



# Bioterrorism, Fake News and Alternative Facts

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Firestorm Expert Council Member, [Steve Crimando](#), MA, BCETS, CHS-V, is an internationally known consultant and educator specializing in the application of the behavioral sciences in homeland and private security, violence prevention, crisis management and disaster response. He has graciously allowed us to share his newest article *Bioterrorism, Fake News and Alternative Facts*. In this article, he discusses bioterrorism, the new media landscape and the potential for hyperaccelerated epidemic hysteria.

[Learn more about Steve](#) and his accomplishments, or read [additional insights](#).

## Bioterrorism, the New Media Landscape and the Potential for Hyperaccelerated Epidemic Hysteria

*This is an open letter to leaders in emergency management, security, and business continuity roles in both public and private sector organizations. I believe it to be an important message:*

Speaking at the recent World Economic Forum in Davos, Switzerland, Bill Gates warned government and business leaders of the serious and growing risk of bioterrorism, and the global lack of preparedness to effectively respond to such events. [The Bill and Melinda Gates Foundation](#) is a part of the [Coalition for Epidemic Preparedness Innovation](#)s focused on preventing future disease outbreaks. Mr. Gates raised the same concerns last March during a Reddit ["Ask Me Anything"](#) event. At that time, he said, *"The problem of how we prevent a small group of terrorists using nuclear or biological means to kill millions is something I worry about."* At Davos, he went on to say, *"I think an epidemic, either naturally caused or intentionally caused, is the most likely thing to cause, say, 10,000 excess deaths."*

I echo Mr. Gates' fears, but have additional concerns not reflected in the discussion in Davos. Bioterrorism is one part weapon of mass destruction and an equal or greater part weapon of mass disruption. In fall 2001, I had the unique professional experience to be reassigned from my post as a Field Operations Supervisor at New Jersey's World Trade Center Attack-Family Assistance Center to Trenton to coordinate onsite psychological support operations at the Anthrax Screening Center.

In a day's time, I transitioned from the scene of the catastrophic 9/11 attack in New York City to one of America's first bioterrorism response operations. I was assigned that role in part because I had studied,



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published and lectured on the psychological consequences of chemical, biological, radiological and nuclear (CBRN) terrorism for several years prior to the event that the FBI would ultimately label the Amerithrax case. I have had the rare opportunity to be a first-hand witness to the psychosocial impact of bioterrorism, and the changing nature of this risk. My message to leaders in all types of security and emergency management roles is simply this:

***The next bioterrorism attack in the U.S. will look nothing like the last.***

The models used to prepare for, respond to, and recovery from other forms of disasters and terrorism are not necessarily applicable to this exotic form of terrorism, and if Mr. Gates is correct in his assertion that we, the global community, are not prepared to manage the medical and physical impact of such events, we are likely to be absolutely blindsided by the psychological, social and economic devastation that would ensue.

### **A Perfect Storm: Bioterrorism and the New Media Landscape**

A bioterror attack at this particular moment would likely be characterized by, and greatly complicated by, three cultural phenomena that were not present during the 2001 Amerithrax event: *Social media*, *fake news* and *alternative facts*. The confluence of these three factors with an actual bioterror event has the potential to create a social response I refer to as *hyperaccelerated epidemic hysteria*; a dynamic emergency managers and public officials have never encountered in any prior crisis. *Hyperaccelerated epidemic hysteria* may represent one of the most daunting challenges that governments and businesses have ever faced. It is completely unique to this specific time and place in history. To understand this challenge, it will be important to explore both components: *epidemic hysteria* and *hyperacceleration*.

### **Epidemic Hysteria**

The psychosocial reactions associated with bioterrorism that are not those seen in most other types of disasters. Coincidentally, just one week before Mr. Gates voiced his concerns in Davos, I had the opportunity to speak on this topic via a FEMA Region II webinar titled, *“Psychosocial Management of Conventional and Unconventional Terrorism.”* In that webinar, and in any discussion of the psychophysiological and psychosocial reactions to bioterrorism, it is important to keep several important concepts in mind.

At the most fundamental level is the understanding that terrorism is intended to affect political, social, economic, or religious change using fear and intimidation when the perpetrators are unable to accomplish their objectives through democratic or other legitimate processes, or are unable to directly confront an adversary militarily. Terrorism is the systematic use of violence to create a general climate of fear in a population.

***The type of fear that terrorists trade in is referred to as “ambient fear;” the background fear among the population that another terrorist attack can occur at any time.***

The seemingly random, unpredictable delivery schedule of terrorist attacks optimizes the psychological impact of these events. The most powerful tool of the terrorist therefore, is not necessarily chemical, biological or radiological; it is psychological—terror is fear.



The use of bio-agents as weapons of terror produces potentially greater psychosocial consequences than more conventional means, such as bombing, shooting or kidnapping. The effects of bioterrorism are derived from both the action of the substance on the brain and body, and the implications of the terrorist act on the human psyche. These exotic hazards are not typically well understood by the public and are

poorly understood outside of limited professional group. In addition, they are subject to controversy within the professional community. Public and scientific uncertainty is likely to characterize such incidents, and can greatly undermine public confidence. Bioterror events have the potential for high numbers of casualties, limited availability of treatments, uncertainty about effectiveness of treatments, contagion, and the dispersion of biological casualties.

There are several factors unique to bioterror attacks that must be factored into all aspects of preparedness, response and recovery. Bioterrorism can cause injuries and illnesses which are difficult to diagnose and may lack antidotes for medical protection and treatment. They are difficult to detect in the environment. As such, one of the complicating factors is the *"bookends effect."* In natural disasters, such as fires, floods or tornadoes, as well as acts of conventional terrorism, like bombing and shooting incidents, it is clear to people when the event begins, when it ends, and whether they were in or out of the affected area. In bioterrorism, the hazards may be odorless, colorless, tasteless and silent. Bacteria and viruses cannot necessary be detected simply by our senses and typically require sophisticated equipment and testing.

When hazards such as biological, chemical or radiological agents, as well as natural disease outbreaks occur, the behavioral health response is very different than other types of disasters. Sudden, shocking disasters or emergencies with clear bookends tend to produce acute, PTSD-like reactions (i.e., arousal, avoidance and re-experiencing), whereas hazards lacking bookends tend to generate more somatic and chronic reactions. These reactions often feed the *"worried well"* or *"walking well"* phenomena, but have the potential to create a substantial surge in demand for healthcare services, supplies and medications. Even for those screened and deemed to be medically clear, there can be the lingering fear of delayed impact from exposure.

Panic is unlikely in most disasters, but more likely in a bioterrorism scenario. Panic is driven by two foreseeable dynamics: perception (real or imagined) of limited opportunity for escape, and limited availability of critical supplies (e.g., medications, masks, hand sanitizers, etc.). The 2001 anthrax experience was notable for people stockpiling antibiotics, opening their mail with medical gloves, and distancing themselves from others thought to be contaminated. There were instances of black market and counterfeit antibiotics sold via the Internet. It is also important to remember that the single greatest asset in a post-disaster environment is community cohesion; that is neighbor-helping-neighbor. When

the community is feared to be contaminated with a hazard that can't be seen, heard, smelled or tasted, it creates an entirely different type of fear that drives neighbors apart and deepens the wounds. Social stigma can be experienced by those contaminated or thought by others to be contaminated. People may choose not to assist victims of bioterrorism out of fear that they may become exposed or ill. The lack of social support can greatly hinder resilience and recovery efforts.

Then there are MUPS. Medically Unexplained Physical Symptoms is a term applied to a clinical presentation which cannot be explained through contemporary medical, anatomic, physiologic and/or scientific methods. This in part drives surge, as many people will be unsure if they have in fact been exposed to the hazard, and therefore feel compelled to seek medical assessment or prophylactic treatment. For example, the 1995 Tokyo subway sarin gas attack produced a 4:1 ratio of psychological casualties to medical casualties [i], while the 1987 radiation accident Goiânia, Brazil resulted in a 500:1 ratio. In the Brazilian experience, nearly 112,000 required medical screening in the first weeks of the incident, and of the first 60,000 or so examined, more than 5,000 had the signs and symptoms of acute radiation sickness. Not one of those 5,000-plus had been exposed to the radioactive material. [ii] MUPS can take on many forms and affect nearly every system. This ratio of psychological to medical casualties is sometimes referred to as the "behavioral footprint" of the emergency. MUPS can present as respiratory, neurological, dermatological, gastrointestinal or other symptoms. To better visualize MUPS, I recommend the reader to this [short video reporting on a "mystery illness"](#) that ultimately afflicted 20 high school students in Leroy, New York in early 2013.

MUPS are potentially compounded by *misattribution of normal arousal*, which is to say that people misread and then misattribute every ache, pain, cough or snuffle to the hazard of the day. If the news cycle is dominated by stories of people being sickened or killed by a bioterror attack, it is understandable that others experiencing any physical discomfort may fear that they too have been exposed or infected, further driving demand on the healthcare system and competition between neighbors to get the last medications or medical supplies at the local pharmacy. There are also specific fear-inducing aspects of the emergency response to bioterrorism, such as the sight of responders in protective suits, disrobing in public for decontamination, wash-downs in chemical or other solutions, potential periods of isolation and observation, and general confusion or lack of information shared with victims. In combination, these factors potentiate fear and psychological trauma.

The last two foreseeable reactions discussed here will help better explain the concept of *hyperaccelerated epidemic hysteria*. *Mass Sociogenic Illness*, sometimes referred to in the literature as *Epidemic Hysteria*, is social contagion. *Epidemic Hysteria* or *Mass Sociogenic (or Psychogenic) Illness* (MSI) refers to the social phenomenon of two or more people experiencing a cluster of symptoms for which there is no apparent medical cause. It is the same sort of reaction described as MUPS, but spreading more widely through a community. The advent of social media and the ubiquity of mobile communications are important factors in the potential of MSI. In the video related to the mystery illness in upstate New York, both MUPS and elements of MSI are present. Initial research suggested that the teens communicating about their symptoms via social media contributed to social contagion. When thinking about a global pandemic it is also important to consider estimates that by the end of 2017 there will be more than 5 billion mobile phone users worldwide. [iii] The way people will communicate in the next pandemic will be very different than the last.

Lastly, it has been demonstrated that during bioterrorism and other threats characterized by invisibility, there is a heightened distrust of public officials. People often believe that government and emergency management officials are not providing all of the facts or that there is some element of spin in play to suppress fear and potential panic. In fact, when public officials make pronouncements that there is nothing to worry about, well that is usually when people really start to worry. Attempts to sugar-coat the situation or downplay fears can backfire, and if risk and crisis communications don't hit the mark on the first attempt, it's important to remember that it's really difficult to unscare people.

### **Social Media, Fake News and Alternative Facts**

Social media is a two-edged sword in public health emergencies. There have been many examples of social media apps and proprietary emergency notification technologies expediting the delivery of good information to a concerned public. But there have been an equal number of instances in which bad information, misinformation and rumor have moved through communities with light-speed fueling the reactions described above. Social media in public health emergencies such as bioterrorism attack does not cause the psychosocial or psychophysiological reactions discussed here, but it can contribute to the rapid and potentially exponential fear response in the community. As an aside, consider the possibility of a cyberattack or hacking situation that intentionally manufactures rumors and misinformation during an actual bioterror attack. There is also the possibility of the terrorist or terrorist group using social media to gloat and glorify the success of their operation. In August 2015, I wrote on "[Social Media, Violence & the Herostratus Syndrome](#)" shortly after the tragic shooting of two TV news reporters in Virginia. Remarkable to that case was the fact that the shooter recorded his attack and immediately posted the video to his social media sites. The shooter in the Orlando nightclub last June posted to his Facebook account multiple times during the massacre. Social media has become an effective tool for terrorists.

Don't think for a moment that any future bioterrorism attacks would not be optimized via social media by the perpetrator(s).

Social media as we know it today did not exist during the 2001 anthrax attacks. It is now a ubiquitous and powerful societal influence. Consider this: The civil rights march in 1963 took nearly eight months to organization by mail and telephone, while the 2011 Arab Spring uprising in Egypt took ten days to organize via social media. Both events have had powerful and lasting effects on the world we live in today.

If you consider terrorism as a business model with the primary product being fear, then social media becomes one the most effective distribution channels for their product that can be imagined. The speed and reach of social media combined with the powerful psychophysiological dynamics of *Mass Sociogenic Illness* can give rise to the very real risk of *hyperaccelerated epidemic hysteria*. Misinformation about shortages of medications can instigate aggressive crowd behavior, and just as easily, rumors that a particular hospital or clinic has ample supplies can trigger a *flash mob*. Any and all of the psychosocial reactions described here are likely to occur at a blinding pace, leaving emergency officials little time for effective response or counter-messaging.

The two latest developments of concern are the new phenomena of *fake news* and *alternative facts*. Trust and credibility are at a premium during acts of bioterrorism. The idea of *fake news*, or at least the possibility of senior government officials declaring some news reports to be untrue and intentionally malicious, can only add to confusion and distrust among a worried public. There have always been conspiracy theorists and instances of terrorism described as “*false flag*” attacks perpetrated by the government for some dark purpose, but the emerging idea of *fake news* has the potential to pour gasoline on what may already be a raging fire of fear.

Lastly, the most recent development in high-level government communications is the idea of *alternative facts*. With nearly three-decades in various levels of government work I have made it a practice to remain as apolitical as possible. As such, I am not discussing a political party or the newly installed administration *per se*, but simply the idea that a spokesperson would introduce the notion that there are the facts of a situation, and then possibly *alternative facts* which run counter to the established facts. *Facts are facts*. Any attempt to discredit established facts and replace them with alternative and perhaps more convenient facts at best is confusing and erodes public trust. If public health experts provide medically-sound facts about a bio-hazard, along with information about the appropriate means for protection and treatment, only to have top-tier leaders introduce *alternative facts*, well one can only imagine the chaos that may follow. In the context of a bioterrorism scenario, having competing sets of facts will muddy the waters badly at a time when the American public will be looking for a single consistent, credible, and plausible position from its leaders.

### **Uncharted Waters**

The intersection of the known psychosocial and psychophysiological reactions to bioterrorism with the lesser known impact of *social media*, *fake news* and *alternative facts* can only serve as a force multiplier for the potential impact of an act of bioterrorism. Social media alone will likely serve as an accelerant, moving good information, bad information, misinformation, and rumor instantly through our communities. Efforts to inform, educate, and reassure a worried public may be badly undermined by the advent of *fake news* and *alternative facts*.

Taken together, whatever harm may be done by an actual bioterrorism attack is likely to be compounded by the psychosocial effects of *hyperaccelerated epidemic hysteria*. Fortunately, acts of bioterrorism have been relatively rare. Unfortunately, since they have been so rare, we are nowhere near the same level of readiness for these events as we are for more conventional acts of terrorism, and therefore are completely unprepared for the perfect storm created by the confluence of bioterrorism, *social media*, *fake news* and *alternate facts*.

And don't for a minute think that this point is lost on the bad guys.

[i] Kawana, N., Ishimatsu, S., and Kanda, K. (2001). Psycho-Physiological Effects of the Terrorist Sarin Attack on the Tokyo Subway System. *Military Medicine* 166:23-6.

[ii] Becker, S. (2001). Psychosocial Effects of Radiation Accidents.” in *Medical Management of Radiation Accidents*. 2nd ed. Boca Raton, FL. CRC Press.

[iii] Statista/Mashable: Oct. 2013.

## About Steve Crimando

Steven M. Crimando, MA, BCETS, CHS-V, is an internationally known consultant and educator specialized in the application of the behavioral sciences in homeland and private security, violence prevention, crisis management, and disaster response. He is the Principal of Behavioral Science Applications, an innovative operational risk management consulting firm based in the New York Metro Area serving a global client base.



Steve is a Board Certified Expert in Traumatic Stress (BCETS), a Diplomat of the National Center for Crisis Management; the American Academy of Experts in Traumatic Stress, and the American Board for Certification in Homeland Security, where he serves as an officer on the Board of Directors.

He is a Certified Trauma Specialist (CTS), a Certified Police Instructor, and holds Level 5 Certification in Homeland Security (CHS-V). He is a member of the Association of Threat Assessment Professionals, an expert in threat assessment and threat management, and is frequently called upon by law enforcement agencies, the media and the courts to provide insight on workplace, school and community violence prevention and response, including acts of extreme violence such as active shooter incidents.

Steve served as a Disaster Field Operations Supervisor for the FEMA's mental health response to the 9/11 World Trade Center attacks and coordinated onsite psychological operations at New Jersey's Anthrax Screening Center. He helped coordinate psychological support services at such incidents as the 1993 World Trade Center bombing, Hurricanes Floyd, Irene and Sandy, and TWA Flight 800 crash. Steve has assisted at over a dozen major air crashes and has counseled many victims of violence, including those who were targets of the Unabomber, international kidnappings and other acts of terrorism. He serves as a consultant and trainer for the U.S. Department of Homeland Security (DHS)-Federal Emergency Management Agency (FEMA); U.S. Department of Justice (DOJ)-Federal Bureau of Investigation (FBI) and Office for Victims of Crime (OVC); U.S. Department of Labor (DOL)-Occupational Safety & Health Administration (OSHA); U.S. Health & Human Services (HHS)-Substance Abuse Mental Health Services Administration (SAMHSA)-Disaster Technical Assistance Center (DTAC); U.S. Public Health Service; National Criminal Justice Training Center; New York Police Department (NYPD)-Counterterrorism Division (CTD), and the United Nations Emergency Preparedness & Support Team.

Steve is the author of many published articles and book chapters. He has been featured for his work in violence prevention and response in many professional journals, magazines and newspapers, and frequently appears on both network and cable news and talk shows, as well as in the courts, as a subject matter expert addressing the behavioral aspects of public and private sector crisis prevention and response.

[Read additional insights by Steve.](#)