When scientists created a virus with 60% lethality, the government warned that publishing the data could increase the risk of terrorists exploiting it.

- In recent years, scientists continue to make advances in their ability to manipulate DNA and create new GMOs. New technology emerges monthly, with universities and research labs selling the old, but still very capable machinery – enabling terrorists or do-it-yourself amateurs to obtain advanced, inexpensive bioengineering tools.

A lone terrorist releasing the virus would likely be detected and thwarted to limit the devastation. However, a nation state would be more capable of launching a bioattack that not only has high lethality and transmissibility but also: (1) a longer dormant period; or (2) carriers who do not exhibit the illness or symptoms. This scenario could infect and kill millions, leaving survivors with social and economic instability as well as radically disrupted security for months or possibly years.

Incentivization for a Bioattack

If a country like North Korea were to launch a successful nuclear attack on another country, the worldwide response would be swift and devastating for that nation. Alternatively, North Korea could secretly release a deadly virus in the United States or elsewhere that could kill hundreds of millions. Even with strong speculation of responsibility, the origin of such an attack would be difficult to prove.

The effects of a weaponized virus versus a nuclear weapon are much greater: more lethal, less expensive, and easier to create and launch. In addition to the massive number of fatalities that an avian flu modified for human-to-human transmission could cause, the secondary and tertiary effects also need to be considered. Economic and social chaos coupled with a breakdown in law and order would contribute to the fatalities, perhaps even more so.

In the case of North Korea, another benefit of such an attack is that the country is relatively isolated from the rest of the world. As the virus spreads from country to country, North Korea's limited international travel compared to countries like the United States could protect residents from the threat. North Korea would be ideally situated to not just survive, but actually benefit from a global pandemic. As South Korea and the United States experience widespread devastation, North Korea would be little affected by a pandemic.

Similarly, Iranian Revolutionary Guards could decide that preparing and spreading a human transmissible form of avian flu in Israel and the United States would be more beneficial than investing in a small nuclear attack, which would have a low probability of success but high probability of devastating retaliation against Iran. Releasing a slow-acting virus in busy airports would ensure that the contagion could spread for a few days before those infected would show symptoms. By the time the Centers for Disease Control and Prevention (CDC) detects and issues a warning, it would be too late for the millions of Americans who would already be infected in cities and states across the country. At that point, as the spread continues, quarantine would not be possible. In this scenario, Iran would likely be affected as the pandemic spreads. However, they would have time to quarantine and may have developed a vaccine before the initial release. Again, determining where the virus originated would be difficult to prove.

Scientists have warned for years that weaponized biotechnology and genetically modified organisms pose an "existential threat" to humans. A May 2011 National Defense University study concluded that "there are tangible opportunities for many potential adversaries to acquire, modify, and then manufacture to scale a potential GMO pathogen." Despite warnings from scientists and experts of the "existential threat" that biotechnology and GMOs pose, the warnings have yet to be fully heeded. The controversial issues raised by this threat create political and bureaucratic barriers to governmental action.

Many known and yet unknown terrorist groups and bad actors around the world could be working on manual or high-tech bioengineering ways to develop deadly new viruses. The threat could originate from a broad range of actors – from one dedicated, deranged individual (a "biological Unabomber") to a highly moral biologist. For example, a kindly scientist who believes that overpopulation is destroying the planet and future generations could develop and release a bioengineered viral pandemic to reset the human population to a sustainable level. In 1998, biologist Lynn Margulis warned:

> *We need to be freed from our species-specific arrogance. No evidence exists that we are "chosen," the unique species for which all the others were made. Nor are we the most important one because we are so numerous, powerful and dangerous. Our tenacious illusion of special dispensation belies our true status as upright, mammalian weeds.*

Although biotechnology promises great new treatments and advances in medicine, it also could be used to design new and more deadly viruses. It appears to be too late to stop the spread of this technology and its inevitable misuse. With or without advanced biotechnology, the potential of causing a global pandemic capable of killing millions of people could incentivize terrorists and nation states to tamper with pathogens to make them highly transmissible within the human population. There is no way to forecast the odds of a bioengineered viral pandemic, but many experts believe it is inevitable and could happen very soon.

This article is Part 2 of a six-part series on closing disaster recovery gaps and preparing for triggering events that could cascade into long-term societal disruptions:
Triggered Collapse, Part 1: A Nation Unprepared
Triggered Collapse, Part 2: Viral Pandemics
Triggered Collapse, Part 3: Lessons in Lawlessness
Triggered Collapse, Part 4: Cascading Consequences Beyond the Event
Triggered Collapse, Part 5: Gaps in National Disaster Planning Scenarios
Triggered Collapse, Part 6: A Nationwide Call to Action

Drew Miller, Ph.D., a former intelligence officer, Pentagon Senior Executive Service official, and retired Air Force Reserve Colonel, business executive, management consultant. He was an honor graduate of the Air Force Academy, receiving an academic scholarship to Harvard University, where he earned a master's degree and Ph.D. in public policy. He has published articles on the bioengineered pandemic threat and presented at national conferences on disaster preparedness. He served as a part-time elected official, county commissioner, and University of Nebraska Regent for 16 years, and continues to serve in the Civil Air Patrol.

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