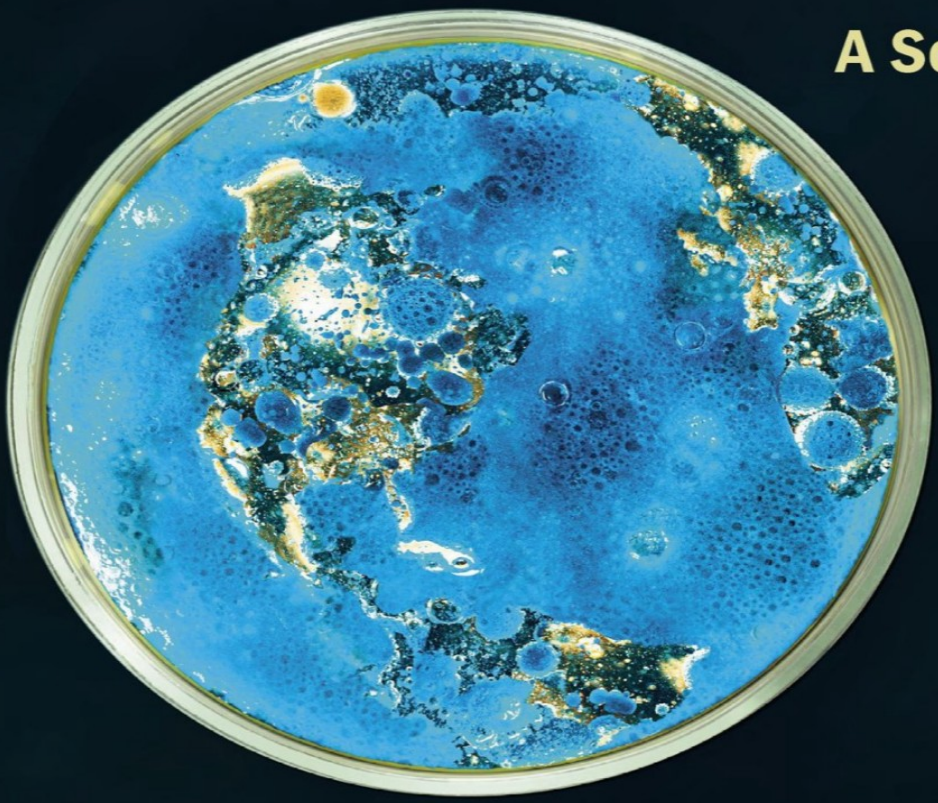
Biological War

A Scenario



Annie Jacobsen

New York Times bestselling author of *Nuclear War*

ALSO BY ANNIE JACOBSEN

Area 51

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Biological War

A SCENARIO

Annie Jacobsen

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For Kevin

"War happens to people, one by one.
That is really all I have to say…"

—Martha Gellhorn

AUTHOR'S NOTE

Biological warfare is illegal. Biological weapons are illegal. And yet biological weapons exist. The biological weapons that exist include genetically modified weapons designed for hypervirulence and human-to-human transmission. Weapons with a high lethality rate, and no known cure.

The use of such a biological weapon would trigger a global pandemic, causing mass death, total societal breakdown, widespread insurrection, and anarchy, leaving behind a plague-ravaged wasteland that no longer resembles modern civilization. Everyone in the business of preventing biological warfare knows this to be true.

"Very much like nuclear war, there is no real homeland defense against a large-scale biological attack, only things you can do to mitigate extermination," says Dr. Thomas Ehrhard, a retired air force colonel. Ehrhard served as the military assistant to Andrew W. Marshall, the legendary director of net assessment in the Office of the Secretary of Defense, where he led a team that designed and executed war games involving large-scale nuclear and biological attacks.

Over 100 years ago, the international community banned the use of biological weapons with the Geneva Protocol of 1925, but by World War II, various nations were developing robust biological weapons programs, including the United States, the Soviet Union, Nazi Germany, and Imperial Japan. After the war, biological weapons work continued unabated around the globe, despite postwar scientific knowledge that the use of a biological weapon could unleash an unstoppable pandemic with a global death toll not

seen since the Black Death, which killed between one-third and one-half the population of medieval Europe.

And then, in November 1969 and without much warning, President Richard Nixon renounced America's biological weapons program. This led to the 1972 Biological Weapons Convention—the BWC—an international treaty prohibiting the development, production, acquisition, transfer, stockpiling, and use of biological and toxin weapons.

In the treaty's preamble, biological weapons are referred to as "repugnant to the conscience of mankind." And still, there was, and remains, a catch. A loophole that imperils all of us on this Earth.

The Biological Weapons Convention treaty allows for "defensive" biological weapons research, meaning scientists can conduct research involving the same pathogens that could be used for biological warfare—so long as the research warrants to be "for prophylactic, protective, or other peaceful purposes." In other words, offensive biological weapons research can masquerade as "defensive" in scope.

"The treaty has no protocols for enforcement," former assistant secretary of state Mallory Stewart tells us. The treaty is a worthy declaration, but a cross-your-fingers-and-hope approach.

The treaty that came out of the Biological Weapons Convention has been violated in the past. In the second half of the Cold War, after signing the treaty, the Soviet Union secretly and illegally developed and stockpiled massive arsenals of biological weapons, including genetically engineered germs. This is but one historical example, with flagrant violations continuing today. A 2025 U.S. State Department compliance report assesses that Russia and North Korea each "maintains an offensive BW [biological weapons] program" in violation of the treaty, while China and Iran are engaged in biological research and activities that raise unresolved compliance issues. Russia is particularly problematic. "The United States maintains that the Soviet program was absorbed, not

dismantled, by the Russian Federation," says the State Department's special representative to the Biological Weapons Convention, Kenneth D. Ward, "and that program has continued and evolved in violation of Article I and Article II of the BWC."

What makes biological warfare so sinister isn't just its ability to deliver mass casualties and deaths, but its capacity to create unbridled chaos. In planning documents, the Department of Defense warns that the widespread release of a biological weapon, even by accident, will not only kill millions, it will unravel the fabric of society. "The secondary effects…includ[e] the potential for large-scale social unrest due to fear of infection."

"Trust will collapse," Dr. Ehrhard tells us, "fear will govern. The line between order and anarchy is thin."

The scenario that follows—chronicling the hours, days, and weeks after the release into society of a genetically modified biological weapon—is based on facts and projections sourced from exclusive interviews with presidential advisors, Defense Department officials, medical doctors, microbiologists, epidemiologists, diplomats, congresspeople, CIA officers who work to counter weapons of mass destruction, Federal Emergency Management officials, and first responders who train for mass-casualty biological incidents and attacks.

It ends in dystopia.

And it echoes biological war scenarios run by the Pentagon.

"Unlike nuclear war," former Senate majority leader Tom Daschle tells us, the result of a major biological attack will be "a long, painful, slow death." Daschle is one of two U.S. senators whose office was the subject of a biological attack in October 2001. "Death physically. Death governmentally. Death in virtually every context. Biological war…will be deeply nightmarish," he warns. "People doing inhuman things, just to survive."

It is precisely this kind of warning that *Biological War: A Scenario* builds upon.

A deadly germ—genetically modified to be human-to-human transmissible, hypervirulent, able to defeat countermeasures, and with no known cure—could be twenty-first-century humans' last invention.

INTERVIEWS

(Government positions are formerly held unless indicated)

William J. Perry, PhD: U.S. secretary of defense

Honorable Thomas A. Daschle: U.S. senator from South Dakota; Senate majority leader; target of 2001 anthrax attack

Rose Gottemoeller: deputy secretary-general of NATO; U.S. under secretary of state for arms control and international security

William Craig Fugate: administrator of Federal Emergency Management Agency (FEMA)

Admiral Brett Giroir, MD, PhD: assistant secretary for health, U.S. Department of Health and Human Services, led Covid-19 testing; director, Defense Sciences Office, DARPA

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Robert P. Kadlec, MD: assistant secretary of war for nuclear deterrence, chemical, and biological defense policy and programs (current); led Operation Warp Speed

Honorable Andrew C. Weber: assistant secretary of defense for nuclear, chemical, and biological defense programs

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Jody L. Daniel: director, National and Nuclear Risk Reduction Center, U.S. Department of State (current)

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Colonel Bret K. Purcell, MD, PhD: chief, Division of Medicine, U.S. Army Medical Research Institute of Infectious Diseases, USAMRIID

Henry S. Heine, PhD: lead research microbiologist, USAMRIID; team lead on key strains of biowarfare and bioterrorism bacterial agents

Michael V. Callahan, MD, MSPH: chief, Accelerated Biodefense Therapeutics initiative, DARPA; U.S. biodefense and global health advisor; veteran virus hunter

James Lawler, MD, MPH: deputy medical director, Nebraska Biocontainment Unit; biodefense advisor to the White House and Department of Defense; field-deployed for Ebola, Marburg, Covid-19

Jeffrey D. Sachs, PhD: special advisor to the UN secretary-general

Ambassador Ettore Francesco Sequi: secretary-general of the Ministry of Foreign Affairs and International Cooperation, Italy

Sam Altman: CEO (current) and cofounder of OpenAI

Lt. Gen. Bong Su Kim: vice chairman, Joint Chiefs of Staff, Republic of Korea

Edgar D. Mitchell: lunar module pilot for Apollo 14; sixth person to walk on the Moon (deceased)

Colonel Kenneth D. Collins: A-12 Oxcart spy pilot, CIA (deceased)

Milton Leitenberg: scientist and senior research scholar on Soviet biological weapons, arms control, and weapons of mass destruction

Mariana Matus: biologist and computational epidemiologist, CEO and cofounder of Biobot Analytics; pioneered wastewater surveillance and analysis used by HHS during Covid-19

Véronique Christory: senior arms advisor, International Committee of the Red Cross; weapons of mass destruction advisor to the United Nations

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Steven Siqueira: deputy director, United Nations Counter-Terrorism Centre

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Gregory D. Koblentz, PhD: associate professor and director, biodefense graduate program, George Mason University

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Tess van Stekelenburg: science partner, Lux Capital; cofounder, Valthos

Hayden Metsky: developer of genomic tools to detect and track pathogens at scale; Valthos product development

PROLOGUE

The Demon Germ

Day Four of This Scenario
Frankfurt, Germany

An American traveler is in Frankfurt, at a crowded disco. He has no idea that, days earlier, he became infected with a highly contagious, genetically modified, biological weapon engineered to kill human beings in the most atrocious ways. He is still in the incubation period, with the germs present and multiplying. He is not yet fully symptomatic.

He feels absolutely fantastic.

He most certainly should not.

Multiplying rapidly inside his body are loads of *Yersinia pestis* bacteria, the causative agent for plague. Under favorable conditions, a bacteria cell grows by copying its DNA, then splitting into two identical daughter cells, each of which can divide again, and again.

Plague has been responsible for several of the most fatal pandemics in human history, including ones in the sixth, fourteenth, nineteenth, and early twentieth centuries. From around 1347 to 1352, the disease killed 150 million people. Countless men, women, and children have died an appallingly painful death from plague.

With the early twentieth-century discovery of antibiotics, plague became a scourge of the past, but with the advent of genetic engineering in the late twentieth century, plague has returned.

And now, in this scenario, it has been engineered into a biological weapon capable of exterminating humans at scale.

The American traveler sweats profusely, the dance music and the people around him thumping and pumping, everyone hot and sticky and breathing all over one another. He is sweating because he has a fever of 102 degrees Fahrenheit (38.9 degrees Celsius). Under normal circumstances, he'd feel extremely unwell—terrible enough to be at home, in bed, under the covers in isolation—but instead, he's out here dancing hard and breathing heavily because he feels euphoric.

What makes all this so terrifying is that what is happening here is not *just nature's way*. It is the nefarious work of biological weapons engineers.

A biological weapon is a living munition. A microscopic organism that causes disease. Silent, invisible, and self-replicating, it is the tiniest weapon in modern *Homo sapiens*' vast war chest. Forty thousand plague bacteria can fit side by side on the head of a pin.

The biological weapon replicating in the American traveler's lungs was first developed during the Cold War. This new, twenty-first-century variant infects the lungs with a degree of lethality so intense, and will lead to a level of unfolding pain so horrific, it is almost impossible for the mind to comprehend. And yet, in the present moment, all the American traveler feels is endorphin-induced euphoria. This particular plague weapon has been genetically engineered to initially deliver a neurochemical high.

"When we first heard Soviet scientists were inserting the endorphin gene [for euphoria] into *plague*," says Dr. Henry Heine, a former U.S. Army bacteriologist, "we were appalled. That they would purposefully engineer the *Y. pestis* bacteria to behave this way…to make you want to go out and socialize…this was some horrifying stuff."

Y. pestis is shorthand for *Yersinia pestis*, the bacterium that causes plague, and Dr. Heine is one of the world's subject-matter

experts. Starting in the late 1990s, he spent eleven years working on biological warfare countermeasures at the U.S. Army Medical Research Institute of Infectious Diseases, in Fort Detrick, Maryland. USAMRIID, or "you-sam-rid" as it's known, is the Defense Department's flagship center for high- and maximum-containment infectious disease research and its only Biosafety Level 4 (BSL-4) laboratory. In the event of a biological attack against America, USAMRIID scientists will be at the fore.

"When you are sick [with plague], *normally*, you feel lethargic," Heine explains. "You isolate. You stay at home. But if you have plague and you feel euphoric, you go out and socialize. And you contaminate a lot of other people with recombinant plague."

Which is what is happening with the American traveler, dancing in the crowded Frankfurt discotheque. From a moral standpoint, that anyone would do such a thing seems difficult to fathom.

"It seems evil," Heine contextualizes.

Former assistant secretary of defense Andy Weber agrees. "I grew up thinking Reagan's phrase 'Evil Empire' was an exaggeration," he tells us. "Then I learned what the Russians were doing [with biological warfare]." He pauses for effect. "It was evil."

Weber debriefed several of the Soviet bioweapons engineers after the program became public in the 1990s. He visited Russia's BSL-4 maximum-containment facilities and its armaments factories in Russia and Kazakhstan, where many of these Soviet scientists worked.

The Defense Department considers plague an especially dangerous pathogen. "Because of the severity of the disease, the rapid onset of symptoms, sepsis, and multi-organ system failure followed by 100% mortality in untreated patients," retired colonel Bret Purcell, the former chief of the Division of Medicine at USAMRIID, tells us, "the U.S. military recognizes *Yersinia pestis* [as] one of the highest bacterial threat pathogens to our military and civilian populations."

The Centers for Disease Control and Prevention, the CDC, considers plague one of more than a dozen "Tier 1 Select Agents and Toxins" representing the highest risk for use in a biological incident or attack. "Tier 1" means plague is among the most menacing of all pathogens, a top public health threat. "Select Agent" means plague is on the government's (sometimes-changing) watch list because of its unique role in the history of biological weapons.

During Dr. Heine's tenure at USAMRIID, he spent thousands of hours inside a laboratory studying plague. His efforts, which focused on developing therapeutics against biowarfare and bioterrorism, included work to develop a plague vaccine. It never advanced beyond animal trials. "You can't defend against every imaginable thing," Heine laments, citing the undeniable reality at the center of the military's efforts to defend against biological warfare. Biological warfare is, at its core, indefensible.

The American traveler dances until dawn.

He goes back to his hotel room to sleep.

Hours later, in the shower, the euphoria wears off. He feels anxiety, confusion, and fright. People whose lungs are infected with *Yersinia pestis* generally begin developing symptoms after an incubation period of between one and three days, depending on an array of factors, from the strength of their immune system, to the dosage they receive. Genetic modifications can further alter this time frame. The American's muscles ache. He has a splitting headache, like someone is ripping at the tendons behind his eyeballs. He drank too much at the crowded disco and slept too little. He tries to convince himself that is what's wrong with him.

He exits the shower.

His mind is fuzzy.

He must hurry to the airport so as not to miss his flight. He is headed to the Dallas–Fort Worth area of Texas. Population over 8 million.

Speeding down the autobahn in the back seat of a taxicab, he starts to cough. Touching his face and forehead, he feels unusually warm. He swallows two Tylenol. Wipes his face with a travel wipe. Drops Visine into each eye.

At airport security, while hoisting his carry-on to the conveyor belt, he notices there are red, pinpoint-sized splotches on his forearms. They feel tender to the touch. Petechiae are broken mucous membranes that can form under a person's skin. He feels weak. His joints ache. He has no idea what is happening to him.

In the airport bathroom he washes his face and arms. His chest hurts. His ears ring. Standing in line for a paper towel, he hack-coughs loudly into the air. All around him, travelers are coming and going, en route to countless destinations across the world. Roughly 64 million people pass through Frankfurt Airport each year, more than 175,000 a day.

Finally on the airplane, the American traveler sits down. His heart races.

The plane takes off.

He can't stop sweating. No one seems to notice. He is seated in business class, inside a pod. The clinical name for what he is experiencing is acute diaphoresis. Excessive sweating due to an underlying medical condition, which in this case is recombinant pneumonic plague. His fever soars to 103.4 degrees. His eyes bulge, and his face shows signs of bruising. The pain is excruciating, like there's an axe in his forehead or someone poking at his brain with a metal rod. The shortage of oxygen in his blood supply wreaks havoc on his extremities. His palms turn pale blue, and soon the nail beds will become dark purple, as if he dipped his fingertips in ink. His mind spins. He can't focus or comprehend.

The flight reaches cruising altitude. He heads to the galley to request a ginger ale from a flight attendant, but in his disoriented state, he walks in the wrong direction and winds up lost in coach. He stumbles into someone's lap, gets up, wobbles, pivots, and

redirects himself back toward the front of the airplane. Seated in his pod, he vomits into an airsickness bag, passes out for several hours, wakes up, staggers to the bathroom, and throws up again.

Yersinia pestis bacterium can survive across a broad range of temperatures, from 39.2 to 104 degrees Fahrenheit (4 to 40 degrees Celsius). Alone in the tiny lavatory, the American traveler collapses. His sputum sprays against the walls. Pneumonic plague is a fulminant disease, meaning it strikes fast and kills quickly. At this point in the disease's progression, he can barely stand. Parts of his lungs are beginning to rot and die. Sepsis is setting in. He can't clean up after himself. Bloody, plague-infected vomit sticks to the aircraft sink and floor. During a 1910–1911 plague epidemic in Manchuria, doctors described this kind of dark black tissue debris as something akin to bloody gruel.

Back in his business-class comforts, he coughs and moans; the humming of the airliner cancels out the noise. There is a putrid, foul odor coming from his lungs, but there is also a baby in business class, and the stench gets mistaken for a dirty diaper.

Sharp pleuritic chest pain accompanies each breath. He cannot draw enough air. The sensation of suffocation is overwhelming as necrotic debris floods his lungs. The American traveler is on an airplane bound for Texas, with 420 passengers on board. He is passing the point of no return.

The aircraft cabin lights go on.

The crew begins serving breakfast to the passengers in business class. A flight attendant notices there is something amiss with the passenger in 8A. She tries to wake him up by touching his foot. He rolls over. Immediately she sees he is dreadfully sick. His face is reddish blue. He heaves. Coughs violently in her face. While the flight attendant is cleaning herself up in the aircraft bathroom, a second flight attendant makes an announcement over the intercom. They are 350 miles from Dallas.

Is there a doctor on board?

No one comes forward, everyone afraid to assume unnecessary liability these days.

The plague replicating in the American traveler's lungs lingers in the air around the business-class cabin and beyond.

But this is not just plague. It is a recombinant DNA strain of plague.

A genetically modified plague weapon engineered not only to be more virulent, more transmissible, and resistant to antibiotics—but also to give it a secret back door. A weapon originally conceived and developed by Soviet bioweapon engineers during the Cold War.

A biological weapon with "a two-strike capacity," like a booby trap, the legendary biological warfare expert Milton Leitenberg tells us. Now in his nineties, Leitenberg learned about the Soviets' Cold War biological weapons program directly from one of its original cofounders, a plague expert named Igor Domaradskij. "I interviewed him at my house over a period of a few days in June of 1999," says Leitenberg, and Domaradskij shared with him his original hand-typed writings about how the Soviet program came to be—a copy of which Leitenberg shared with us, to help us understand the scientist's mindset and the program's foundations.

Igor Domaradskij was one of two Russian scientists who, starting in 1974, laid down the architecture for this highly classified and illegal biological weapons program. "I drafted a scheme for what were known as the 'Five principal sectors,'" Domaradskij writes, meaning the five major directions in which Russian efforts to genetically modify germs would expand. One of these programs is particularly important to this scenario, a bioengineering effort to transfer the DNA from one germ into another. "The plan," says Domaradskij, "became known as 'Bonfire.'"

The science took time.

Finally, after fifteen years of work, the Bonfire program delivered stunningly lethal results.

A weapon "designed for a 100 percent kill rate," says USAMRIID's Dr. Henry Heine, who became familiar with the Soviet program while working for the U.S. Army.

"A new class of weapons had been found," Soviet program chief Kanatzhan Alibekov would later write in his memoir. The Bonfire program had delivered a hypervirulent, antibiotic-resistant, recombinant plague superweapon for which there is no cure.

How could any of this be real? It sounds like science fiction, not science fact.

But it is real: a genetically modified, two-stage killer that, developed further, became known as a chimera bioweapon, according to Sergei Popov, another one of the Soviet biological weapons engineers involved. "Imagine a new weapon which is difficult to diagnose initially, and then which is impossible to treat with conventional antibiotics," Popov told PBS *Nova* producer Kirk Wolfinger in 2001. "A double agent [weapon], like plague and encephalomyelitis virus, [that] could be combined in one."

Alibekov, who would defect to the United States and change his name to Ken Alibek, verified the existence of this diabolical program. "Back in Moscow, I authorized…the Chimera project," he writes, with "a special grant of one hundred thousand rubles."

How can such a monstrous program exist?

"[It] was our Manhattan Project," says Alibek.

Domaradskij offers a different take. "With the advent of genetic engineering," he opines, "the horrible unpredictability of biological weapons became a reality straight from the pages of a science fiction novel."

And what might happen if one of these biological weapons were released, if even by accident?

To answer these questions—to understand how we got here and where we are today—we must go back in time to 1971. To a groundbreaking experiment conducted inside a laboratory in

Stanford, California. The first gene-splicing experiment in the history of the world.

The creation of recombinant DNA.

Part I

HOW WE GOT HERE

CHAPTER ONE

Recombinant DNA

One day in 1971, inside a laboratory at Stanford University in California, an American biochemist named Paul Berg conducted an experiment that would forever change the biological sciences. He successfully spliced DNA from a monkey virus into the DNA of a second virus, known as lambda phage.

Although humans have long blended the traits of plants and animals through grafting or breeding, Berg was the first scientist to create a recombinant DNA molecule by joining the DNA from two entirely different viral species.

He had created a chimera. Two living things at once.

Like a mythical monster of Greek lore.

Berg's seminal biotechnology was not meant to be a weapon. It was a technique: recombinant DNA. Today it is more commonly known as genetic engineering—the deliberate modification of an organism's genes, including humans'. But in 1971, Berg's gene-splicing experiment kicked down the door of scientific possibilities. Like the splitting of the atom, the discovery of recombinant DNA technology meant the world would never be the same.

On the one hand, scientists could enhance public health with the development of medical countermeasures and previously unimaginable cures. On the other hand, recombinant DNA could create novel, or new, germs that could kill untold numbers of people, wreak environmental havoc, and even alter evolution.

This is the paradox of dual-use technology. Man-made technologies can be used to help, or to harm. To heal, or to kill.

Initially, Berg's gene-splicing breakthrough remained private. No one outside the small Stanford lab knew anything about the experiment until the following summer. That's when one of Berg's graduate students, a young biochemist named Janet Metz, attended a workshop at Cold Spring Harbor Laboratory in New York and told her teacher, a virologist named Robert Pollack, that Berg had succeeded in splicing together DNA from two different viral species.

Pollack was stunned. "Pollack told [Janet] he thought that [my experiment] was the most dangerous and outrageous experiment that anybody could possibly do," Berg later recalled. He remembered Pollack asking him, "had I realized how dangerous an experiment this would be?"

Berg's experiment involved inserting a monkey-virus gene, called Simian Virus 40 (SV40)—known to cause cancerous tumors in laboratory animals—into a bacterial virus (lambda phage), with the plan of eventually introducing it into *Escherichia coli* (*E. coli*), a common bacterium that lives in the intestines of humans. Pollack's outrage, Berg learned, stemmed from the opinion "that the bacteria carrying SV40 DNA might escape, and cause cancer in [everyone it] infected."

"My first reaction," said Berg, "was that this was absurd. I didn't see any risk to it."

But Pollack's indignation stayed with him. He consulted Joshua Lederberg, a Nobel Prize–winning microbiologist, who ended up changing Berg's mind. "I came to the conclusion that I could not say with 100 percent assurance that this experiment would pose zero risk," Berg said. In an act of scientific restraint unprecedented in the modern era, Berg and ten other scientists published a letter in the *Proceedings of the National Academy of Sciences*, in which they called for a temporary moratorium on recombinant DNA techniques.

This public disclosure of the world's first gene-splicing experiment set off a firestorm of debate. Journalists accused scientists of hubris and negligence, framing DNA experiments as morally questionable, if not downright science fictional. Scientists accused the public of ignorance and naïveté. But the anti-experiment consensus was overwhelming. Even Paul Berg developed doubts, confiding in the virologist Andrew Lewis that there was a line in the process of "manipulating the genome that should not be crossed until more was known."

To address the growing concerns, Berg formed a committee. The result was the 1975 Asilomar Conference on Recombinant DNA. On a stretch of California coastline, in Pacific Grove, some 150 microbiologists, physicians, lawyers, and a few journalists gathered to debate the ethics and safety of gene-splicing research.

Three and a half days of discussion followed. "It was agreed that the research should continue, but under stringent guidelines," said Berg. Guidelines for lab safety protocols were set up, according to degree of risk. The biocontainment facilities where recombinant DNA work would take place needed airflow hoods, airlocks, and security systems to ensure that deadly pathogens would not escape. But the research should continue, the scientists ultimately agreed. Science marches on. Always has, always will.

Years later, after Paul Berg won a Nobel Prize for his research, he reflected on the central question at issue. "Do I want to go ahead with experiments that could have catastrophic consequences?" he asked. "Out of that Asilomar conference came a strong consensus," he recalled, "the government [needed] to establish guidelines or regulations." As with any new technology, key questions need always be asked, starting with "which kinds of experiments are the most dangerous?"

But there was an elephant in the room. An obvious problem the scientists were aware of but did not want to discuss. In a later-in-

life interview, Berg finally spoke publicly of the dark-hearted reality at the nexus of his groundbreaking experiment, as well as this story.

At Asilomar, Berg said, "We focused on the science…. We didn't discuss biological warfare."

They should have.

Upon reflection, Berg's colleague and fellow Nobel laureate David Baltimore, who was also at the Asilomar conference, came to agree with this horrific, unspoken truth. "We believed, somewhat naively, that there was a treaty that everyone held to, prohibiting the use of [recombinant DNA] technology to make biological weapons."

It was wishful thinking of the highest order.

Almost immediately after signing the Biological Weapons Convention treaty, the Russians began pursuing exotic biological weapons using techniques made possible by recombinant DNA.

The program's deputy chief, Ken Alibek, explains. "We were among the 140 signatories of the convention pledging 'not to develop, produce, stockpile or otherwise acquire or retain' biological agents for offensive military purposes [and yet] at the same time," he clarifies, "through our covert program, we [developed and] stockpiled hundreds of tons of anthrax and dozens of tons of plague and smallpox…for use against the United States and its Western allies."

It was a sprawling, illicit, classified biological weapons program with a singular mission. To kill hundreds of millions of people on the other side of the world.

CHAPTER TWO

The Top Secret Plan to Create Genetically Modified Biological Weapons

Obolensk, Russia
November 1989



Russia's RKhBZ defense troops perform nuclear, biological, and chemical defense training. (Ministry of Defence of the Russian Federation)

Seventeen years after vowing to renounce any and all biological weapons work, a secret meeting took place in a Russian village called Obolensk, fifty miles southwest of Moscow. It was the fall of 1989, and this group of Soviet scientists and military men had gathered to discuss their plan designed to kill millions of Americans

and NATO-friendly Europeans with genetically modified biological weapons. And to witness their newest, proof-of-concept experiment.

"The plan was to kill all the people and leave the infrastructure intact," Dr. Christopher Davis tells us. Davis, a former senior British defence intelligence officer, was the first Western intelligence officer to learn about this insidious effort.

Because the Russians' biological weapons program was a clear violation of the BWC treaty, the Soviets went to great lengths to disguise it. Igor Domaradskij was the first scientific director at Obolensk, and the first chief of the plague genetics program there. In his hand-typed writings (shared with us by Milton Leitenberg), Domaradskij reveals one such facade.

"Everything [was designed] to mislead any foreign intelligence," Domaradskij writes, and that the Obolensk weapons facility was built to resemble an insane asylum, including actors dressed as mentally ill patients roaming the grounds. "[F]rom space, it looked like some kind of sanatorium, with the convalescents walking about in pyjamas [*sic*] or playing volleyball!"

A civilian front organization was created to appear as if it produced vaccines and other medical countermeasures. The program was so highly classified that its name—*Biopreparat*, meaning "biological preparations" in English—was personally chosen by Soviet leader Leonid Brezhnev, back in 1973.

"Biopreparat was the darkest conspiracy of the Cold War," writes Alibek. "The most ambitious Soviet arms program since the development of the hydrogen [or thermonuclear] bomb."

The men in attendance at Obolensk that day in 1989 included:

- Soviet general Nikolai Urakov, director of the Obolensk research complex, and a general with the 15th Main Directorate of the General Staff
- Kanatzhan Alibekov (later known as Ken Alibek), deputy chief of Biopreparat, the top secret research and

development branch of the Soviet biological weapons program

- Sergei Popov, a young research scientist specializing in DNA synthesis
- More than fifty other senior scientists from Biopreparat, as well as senior military officials with the 15th Main Directorate of the Soviet army

The main building at Obolensk was an eight-story structure, its exterior dominated by glass. The floors were organized by the deadly pathogen being researched: anthrax, tularemia, glanders, plague. Top secret meetings like the one in 1989 took place in a large auditorium near the center of the building, austere and without windows. "We were not allowed to bring briefcases or bags inside the room," Alibek recalled. Any notes written down during briefings were confiscated by security guards. If a scientist wanted to see their own notes later, they had to get special permission.

One after the next, the Russian scientists delivered their classified briefings. Finally, the DNA synthesizer Sergei Popov took to the lectern. Not yet forty years old, by 1989 Popov had been part of the Soviet biological warfare efforts for more than ten years. Mild-mannered and deceptively shy, in 1980 he'd been singled out for scientific espionage by his boss, a molecular biologist named Lev Sandakhchiev, and sent on a six-month sabbatical to study at the prestigious Laboratory of Molecular Biology at the University of Cambridge, in England. Welcoming him in good faith, the university had no idea of the real purpose for Popov's being there, which was to master the techniques involved in Paul Berg's discovery of recombinant DNA.

Under the tutelage of the microbiologist Michael Gait, Popov learned all he could about DNA synthesis and then returned to the Soviet Union. There, he used the knowledge he'd acquired to help

create a biological superweapon, the proof-of-concept of which was now on display at Obolensk.

The purpose of the new weapon designed by Popov and his team was twofold. On the one hand, it was created to exterminate vast swaths of people. But there was a second goal, Popov later told Milton Leitenberg, a deeply psychological one. The Russians wanted to create a bioweapon that would decimate the morale of America's military planners, its doctors, and its citizens alike. This weapon would be immune to all known American medical countermeasures, including vaccines and antibiotics previously understood to provide a cure. It was a plan whose logic was as calculated as it was cruel.

"Think of the problems facing an enemy fighting the Soviet Union," Popov explained, "who suddenly found that its vaccine did not protect its soldiers and population against such a horrible disease as smallpox and whose antibiotics were useless to treat… plague, and other bacterial diseases!"

A dual-impact weapon: one that kills physically and also utterly collapses public trust. This was the psychological horror the Soviet biological weapons program sought to inflict upon the West.

The scientists gloated at the thought. "This would mean [America's] medical prowess had largely disappeared," Popov told Leitenberg, that "in effect," it would be as if America "had retreated to the pre-antibiotic age when disease killed far more soldiers than did bullets and shells." Russia's ultimate goal, said Popov, was "to [inflict] catastrophic distrust of the government and the military" upon American citizens. To gut the United States, from the inside out.

It was at the 1989 meeting in Obolensk that the results of Popov's intellectual appropriation from the Cambridge lab were put on display for the first time. Speaking from the lectern, he described how a recent test on small animals had finally delivered these long-sought-after results. Ken Alibek recalls the experiment.

"Inside a glass-walled laboratory, half a dozen rabbits were strapped to wooden boards to keep them from squirming free. Each rabbit was fitted with a mask-like mechanical device connected to a ventilation system. This was one of several standard methods of testing aerosols on small animals," Alibek clarified, and that at first he wondered, what was this experiment all about? "Watching from the other side of the glass, a technician pressed a button, delivering small bursts of genetically altered pathogen to each animal," Alibek writes. "When the experiment was over, the animals were returned to their cages for observation."

Initially, all the animals became ill, as they should have. They'd been poisoned by aerosolized germs, infected with a pathogen known to produce tuberculosis-like symptoms. But then, Alibek recollected, something unexpected happened.

Something shocking.

"[S]everal rabbits also displayed signs of another illness. They twitched and then lay still. Their hindquarters had been paralyzed."

Paralysis? It made no sense. Tuberculosis does not cause paralysis.

"The room was absolutely silent," Alibek remembered.

For years, Popov and a team of fifty Russian biochemists had been trying to synthesize a strip of DNA to express a second, new, and unexpected disease after the appearance of the first. And now they had. The work had been arduous and time-consuming. In the 1980s, computers were still in their infancy. Tasks were laborious, painstakingly performed in the laboratory, by hand, and extremely dangerous. Researchers handling these lethal pathogens had made mistakes and died.

The bioengineering tools that Popov learned while at Cambridge University had finally allowed him and his team to push science in a radical new direction: to insert a microparasite into an artificially augmented strip of DNA.

The goal of the experiment was to deliver an unexpected, secondary effect. To gene-splice together a combination of two lethal pathogens that, when combined, would carry the deadliest characteristics of each.

"A single genetically engineered agent had produced symptoms of two different diseases, one of which could not be traced," Alibek explains.

The two-stage killer. A double agent. A two-headed monster. The dream of the chimera weapon come to life.

Watching the small animals die, Alibek knew at once, "The test was a success."

A chill filled the room.

"We all recognized the implications of what the scientist had achieved," says Alibek. "A new class of weapons had been found."

This was the sought-after superweapon. A microscopic demon germ. Cunning and deceptive. Invisible and alive. Airborne.

How did civilized people get here?

In his own defense, Popov later said, "I always believed [these weapons] would never be used."

Alibek's perspective is different. "[D]uring the Cold War," he says, "we were told all the time, 'the United States is evil, they want to destroy our country. We need to do everything in our power to create very sophisticated and powerful weapons to protect our country.' "

And so they did.

CHAPTER THREE

The Secrets Spill Out

Right around the same time in 1989 that the Russian biological weapons makers were meeting in Obolensk, one of the program's highest-ranking scientists defected to the West. His name was Vladimir Pasechnik. The information he revealed, first to the British intelligence officer Dr. Christopher Davis, and later to counterproliferation officers at the CIA, changed everything about the biological sciences going forward.

"We owe Pasechnik a debt of gratitude," Dr. Davis tells us.

Davis was the first person outside the Soviet Union to learn about the Russian Biopreparat program. Before Pasechnik's defection and confession, the West was blind to the fact that such a vast, scientifically advanced biological weapons program even existed.

"In retrospect, it was one of the greatest intelligence failures of the Cold War," says the CIA's James Lawler, the former head of its Counterproliferation Division, Special Activities Unit. Lawler spent decades going after foreign scientists and other rogue state actors who were developing illicit weapons of mass destruction programs—or trying to.

Before his defection to England, Vladimir Pasechnik had been working in Leningrad as the director of an organization called the Institute of Ultra Pure Biochemical Preparations when he experienced a crisis of conscience. "He realized he could no longer live with himself," doing illegal biological weapons work, says Davis.

Pasechnik decided that on his next trip outside the Soviet Union, he would turn himself over to Western authorities, reveal the inner workings of the Russian program, and confess his sins.

During a somewhat rare trip to France, to sign contracts with an equipment company, Pasechnik made his move. In Paris, he located the address for the Canadian embassy in the phone book and knocked on the front door. Inside, he told a diplomat that he was a Soviet scientist who worked at a highly classified weapons laboratory and that he needed to speak with someone urgently. That he wanted to defect to the West. The Canadians didn't believe him and made him leave. Desperate but determined, Pasechnik called the British embassy from a pay phone. The British Secret Intelligence Service took him seriously. He was picked up in a car, then secreted away to the United Kingdom. A week later, he was in an unnamed building in London, sitting across the table from Dr. Davis, the top biological weapons expert with the British Defence Intelligence Staff at the time.

Pasechnik told Dr. Davis everything he knew. Among the revelations, Davis learned Pasechnik oversaw some 3,000 scientists and weapons engineers. That he had access to an unlimited budget, which allowed him to purchase equipment in the West and to recruit the best science staff he could find. That he and his various teams had made biological superweapons, and the means to deploy them. That they'd figured out how to modify cruise missiles to fly beneath U.S. radar systems, to disperse aerosolized clouds of plague and other pathogens over large populations, in a strategic biological weapons attack. That Pasechnik had personally figured out how to stabilize plague microbes for exactly this kind of radical, widespread dissemination.

"As he talked about plague, I became incredibly alarmed," Davis tells us. He realized the stunning ramifications of what Pasechnik was telling him. "You do not choose plague as a battlefield weapon," says Davis. "You chose plague because you're going to

take out the other person's country. It's a nuclear equivalent, except it's cleaner. It leaves all the infrastructure intact. Full stop. That's what it is about."

Mass extermination.

HISTORY LESSON

The Black Death

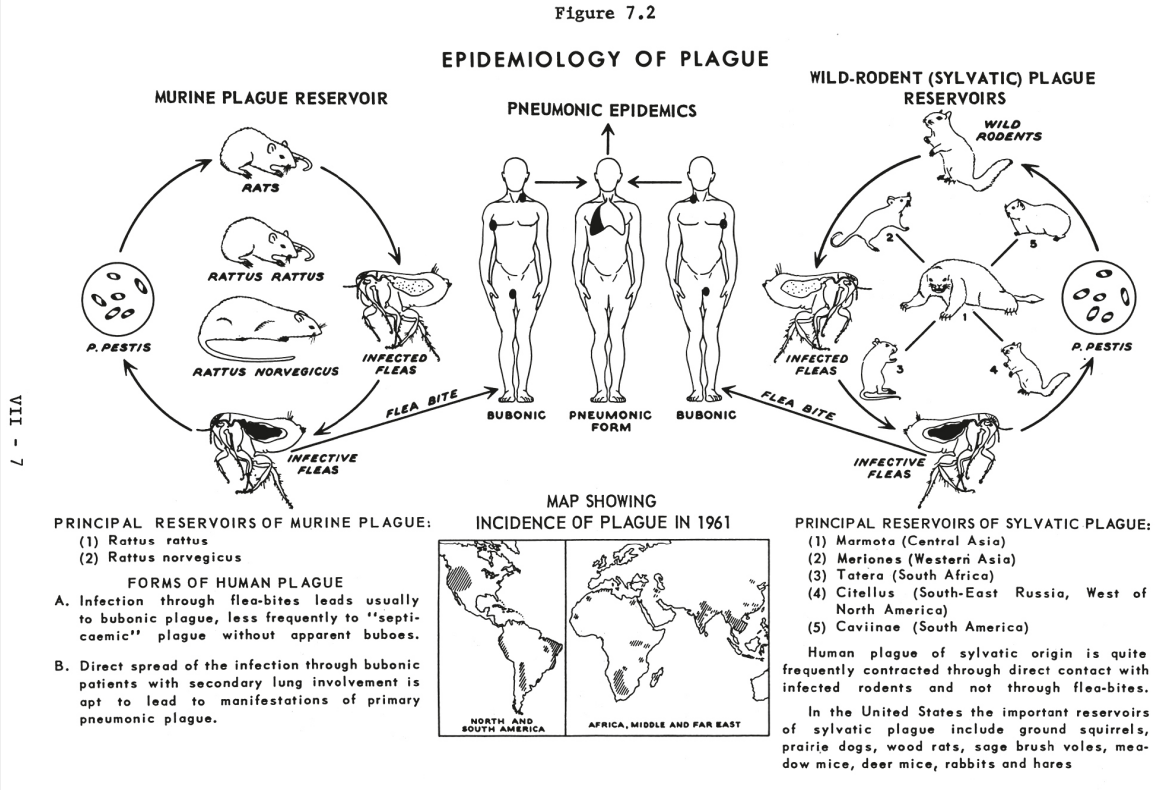
Six hundred and seventy years ago, plague killed between one-third and one-half of Europe. In some cities, like Constantinople, contemporary accounts describe mortality as high as 90 percent. For much of history, scholars have debated if the plague pandemic that swept through the medieval world was a naturally occurring disaster or a mass extermination event tied to a singular biological warfare event.

According to the account of Gabriele de' Mussi, an Italian notary who lived through the plague, the Black Death began in 1346 with a targeted attack by Mongol forces against a Genoese-held fortress in Caffa, located on the shores of what today is Crimea in Ukraine. Locked in a prolonged stalemate, Mongol soldiers are said to have catapulted plague-infected corpses over the castle walls and into the city, an act designed to kill the people inside. Instead, according to de' Mussi, it set off a wave of plague infection that would become known as the Black Death. "If this account is correct," says the microbiologist Mark Wheelis, "Caffa should be recognized as the site of the most spectacular incident of biological warfare ever, with the Black Death as its disastrous consequence." The truth remains impossible to know.

Plague is an infectious disease caused by the bacteria *Yersinia pestis*. Plague is found naturally in rats and other small mammals, including squirrels, prairie dogs, and marmots. There are three types of plague.

Bubonic plague is the most common form, and the best known. It is spread by the bite from a plague-infected flea. The *Y. pestis* bacteria enters the human body through the skin and makes its way to the nearest lymph node, a bean-shaped structure that is part of the immune system. As the bacteria multiply, infection swells the lymph nodes, which become large, painful, inflamed lumps called buboes. This is where the name "bubonic plague" comes from. Buboes can show up in the groin, neck, and armpits, depending on where the infected flea bites the human. Buboes cause agonizing pain. They engorge and secrete pus and blood. A U.S. Army medical textbook on biological

warfare offers context. "Buboes are so intensely painful that even nearly comatose patients attempt to shield them from trauma and will abduct their extremities to decrease pressure." Sometimes these buboes turn black, which is where the name the Black Death comes from. Left untreated, bubonic plague has a case fatality rate of between 50 and 66 percent. With antibiotics, this death rate can be reduced to somewhere around 13 percent.



Epidemiology of plague. (U.S. Department of Health, Education, and Welfare, 1962)

For a plain-text version of this image, go to this page.

The second type of plague is septicemic plague, the result of bubonic plague advancing into the victim's bloodstream. After a pus-filled bubo liquefies and ruptures, plague bacteria spill into the body, seeding the bloodstream with deadly *Y. pestis*. Widespread blood clotting occurs, which in turn causes hemorrhages, which erupt, causing the skin and organs to turn black and necrotic. This dreadful malady of septicemic plague develops in roughly 10 to 20 percent of

bubonic plague cases, often resulting in the necessary amputation of one or more limbs. Of an eye, or the nose.

Left untreated, septicemic plague is almost always fatal.

The third type of plague is pneumonic plague; *pneumonia* means the disease infiltrates the lungs. "Pneumonic plague must be considered highly contagious whenever it occurs," warns the World Health Organization. It is human-to-human transmissible, a rapacious killer that, left untreated, kills its host with 100 percent certainty. If you contract pneumonic plague, and you don't get antibiotics into your bloodstream *within* twenty-four hours of the initial infection, you will die. "Untreated, death occurs as rapidly as 24 hours after exposure," warns the U.S. Army medical textbook on biological warfare. No uncertainty there.

In medieval Europe, before the discovery of antibiotics, cases of bubonic plague would progress to septicemic plague in the blood, then develop into pneumonic plague in the lungs. This progression explains how plague came to be airborne in history's earlier pandemics. How it came to kill 150 million people. And it explains why plague's overall fatality rates range from between 66 and 93 percent, because of all three types.

In the plague pandemic of the fourteenth century, urban centers were decimated. Places where people were packed together became breeding grounds for unstoppable airborne plague. The Italian poet Giovanni Boccaccio was also an eyewitness to the social chaos and mass death, and his account in the introduction to *The Decameron* is one of the most vivid contemporary descriptions of the kind of horror that ensued. Boccaccio writes of existential fear; of the abandonment of social norms; of the "countless number of corpses" piled high in the streets, rotting in the sun, and being gnawed on by packs of wild dogs and feral boars.

Which brings us to the modern era, back to 1989. No wonder British defence intelligence officer Dr. Christopher Davis became so distressed when learning from Vladimir Pasechnik that the Soviet scientists wanted to weaponize plague and to use it to exterminate their perceived enemies on the other side of the world.

CHAPTER FOUR

Offense as Defense

After Pasechnik defected, alarms sounded across the West. A second Soviet scientist defected, but his identity remains a secret to this day. British intelligence sent Dr. Davis and a colleague to Langley, Virginia, to share Pasechnik's information with its allied intelligence partners at the CIA. Stunned by what they learned, and in pursuit of its own corroboration, the CIA dispatched Nobel laureate Joshua Lederberg to England to interview Pasechnik in secret and confirm the legitimacy of his account. Dr. Davis sat in on the debriefing. "Lederberg was shocked," recalls Davis. "Hearing the details from Pasechnik himself, it was like the scales fell from his eyes."

Back in the U.S., Lederberg was summoned to Capitol Hill. "I offer high credibility" to his story, he told Congress.

What the Soviets had done was outrageous; that the West had no idea any of it was going on was terrifying. Fear and focus intensified. In the months after Pasechnik's defection, a question loomed large: What were the Soviet bioweapons engineers up to now?

And then, in December 1991, another intelligence failure stunned the world.

The Soviet Union collapsed.

One by one, former Soviet biological weaponeers started coming to the United States. This included Ken Alibek and Sergei Popov, the

two scientists from the secret 1989 meeting in Obolensk. The meeting with the paralytic rabbit demonstration.

More details emerged. When President Bill Clinton was briefed on the magnitude and sophistication of the Soviet biological weapons program, he was alarmed. Congress held hearings. But with the Soviet Union suddenly now dissolved, and Russia in a state of near-collapse, the threat shifted and a new question emerged: What if terrorists acquire biological weapons?

In Washington, the former director of America's Cold War biological weapons program, William C. Patrick, briefed lawmakers.

"My conclusion today is not if terrorists will use biological warfare, but when and where," Patrick said in July 1995.

A microbiologist by training, Patrick was well-versed in what this kind of an attack against the U.S. would mean. As chief of the Product Development Division of America's former biological weapons program at Fort Detrick, Patrick led both offensive and defense programs for the U.S. Army, back when these programs were considered legal. To Patrick, and many of his like-minded colleagues in Washington, D.C., terrorists were the new clear and present threat. In Washington, the Clinton administration began to aggressively develop directives to expand U.S. capabilities to defend against these kinds of threats from terrorist groups and rogue states. Previously restrained on biodefense, President Clinton made the terrorist use of a biological weapon a death penalty offense, with Congress passing the Antiterrorism and Effective Death Penalty Act of 1996.

And then, on September 11, 2001, terrorists attacked the United States. Nineteen Al Qaeda operatives hijacked four airplanes, flying two into the World Trade Center towers in New York City, causing both skyscrapers to collapse, and crashing a third into the Pentagon, outside Washington. A fourth hijacked aircraft slammed into a field in Pennsylvania after passengers learned what was happening and fought back. Nearly 3,000 people were killed,

making 9/11 the deadliest terrorist attack in modern history. America and her allies were horrified. The United States was on its heels.

As if what had happened on 9/11 wasn't terrorizing enough, just days later, a biological weapons attack unfurled across the East Coast and in the state of Florida. Envelopes laced with weaponized anthrax bacteria were sent through the U.S. mail to two U.S. senators and the offices of several national news organizations, including ABC, CBS, and NBC. When one of these anthrax-filled letters, addressed to Senate majority leader Tom Daschle, was opened inside the mailroom of the Hart Senate Office Building (part of the U.S. Capitol complex), the country suddenly realized it was under biological attack.

The Capitol was shut down. Thousands of congressional staff were tested. Major U.S. postal facilities closed. Twenty-two people in four states contracted anthrax disease. Five died. Horrific, yes, but a mass-casualty attack it was not. Unlike the 9/11 attacks, which were quickly attributed to Al Qaeda, responsibility for the anthrax letters, still contentiously debated, has never formally been solved.

Inside the federal government, the anthrax attacks weren't just a wake-up call; they became a call to arms. A biological agent could easily be used as a weapon—this kind of an attack was cheap to mount, difficult to attribute, and capable of producing massive impact. With America exposed, and many citizens deeply shaken, uncertainty laid the pathway for a new kind of arms race.

In 2004, Congress launched Project BioShield—a federal program designed to accelerate the research and development of vaccines and other medical countermeasures—pouring billions of dollars into biodefense. Funding surged. New agencies were stood up. This influx of investments fueled innovative vaccine platforms, antiviral drugs, and state-of-the-art diagnostic tools, fundamentally reshaping the nation's scientific landscape. Across Washington, D.C.,

and beyond, the power center shifted toward secretive biodefense research, much of it classified. Transparency all but disappeared.

A biodefense industrial complex emerged. And with it, a vast expansion of high- and maximum-containment Biosafety Level 3 (BSL-3) and Biosafety Level 4 (BSL-4) laboratories across the United States, and around the world.

A BSL-4 lab is a maximum-containment facility that houses planet Earth's most dangerous and exotic pathogens for which there are no known treatments or vaccines. A BSL-3 lab is one step below a BSL-4 lab, a high-containment facility built to handle other kinds of deadly pathogens, including rabies, hantaviruses, anthrax, and plague.

Before September 2001, the U.S. government operated just two BSL-4 laboratories, one military, at Fort Detrick in Maryland, and one civilian, at the Centers for Disease Control and Prevention in Atlanta, Georgia. After 9/11, the number of BSL-3 and BSL-4 labs surged. Over the next five years, dozens, then hundreds, then more than 1,000 of these new, high- and maximum-containment biosecurity labs were built. A congressional audit in 2007 found there were at least fifteen BSL-4 labs and 1,356 BSL-3 labs in the United States alone. Even more alarming, no one was monitoring any of it.

"No single federal agency has the mission to track and determine the risk associated with the expansion of BSL-3 and BSL-4 labs in the United States," the congressional report revealed. And because there was no oversight, there was no accountability.

"[N]o one is responsible for determining the aggregate risks associated with the expansion of these high-containment labs," Congress warned.

The buildup continued unabated.

Around the world, other countries were following suit: France, Germany, Canada, Switzerland, and China were all building their own BSL-3 and BSL-4 labs to do their own biodefense-related

research. One country after the next joined the race. From India to Belarus, from Gabon to Taiwan, a tectonic shift was underway as dozens of nations concluded they, too, needed to defend against a biological incident or attack, and that dangerous pathogen research inside a BSL-3 or BSL-4 lab was the way to do it.

With this frenzied expansion of high- and maximum-containment biosecurity laboratories, a new threat emerged. Only this time, the threat was coming from inside the laboratories themselves.

A twenty-first-century expansion of recombinant DNA research and experimentation was underway.

High-risk research that would become known as gain-of-function experimentation.

"'Gain-of-function' is a euphemism," insists the former presidential advisor Andy Weber. "'Gain-of-function research' is another way of saying 'biological weapons engineering,'" he warns.

Dr. Thomas Ehrhard, former special assistant to the deputy secretary of defense, has even harsher words for gain-of-function, almost certainly because of the knowledge he has acquired running classified biological war games at the Pentagon.

"Gain-of-function is evil," says Ehrhard. No nuance there.

HISTORY LESSON

Gain-of-Function

Gain-of-function is a type of experimental scientific research where a scientist working inside a high- or maximum-containment biosecurity facility deliberately alters a virus or bacterium (a pathogen) so that it gains new functions—abilities that can include spreading faster, infecting humans more easily, evading immunity, and surviving longer in the environment.

Proponents of gain-of-function experiments argue that by making a pathogen more dangerous, scientists can better understand how to defend against a catastrophic biological incident or attack. That by manipulating Mother Nature in this manner, scientists can discover new countermeasures and cures. Critics of gain-of-function experiments say these radical experiments create global catastrophic risk. That manipulating viruses and bacteria in this manner is indistinguishable from illegal biological weapons work.

Deadly accidents and laboratory containment failures have happened in the past. What if, in the near future, one of these genetically modified pathogens gets out—either by accident, or on purpose—and goes wide?

CHAPTER FIVE

Global Catastrophic Risk

After 9/11, with the buildup of BSL-3 and BSL-4 high- and maximum-containment biosecurity labs spiraling out of control, gain-of-function experiments moved from a niche scientific practice to a central pillar of biodefense. This was happening in America, and also around the world.

The argument everywhere was generally the same. Supporters insisted gain-of-function research was dedicated to prevention. That in order defend against biological warfare and biological terrorism, or even naturally occurring pandemics (like the 1918 influenza epidemic), scientists and engineers needed to understand how to make pathogens more dangerous, so as to invent vaccines and other medical countermeasures as cures.

In the United States, gain-of-function research quickly became normalized within government-funded science. Agencies such as the National Institutes of Health and the National Institute of Allergy and Infectious Diseases funded this kind of experimental research with gusto, not just in labs across America, but also in BSL-3 and BSL-4 labs overseas, including in places like Wuhan, China.

"The benefits of such [gain-of-function] experiments and the resulting knowledge outweigh the risks," argued Dr. Anthony Fauci in a 2012 paper. Fauci served as the director of the National Institute of Allergy and Infectious Diseases at the time. During the

Covid pandemic, he served as chief medical advisor to Presidents Donald Trump and Joe Biden.

Critics of gain-of-function cried foul, citing the Australian mousepox experiment of 2001 and the H5N1 ferret flu experiments conducted in the Netherlands and the United States in 2011–2012 as examples of all that could go wrong. In the mousepox experiment, a relatively simple genetic tweak inadvertently turned a mild virus into a weapon that killed previously vaccinated host mice, proving the nightmare reality that gain-of-function can easily erase existing immunity. In the H5N1 ferret flu experiments, scientists took one of the deadliest influenza viruses ever observed in humans and taught it to spread through the air, demonstrating how a pandemic-causing airborne pathogen can be easily engineered in a lab.

After several other high-profile lab incidents and accidents, the debate over gain-of-function experiments intensified, mostly behind closed doors. In 2014, the Obama administration imposed a temporary federal pause on certain gain-of-function studies. But the pause did not halt all such research. Instead, policy got reframed. Gain-of-function was reclassified under a new term known as "Potential Pandemic Pathogen Care and Oversight," or P3CO, shifting the debate from prohibition to risk management. As before, decisions about what constituted acceptable risk remained all but hidden from the general public, siloed away inside the rubric of national security.

And then came the Covid pandemic, thrusting gain-of-function experiments into the global spotlight. As facts emerged, millions of people began to question whether Covid's SARS-CoV-2 virus arose naturally, from bats, or had been genetically engineered in Wuhan's secretive BSL-3 and BSL-4 labs. Concerns about transparency, laboratory safety, and the blurred lines between defensive research and offensive experimentation intensified.

With millions dead, and key questions unanswered, people around the world became outraged. In the U.S., congressional hearings fractured an already divided America. But in the years that followed, the same high-risk research architecture remained mostly intact. Governments around the world continue to fund this kind of high-risk research today, almost always with the same central argument in play. That worst-case-scenario pathogen experiments conducted inside a BSL-3 or BSL-4 lab are essential to preventing a worst-case-scenario incident or attack from happening in the real world.

What goes on inside these high- and maximum-containment biosecurity laboratories is, by design, unknowable to the outside world. A 2025 global survey identified 110 BSL-4 labs in thirty-four countries and 3,515 BSL-3 labs across 149 countries, possibly more.

Which is where this scenario begins.



Some, but not all, of the Biosafety Level 4 (BSL-4) labs around the world. (Image by Ellie Lee, redrawn from an interactive map by Global Biolabs, a collaboration between the Bulletin of the Atomic Scientists*, King's College London, and the Schar School of Policy and Government, George Mason University)*



BSL-4 biosafety hazard sign indicating maximum containment for work with the world's most dangerous pathogens.

Part II

THE CLOCK STARTS TICKING

Day One

HOUR ZERO

The Vector Institute—Koltsovo, Siberia, Russian Federation



The Vector Institute, Koltsovo. (U.S. General Accounting Office)

Biological war can begin with an accident.

It is a cold January night, in a possible near future, when an explosion rocks a biological research institute in Siberia, Russia. It is one minute before midnight—23:59 in military time. The blast shatters all the glass in one of the tall buildings. A fifth-floor laboratory is on fire. The official name of this BSL-4 facility is the

State Scientific Center of Virology and Biotechnology VECTOR, but to those in the know, it is simply Vector.

And for ominous reasons.

In mathematics and physics, a vector is a quantity that has magnitude and direction, as in a force or velocity. In biology, a vector is an organism or entity that can carry and transmit a pathogen from one host to another, typically by biting or sucking the host organism's blood.

The term *Vector* is emblematic of this Russian research institute's goal, which the U.S. State Department suspects is to illegally carry out biotechnological advancements on the world's deadliest germs. That at Vector and elsewhere, "Russia maintains an offensive [biological weapons] program and is in violation of its obligations" to the Biological Weapons Convention treaty.

Any accident at a maximum-containment BSL-4 lab is cause for alarm, but Vector is an exceptional BSL-4 lab. The freezers here store an array of nightmare germs. Ones that cause Ebola, smallpox, Marburg, and a host of other unstoppable killers. Some say the original strain of Soviet-era recombinant plague is stored here. Others say it's kept in a freezer at Obolensk, but brought here for testing in Vector's animal facility. A large-scale attack with a biological weapon can set off a pandemic, but so can a lab leak.

" The risk of a pandemic from a lab escape is not hypothetical," Andy Weber tells us. He's one of a small number of U.S. officials to have ever visited the Vector Institute, which he did in the 1990s. Weber has firsthand knowledge of the germs stored inside the freezers at Vector, many of which have been weaponized to kill population sets in the most diabolical of ways. And now they are about to.

The explosion at Vector in our scenario occurs during a regularly scheduled maintenance shift, similar to what actually happened at Vector on September 16, 2019. Now, as before, Russian officials

quickly attribute the explosion to a faulty gas tank. This blast, like that one, is followed by a building fire.

A single worker is taken to the hospital with third-degree burns.

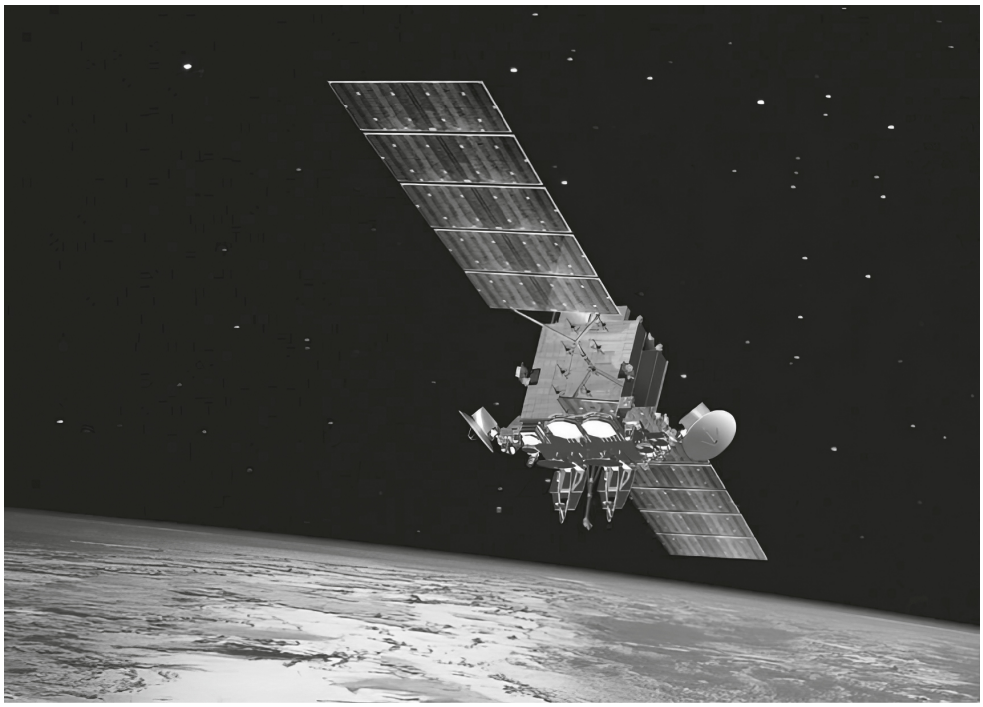
Fire engines arrive on-site.

Firefighters put out the blaze.

The similarities between the explosion at Vector in 2019 and the one in this scenario end here. In 2019, there were no biohazardous substances present in the laboratory that caught on fire. In this scenario, there are.

Minutes pass.

Geostationary belt—outer space



The Advanced Extremely High Frequency satellite system allows the National Security Council and unified combatant commanders to control military forces at all levels of conflict through general nuclear war. (U.S. Air Force)

Twenty-two thousand two hundred thirty-six miles above Earth, in the geostationary belt of outer space, a U.S. Defense Department satellite spots a searing point of light at Vector, in the small science town of Koltsovo, Siberia.

The Defense Department knows instantly this detected heat bloom is not a ballistic missile launch. It was too stationary and too broad. But the satellite's classified software system flags the light flash as anomalous, and significant.

"We have eyes on all critical facilities," retired colonel Julian Chesnutt, a former Defense Intelligence Agency officer, tells us, "near continuous coverage of all 'facilities of interest' across the globe."

The satellite system's ground-processing software generates an alert.

Thermal flash, Koltsovo, Russia.

Koltsovo, Russia, is where the Vector Institute is located.

Across the military and intelligence communities, warning consoles alert, computers ding, lights flash, and alarms sound.

ALERT: Possible CBRN ("see-burn") *incident.*

CBRN is military shorthand for chemical, biological, radiological, and nuclear weapons—collectively known as weapons of mass destruction, or WMD—considered by the Defense Department to pose the gravest military threat.

National Reconnaissance Office headquarters—Chantilly, Virginia

Six thousand miles from Koltsovo, at the National Reconnaissance Office headquarters in Chantilly, Virginia, intelligence officers task overhead satellite systems to collect high-resolution images of the Vector facility.

Three minutes have passed since the explosion.

The East Coast of the United States is twelve hours behind the Koltsovo science city in Siberia, meaning 12:02 a.m. there is 12:02 p.m. in Washington, D.C. Lunchtime. But here in the NRO's operations center time of day doesn't really matter. Intelligence analysts work 24 hours a day, 365 days a year.



National Reconnaissance Office headquarters in Chantilly, Virginia. (National Reconnaissance Office)

An explosion at a maximum-containment Biosafety Level 4 facility like Vector immediately raises the prospect of a CBRN event. Given Vector's status as a BSL-4 research lab, the concern narrows quickly to a potential biological release.

Koltsovo is an urban settlement of approximately 20,000 residents. A Russian *naukograd*, or "science town." Residents live in modern high-rise housing laid out in a grid. There are eco-friendly green spaces and parks, sports complexes, kindergartens, and a

cultural center. An innovation center with a reported fifty biotechnology firms. In winter, people ski in Koltsovo Park's pine forests and ice-skate on its lake.

It is the dead of night in Koltsovo. NRO analysts scour satellite images of the Vector Institute and its surrounding environs for unusual activity.

They are looking for clues.

At the Vector complex, fire trucks and firefighters arrive on scene. First responders race to put out the fire. What kind of accident just occurred? What kind of hazmat suits are first responders wearing? These are some of the questions American intelligence officers ask themselves first.

The National Reconnaissance Office is one of eighteen (known) U.S. intelligence agencies, and the lead agency for space-based intelligence. With a classified budget that rivals the CIA's, the NRO operates some of the most powerful satellite systems in the world. But they cannot detect critical information about a lab leak in real time. Unlike nuclear weapons, the release of a biological weapon—on purpose or by accident—is invisible to the naked eye and current space-based sensors.

To fill in pieces of the puzzle, the NRO's powerful Synthetic Aperture Radar (SAR) satellite systems collect and process images of the Earth around Vector. SAR systems use microwave radar to see through bad weather, useful on this snowy January night. These images will serve as a reference against which past and future images will be measured and analyzed. As physical changes in the environment occur, analysts can more accurately piece together what might be happening around Vector.

For now, SAR images reveal that all the windows in one of Vector's six-story buildings have been shattered. There is roof damage, and there are smoke scars. A rectangle of emergency vehicles is being staged around the perimeter of the complex.

These images tell a story.

"[When] a building [is] physically breached by an explosion," write epidemiologist and professor Raina MacIntyre and colleagues in a paper for *Global Biosecurity*, the result is almost certainly the "propagation [or spreading] of aerosols at subsonic speeds." In laymen's terms, this means that if deadly pathogens were stored inside the laboratory building that just exploded, the ensuing blast wave could easily have pushed them outside into the environment *before* the explosion incinerated them.

A lab leak.

Given the high-security nature of the Vector complex, if there was a lab leak, what Russian officials do next will fill in intelligence gaps for the American intelligence officers watching from the other side of the planet.

Until then, they must work with what they have.

National Security Agency headquarters—Fort Meade, Maryland



National Security Agency headquarters at Fort Meade, Maryland. (U.S. National Security Agency)

At the National Security Agency headquarters in Maryland, analysts aggressively monitor communications between Moscow and Vector. They are listening for evidence. Scanning for information to create a real-time mosaic of what might be happening halfway across the world.

Whereas the NRO watches, the NSA listens.

One is the eyes, the other, the ears.

The NSA collects signals intelligence, or SIGINT ("sig-int"). Its officers, analysts, specialists, and cryptologists are all now monitoring and gathering information from intercepted phone calls, text messages, and emails. They work quickly to acquire radar and

electronic information from Russian military servers they have covertly gained access to.

NSA analysts eavesdrop on radio comms. They comb through electronic data. Listen and translate. Decipher and code break. In these critical moments after an explosion at a suspected biological weapons facility in Siberia, Russia, NSA officers remain intensely focused. They must piece together what is happening at Vector by connecting the digital dots.

Listening in on comms between officials in Moscow and local officials at Vector, and around Koltsovo, valuable information is scant. Where conversations between police and emergency responders should be clamorous and urgent, instead they appear routine. Granted, it's after midnight, but this is a maximum-containment facility, and any kind of accident here is cause for alarm.

The germs stored at Vector are something out of a horror film.

Consider an accident that happened at Vector in the past.

HISTORY LESSON

Accidents Happen

One spring day in 1988, a Soviet biological weapons engineer named Dr. Nikolai Ustinov was working in one of Vector's BSL-4 labs when a deadly accident occurred.

Biopreparat deputy chief Ken Alibek remembers it well. "A call came in from Lev Sandakhchiev, Ustinov's boss and the head of Vector" Institute at the time.

"Something terrible has happened," Sandakhchiev told Alibek.

"An accident?" Alibek asked.

"Yes," said Sandakhchiev. "It's Ustinov. He injected Marburg into his thumb."

Marburg, like the better-known Ebola, causes its victims to bleed to death. Ustinov had been infecting guinea pigs with this incurable hemorrhagic fever virus when he accidentally stuck himself with a syringe.

Marburg has no vaccine and no known cure. Like Ebola, it is not naturally an airborne disease, meaning it doesn't float in the air. Marburg spreads through direct contact with blood and body fluids, or through contact with contaminated surfaces, called fomites. So when Ustinov accidentally pricked himself with a needle full of Marburg that spring day in 1988, he sentenced himself to death. He became a casualty of his own, dark-hearted biological weapons work.

Dr. Ustinov quickly left the lab through one of Vector's airlocks, took a chemical shower to decontaminate the biohazard suit he was wearing, and used an emergency telephone to call his boss. His supervisor instructed him to go to Vector's biocontainment hospital, also equipped with submarine-like airlocks. There, Dr. Ustinov would die a long, slow, and arduous death, which he painstakingly recorded in a blood-spattered notebook he kept by his hospital bed.

"I can say it was a terrible death," Alibek told PBS *Frontline* in 1998, years after the horrifying secrets spilled out. "He was dying for about two weeks," Alibek remembered. At the end, there was blood pouring

out of every orifice in Ustinov's body. "From everywhere. From nose, from eyes, mouth, ears."

As Ustinov lay hemorrhaging to death inside a secret hospital on the Vector campus, a biological phenomenon occurred. As the living weapon was growing inside his body, it was multiplying, and it was changing.

Later, Soviet doctors outfitted in biohazard suits autopsied Ustinov's corpse. As they were carving out his organs and siphoning off his blood, they discovered the virus had indeed mutated. It had transformed into a far more virulent germ than the original strain of Marburg virus Dr. Ustinov had been working with when he accidentally stuck himself with that syringe.

Soviet scientists had inadvertently come upon a gold mine for their illegal biological weapons program, Alibek later told the CIA. They could exploit Ustinov's harvested body parts. "[The] virus that was isolated from his organs was used for manufacturing new variants for biological weapons" for use against the United States, Alibek said.

The strain was given a new name. Marburg Variant U, for Ustinov.

Starting in the spring of 1988, Biopreparat scientists began using the Marburg Variant U pathogen to mass-produce this mutated strain. They dried it into powder to create a dust to one day be covertly spread around enemy territory and inhaled as part of a biological weapons attack. To this day, it is understood to be housed at Vector.

Marburg Variant U is not the pathogen deployed in this scenario. But the story of Dr. Ustinov demonstrates that nations, like people, cheat.

That accidents can happen. And they do.

National MASINT Management Office, Defense Intelligence Agency—Reston, Virginia



Defense Intelligence Agency headquarters. (U.S. Defense Intelligence Agency)

In Reston, Virginia, analysts with the National MASINT Management Office, part of the Defense Intelligence Agency, work to understand what might be happening at Vector. Using MASINT ("mazz-int") technologies, they characterize, analyze, and validate the physical signatures related to a potential CBRN event, in this case the possible lab leak of a deadly biological weapon.

MASINT stands for Measurement and Signature Intelligence, meaning how something behaves in the physical world. It is one of the least known intelligence disciplines in a world enamored with spycraft. MASINT sensors detect the faintest, most indirect clues.

They look for chemical traces and thermal patterns. They seek to identify microscopic particulates in the air.

If the NRO watches and the NSA listens, the Defense Intelligence Agency's MASINT office sniffs things. They are the nose to the NRO's eyes and the NSA's ears. MASINT sensors measure and analyze the signatures, or traces, of things left behind during the production, storing, testing, or use of weapons of mass destruction. This can include nuclear radiation, sound waves, or electromagnetic pulses. It can include spores, or proteins, or industrial gases.

MASINT collection platforms stretch from outer space to the bottom of the ocean floor. MASINT sensors can be attached to anything that moves, from piloted aircraft to unmanned aerial systems, from submarines to satellites. In this scenario, they are also attached to fixed objects: sewer pipes, wall fixtures, and highway signs among them.

"By tracking [MASINT] in the background," Senator Todd Young tells us, "DoD measures baseline air quality and anomalies within those baselines" in order to better understand a biological incident or event. Senator Young currently serves as chair of the National Security Commission on Emerging Biotechnology.

MASINT sensors are almost always clandestine, including hidden behind drywall and inside sprinkler systems. This can include spectrometers that measure and analyze properties of light, or sensors that detect microbial signatures in waste or water samples.

Detecting the presence of a dangerous pathogen release at a place like Vector involves an array of airborne and ground-based sensors to monitor for chemical markers in the air. It might involve DNA analysis, protein detection, or reading biomarkers in soil. MASINT sensors can even pick up acoustic signatures from sudden ventilation surges.

MASINT officers are the crime scene investigators of the intelligence world. Their actions are covert, usually performed from far away, with limited direct access to the target, also known as the

collection site. The data they gather from MASINT sensors form a mosaic of evidence. Subtle signals that when pieced together can reveal a lot about what might be going on at a classified facility like Vector, thousands of miles away.

"MASINT measures the way things are, and how they actually perform," says the DIA's office of public affairs, which sounds vague but is actually quite accurate. "If the 'target' vibrates, makes a sound, leaves a trace, or gets hot or cold," it has a unique set of characteristics that DIA analysts can detect, measure, and watch change by integrating datasets from its vast system of covertly deployed sensor systems.

"If you wanted to find out where the kitchen was in a building," a retired MASINT officer tells us, "you might follow the smell of bread baking." These clues lead you closer to the collection site. "Once you think you know where the kitchen is," the former officer explains, "you start putting your hand on the walls…to try and find the heat."

The NRO's satellites, the NSA's signals, the subtle reach of MASINT sensors—all of it matters. But without direct, firsthand knowledge of what is physically going on at Vector right now, the intelligence community and the military are left to theorize and postulate.

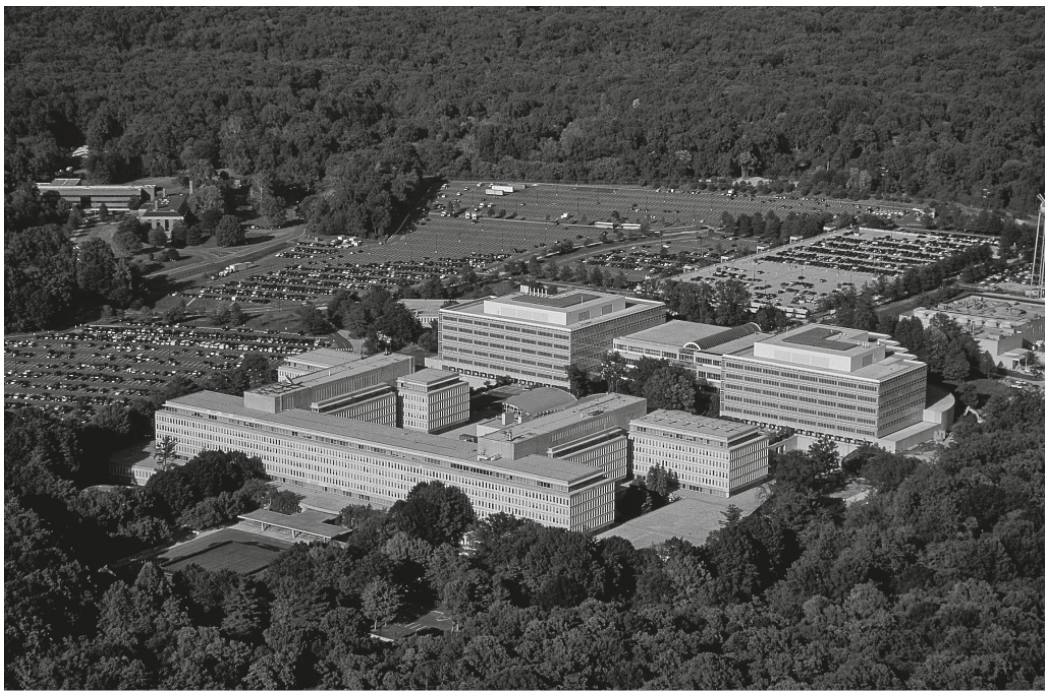
The most powerful intelligence collection discipline at a time like this is human intelligence, or HUMINT.

For that, the lead agency is the CIA.

Central Intelligence Agency headquarters—Langley, Virginia

At the CIA's headquarters in Langley, Virginia, there is a flurry of activity inside the Counterproliferation Division. Housed within the ultrasecret Special Activities Center, home of CIA covert operations, the CIA's Counterproliferation Division is a team of

experts who keep their focus on weapons of mass destruction. Nuclear and biological weapons are at the top of the threat list, former Counterproliferation Division chief James "Mad Dog" Lawler tells us. He's called Mad Dog because once, on an assignment, he got bitten by a rabid dog.



Central Intelligence Agency headquarters at Langley, Virginia. (U.S. Library of Congress photograph by Carol M. Highsmith)

All CIA Counterproliferation Division operations are classified. Its sources and methods are obscure. Broadly speaking, the division's efforts include:

- Intelligence gathering: working with human sources to track WMD programs
- Sabotage, Subversion, and Disruption programs: conducting operations to stop or set back adversaries' WMD programs, threats, and ambitions

- Collaboration programs: joint operations conducted with allied intelligence agencies to counter WMD programs, threats, and ambitions

You will never hear about a CIA Counterproliferation Division operation, unless it fails spectacularly, or the White House wants it known. Its clandestine operations are among the highest-stakes operations in the world. They involve weapons of mass destruction that, if used, could result in anything from a mass-casualty event to a near–extinction level event.

Counterproliferation Division programs involve short- and long-term goals. Much of the long-term work focuses on developing assets. On working with a person who possesses valuable information they intend to share with the CIA. Assets run the gamut, from high-ranking foreign diplomats to security guards. They work as information gatherers. They are not generally directly involved in stopping an action or event from happening.

"We get people to share this information with us," Lawler tells us.

These deep-cover arrangements with the CIA come with extraordinary security measures in place. To spy against one's country is a treasonable offense, and the CIA goes to great lengths to keep its foreign assets hidden from suspicion. This is paramount to success. It is why the general public often hears that the CIA's "sources and methods" are kept classified. But in the event of an extraordinary situation like an explosion at a BSL-4 lab—a situation where a lab escape of a deadly pathogen could unleash a pandemic—the CIA might consider leaning on a deep-cover asset, Lawler suggests. To help discern what might *really* be going on.

In this critical, time-sensitive moment after an explosion at Vector, the intelligence community needs reliable information. Human intelligence is king. It's the oldest, most analog of all types of intelligence. According to Lawler, it is "the most valuable intelligence" as well.

"Only a human can tell you what he *knows* about a biological weapons program," Lawler says, speaking from decades of experience in the field. More to the point, he shares insight. "Images cannot speak to intentions," he observes. "People on the inside *can*. If someone is able to tell you what the actual intentions of a [WMD] program are," that is intelligence gold. "And for that, you need to get *inside* someone's mind."

Just twenty minutes have passed since the explosion at Vector. The CIA's Counterproliferation Division chief faces a conundrum. No doubt, Vector personnel are being closely monitored by Russia's Federal Security Service, the FSB. For a former intelligence officer like Lawler, who would often spend "five, eight, ten years to recruit somebody," putting one of the CIA's hard-won assets in jeopardy is a risk to avoid. "I never lost an asset," Lawler tells us, meaning he never had an asset exposed. "But I have friends who did," he says. "You never really recover from that."

An asset who gets burned is almost always killed, or disappears.

To reach out to an asset at a time like this could jeopardize their cover. But in the early hours after a potential biological release, the stakes are extraordinarily high.

Do the benefits for humanity outweigh the extreme personal risks?

Sometimes, ends justify means.

The chief of the CIA's Counterproliferation Division reaches out to a deep-cover asset in the field.

In this scenario, that is a groundskeeper at Vector.

Defense Threat Reduction Agency—Fort Belvoir, Virginia



Defense Threat Reduction Agency headquarters at Fort Belvoir, Virginia. (U.S. Department of Defense)

At the Defense Threat Reduction Agency headquarters at Fort Belvoir, in Virginia, analysts with the Technical Reachback Division finalize their initial atmospheric plume models and prepare to send. The Defense Threat Reduction Agency, or DTRA ("dit-trah") as it's known, often is called the Defense Department's quiet shield against doomsday weapons.

In this critical first hour after an explosion at a maximum-containment facility, DTRA's Reachback team is determined to meet its mission goal: to deliver an initial hazard and dispersion report inside a thirty-minute response window.

The team's lead analyst hits send with one minute to go.

The computational models upload into the Pentagon's Global Command and Control System–Joint, a classified server system that integrates all reports and intelligence feeds into a common

operating picture for the Joint Staff, the National Command Authority, and other so-called stakeholders to see.

"[We] provide support for decision makers," says Dr. Ron Meris, branch chief for Reachback Analysis, whether it's a "small…issue" or incident, or a possible "end of the world" catastrophe.

From hidden bioweapons labs to black-market nuclear networks, DTRA's mission is to detect, dismantle, and defend against the world's most catastrophic threats.

In a long list of federal agencies dedicated to countering weapons of mass destruction, DTRA is one of the most vital, and also one of the lesser known. It shares lineage with the Manhattan Project. During the early days of the Cold War, when it was called the Armed Forces Special Weapons Project, one of its primary responsibilities was training American soldiers how to use nuclear weapons in live tests.

The Reachback center's computational modeling systems pull data from incoming streams as they work to characterize threat levels and predict outcomes. Combining meteorology and terrain data with physics and chemistry, Reachback analysts model how different kinds of hazardous pathogens might spread, dilute, and deposit across the environment in the coming minutes and hours.

Information about what is happening at Vector is limited. Knowns include size of the explosion, height of the explosive burst, initial building damage, weather data (wind, speed, precipitation, temperature), and more. Predictive modeling can simulate how an aerosol or particulate cloud let loose from the facility might move and disperse through the air. But the information that matters most —the information everyone is waiting for—remains unknown: *What pathogen, or pathogens, might have been released?*

Without specifics, DTRA's computational systems run possibilities based on various agent class pathogens. Airborne killers like plague, smallpox, and genetically modified flu will have a high transmission rate, high fear factor, and potential global impact. Fluid-contact

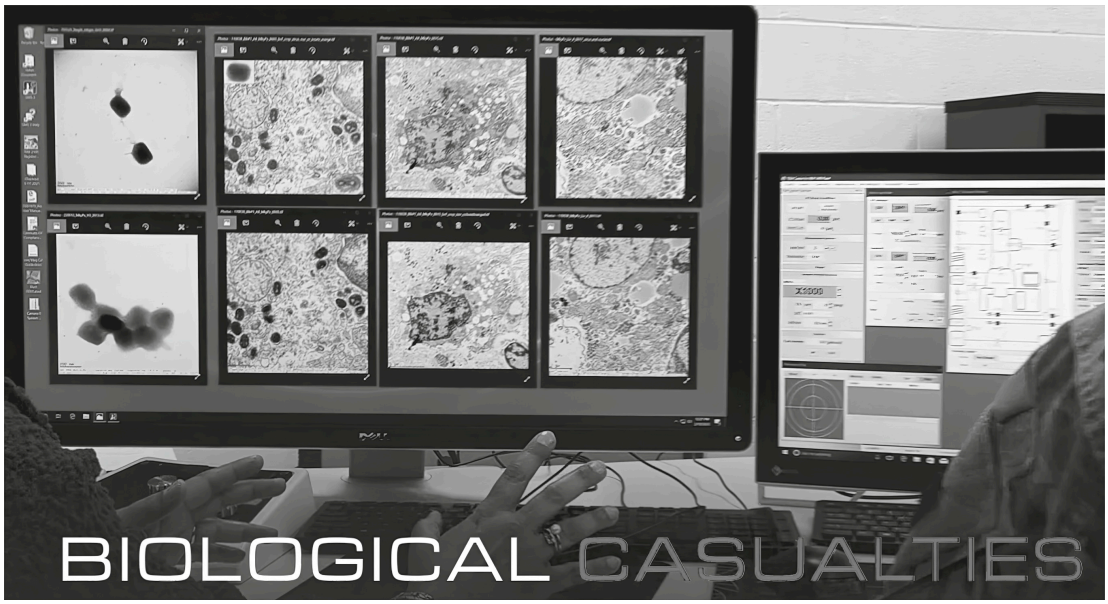
killers like Ebola, Marburg, and Lassa fever will have a lower rate of spread, but similarly high lethality and panic components. Environmentally persistent spores like anthrax will mean limited, person-to-person spread, but long-term contamination and psychological issues.

Only once a pathogen is confirmed can the most critical simulations begin: the human collateral damage estimates.

How many people will die.

For that information, the intelligence community looks to the National Center for Medical Intelligence, located inside the army garrison at Fort Detrick, in Maryland.

National Center for Medical Intelligence, Defense Intelligence Agency—Fort Detrick, Maryland



The U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) conducts research on the world's most dangerous pathogens to protect U.S. military forces and civilian populations against biological threats. It is the sole provider of military training for biological casualties. (U.S. Army, video image credit by Joseph Nieves)

The Fort Detrick facility in Maryland is a fortress of a military installation, the former epicenter of America's Cold War–era biological warfare research and development programs, back when offensive biological weapons programs were still considered legal and rigorously pursued in the United States. Fort Detrick is where former Nazi scientists were brought after World War II, secretly hired by the Joint Chiefs of Staff to work side by side with American scientists on biological weapons programs—including efforts to weaponize Tier 1 Select Agents like smallpox, anthrax, and plague.

Today, Fort Detrick stands as the centerpiece of U.S. BioDefense efforts, America's vast interagency federal system designed to spot, stop, and contain a biological threat before it spirals out of control. Its 1,200-acre campus of cinder-block buildings, high- security fences, and high- and maximum-containment labs houses two main facilities: the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) and the National Biodefense Analysis and Countermeasures Center (NBACC), which is run by the Department of Homeland Security. Its freezers, like those at Vector, hold the world's most dangerous germs. Behind the high walls, past heavily armed security, and through multiple sets of double-airlock doors, microbiologists like Dr. Henry Heine don biohazard suits and rebreathing systems in order to work with the highest-consequence pathogens known to man. All in the name of BioDefense.

Some of the scientists here work to develop vaccines, antimicrobials, and other medical countermeasures to defend against biological threats. Technologists sequence genomes, test new methods to detect and contain outbreaks, and study pathogen behavior to anticipate weaponization by enemies and adversaries around the globe.

This sprawling biomedical research campus is home to the National Center for Medical Intelligence, a specialized unit of the Defense Intelligence Agency that focuses on global medical threats to U.S. forces and U.S. citizens.

With news of the explosion at Vector, medical intelligence analysts here push out a two-page Medical Intelligence Note through JWICS ("jay-wicks"), the Joint Worldwide Intelligence Communications System that handles information up to the Top Secret / Sensitive Compartmented Information level. This early-warning report includes:

- Pathogen inventory at Vector, known and suspected
- Potential routes of pathogen release based on known air-handling systems and effluent (liquid waste) lines
- Medical intelligence knowns and unknowns

Updates to follow will include infectious disease risk alerts and casualty counts as they occur. Fort Detrick's seminal intelligence products will be used across the military and intelligence community to assess the coming threat.

■

Koltsovo, Siberia, Russian Federation

In Siberia, night passes. The sun rises. Eight hours have gone by.

It is early the following morning, around 8 a.m. local time in Koltsovo, when a Vector scientist travels to a small Orthodox church at the edge of town. He is going to make a confession. The Church in Honor of the Entry of the Theotokos is built in the traditional Russian Orthodox style, with onion domes and whitewashed walls. It serves as a central parish for Koltsovo residents, including scientists and lab staff who work at the state-run facility.

The scientist meets the priest in a small, semi-enclosed corner of the church.

Forgive me, Father, for I have sinned, he says.

He pauses. Then blurts out, *I caused an explosion at my lab.*

The priest listens as the scientist confesses.

The lab where he works, inside the Vector Institute, claims to only do vaccine research, the scientist says, but there are also illegal biological weapons programs that go on.



Russian Orthodox Church in Koltsovo, Siberia, Russia. (Created by Jett Jacobsen with an OpenAI image-generation model)

I work on one of these programs, he confesses.

The scientist says he knows this is wrong, but he does it anyway. The money is good. It is prestigious work.

It's easy to convince yourself that because others do it, you must do it, too, the scientist says. This kind of self-justification has filled countless history books.

The priest listens. Denial is a powerful force.

Last night I decided to destroy what I was working on, but it backfired. It was supposed to be a small fire. It turned into an explosion. I fled.

The priest nods. He heard about the accident at Vector last night. The town is small. By morning, gossip was already getting around on VKontakte, or VK, Russia's equivalent of Facebook.

If I get caught, they'll arrest me.

Or kill you, the priest thinks.

As the scientist confesses, a warm, tingling sensation grows under his skin. An unnatural surge of endorphin-induced euphoria is flooding his central nervous system. The scientist does not yet realize that as he was hastily trying to destroy the bioweapon he was working on, he accidentally infected himself.

The priest asks the scientist if there is anything else he needs to confess.

What I was working on may have gotten out.

The scientist does not tell the priest that he was working on a genetically modified plague weapon. A lethal pathogen engineered to be more virulent, and more transmissible, via the lungs. Pneumonic plague.

The priest offers absolution, granting divine forgiveness.

What's done is done, he says.

The scientist lets out a long, heavy breath. He clears his throat and coughs. Under naturally occurring circumstances, when a person infected with pneumonic plague coughs or sneezes, the large-size particles of contagion release and fall to the ground.

But here, in this small, semi-enclosed corner of the church, hundreds of millions of smaller-than-5-micron (< 5 μm) plague particulates remain suspended in the air.

The scientist leaves the church.

On the way out, he passes another person in line to confess. The young man waiting to see the priest is a university student studying abroad. He's home visiting his family during winter break.

The student steps into the small, semi-enclosed corner of the church where the scientist just stood. He breathes in the genetically modified plague particles suspended in the air.

I've let down my father, the student tells the priest, and that he's studying premed at the University of California, Los Angeles.

I kind of lied to my family, he says. *I'm going to stay in America after graduation. There are better opportunities for young people in the West.*

That's not a sin, the priest tells the student. *That's a choice.*

The student exhales a sigh of relief. Takes another deep breath.

More plague germs enter his lungs. This person-to-person pathway of infection is known as a transmission chain.

The Vector scientist in this scenario is Generation 0, the primary case, or the first person infected. (Patient zero, also called the index patient, is the first reported case during an outbreak, not necessarily the first person infected, according to the CDC.) The priest and the premed student have just become Generation 1, persons who have been directly infected by Generation 0. The people the priest and the premed student soon infect will be categorized as Generation 2, individuals who will, in turn, infect members of Generation 3, who will infect members of Generation 4, and so on. This is how a contagious disease spreads from an outbreak, to an epidemic, to a global pandemic—unless it can be stopped in its tracks.

The student leaves the church.

He takes a taxi directly to Novosibirsk Tolmachevo Airport, twenty-five miles away. Because the endorphin gene for euphoria has been spliced into the plague's DNA, he will feel great for the next twenty-four hours or so, all the way until the symptoms become impossible to ignore.

At the airport in nearby Novosibirsk, he puts on an N95 mask. Airplanes are giant germ factories—you don't have to be an aspiring doctor to know this. His low-cost ticket from Novosibirsk, Siberia, to

Los Angeles, California, involves two brief stops. He sleeps through long stretches of the journey to America's West Coast.

Ninety minutes from Los Angeles he wakes up to the breakfast service, which he doesn't eat because he's still wearing a mask.

He feels well and rested. Oddly excited, and even sociable. As he exists the aircraft, he decides to drop off his bags at his dorm room on campus, then head directly downtown, where he does pro bono work for homeless people who live on Skid Row.



Mayor's office—Koltsovo, Siberia, Russia

Shortly after the premed student leaves the church, the mayor of Koltsovo science city releases a statement to TASS, Russia's state-owned news agency.

An explosion occurred at the Vector Institute last night, during regularly scheduled maintenance. *No biohazardous substances were involved, and the incident poses no threat to the surrounding community.*

This is an almost identical statement to the one released after the explosion at Vector in September 2019.

At the same time, in coordination with a directive from Moscow, Russia Today publishes an article online.

Its reporter praises the Vector Institute for its state-of-the-art vaccine development as well as "for studying epidemics and general issues surrounding immunology."

Halfway across the world, it is 9:00 p.m. in Washington, D.C., when the intelligence community begins to learn contradictory, and troubling, new information.

MASINT Office, Defense Intelligence Agency—Reston, Virginia

At the MASINT office in Virginia, Measurement and Signature Intelligence analysts recognize unusual activity across Koltsovo. Covertly deployed DIA sensors, emplaced on-site on the Vector campus years ago as well as in other places around the town, detect radical changes in MASINT signatures.

Isotopic markers consistent with large-scale chemical dispersal are off the charts.

Remote sensing and mass spectrometry confirm the airborne presence of chlorine dioxide gas, vaporized hydrogen peroxide, and peracetic acid. These are potent sterilants used for biological decontamination, and they are being deployed.

And not just around the Vector Biosafety Level 4 facility, where the explosion occurred, but elsewhere around Koltsovo. Even the small Orthodox church at the edge of town now has a decontamination crew around it.

The signatures tell a story.

These are not chemicals from a building fire. They reveal that a town-wide mass decontamination effort is underway.

Working late at the Pentagon, the secretary of defense receives the information in his E-Ring office. He reads it quickly, then relays a message to the president's national security advisor.

It's time to convene an emergency meeting of the Principals Committee, the president's top advisors on BioDefense.

The Situation Room, the White House—Washington, D.C.

Key members of the president's Principals Committee gather on video comms for an emergency meeting. It is eleven o'clock at night on the East Coast. Eleven hours since the explosion inside a

BSL-4 lab at Vector. In a pre-Covid world, there might have been a pause before convening this meeting. Not anymore. Mistakes made during the pandemic cannot happen again. If something managed to escape from this lab, it must be stopped before it spreads.



The White House. (Photograph by Jett Jacobsen)

The Principals Committee is a group of senior presidential advisors that sits just beneath the National Security Council. "In general," National Security Council veteran Dr. Elizabeth Cameron tells us, "the Principals Committee means key cabinet-level people coming together with all operational assets to get a unified approach on a complex national security issue, before the president gets involved." Whereas the National Security Council is chaired by the president, the Principals Committee is chaired by the national security advisor. The Principals Committee coordinates interagency response in a looming crisis so the president doesn't have to micromanage early moves.

On comms are the national security advisor, the secretary of defense, the director of the CIA, the director of national intelligence, the secretary of state, and the president's BioDefense chief—an unofficial position, with a variety of names. In front of each committee member is a memo summarizing the situation.

The national security advisor opens the meeting by describing briefly the explosion at Vector eleven hours ago. The CIA director continues.

CIA director: *The Vector Institute served as a nexus for the Soviet biological weapons program. We believe it still does.*

Secretary of state: *Confirming with high probability Vector stores high-consequence pathogens in violation of the BWC [treaty].*

Director of national intelligence: *The explosion set fire to a building known to house a maximum-containment lab. Overhead imagery from two hours ago shows Level 1 decontamination efforts are underway, not just at Vector but in a two-mile radius, which includes the whole town.*

CIA director: *If there was a lab leak, it's had eleven hours to get out.*

BioDefense chief: *And spread.*

SecState: *Our embassy in Moscow reached out with an urgent request. We are being ignored.*

Secretary of defense: *Military assets confirm decon efforts are being handled by a Russian CBRN ["seeburn"] defense brigade, known as RKhBZ ["er-kha-bee-zee"].*

CIA director: *Given Vector's pathogen inventory, we can easily have a worse-than-Wuhan situation on our hands.*

National security advisor: *When do we tell POTUS* [President of the United States]*?*

SecDef: *Let's discuss what we do to stop the situation from getting worse.*

NatSec advisor: *We don't have a lot of options.*

SecDef: *We have one.*

That needs to be discussed.

Not everyone in the room knows what the secretary of defense is referring to, but the director of the CIA does. Like many administrations of the past, the director of the CIA and the secretary of defense have divergent views on the use of military force to stop a possible weapons of mass destruction event.

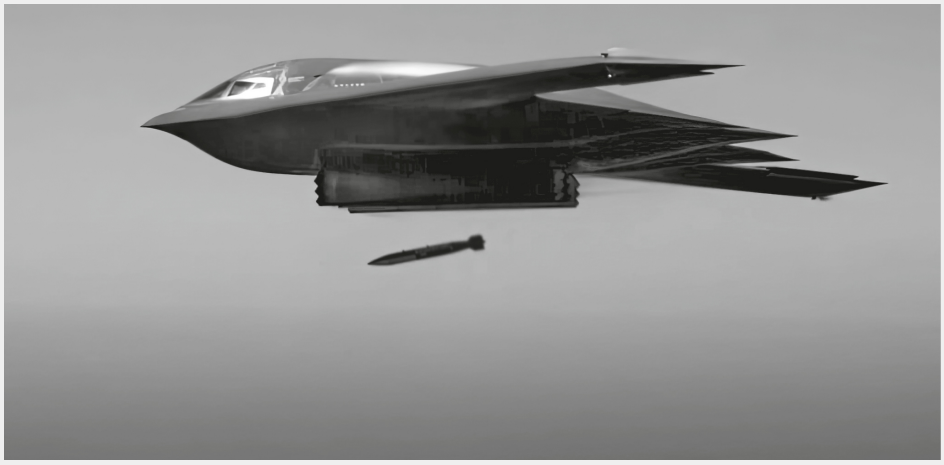
CIA director (shocked): *You can't be serious.*

He is. There are tense looks around the room. What are the director of the CIA and the secretary of defense hinting at?

SecDef (announces): *There is a nuclear option.*

HISTORY LESSON

The Nuclear Option



A B-2 stealth bomber test drops a B61-11 earth-penetrating nuclear weapon designed to destroy a deeply buried target like a biological weapons lab. (Sandia National Laboratories)

During the Clinton White House years and continuing (at least) through the George W. Bush administration, the Defense Department developed plans to drop a nuclear bomb on a "known or suspected" biological weapons facility.

The central argument for nuclear use—as opposed to using a massive barrage of conventional explosives—is that the extreme, center-of-the-sun temperatures generated by a nuclear bomb would instantly incinerate all the germs inside a biological weapons facility before they could travel downwind. In military nomenclature, this is called mitigating an "aerosol hazard."

This directive of using a nuclear bomb to destroy a suspected enemy biological weapons facility has in the past included preemptive use. Meaning the Pentagon could strike a bioweapons lab with a nuclear bomb even *before* the United States had been directly attacked.

Like now, in this scenario.

Back in the 1990s, President Clinton's secretary of defense, William Perry, who later became a stalwart advocate of nuclear disarmament, initially supported this kind of preemptive action. Perry feared biological weapons were so heinous, America needed to be able to rely on the theoretical concept of "preventive defense." As secretary of defense, Perry had been briefed on the Soviet Biopreparat program before it became publicly known. When he learned of this new class of biological weapons Russian scientists had secretly and illegally designed in the 1980s, he was disturbed. When he learned about Russian scientists' plans to create genetically modified chimera weapons that could do things like make the Ebola virus airborne, or a super-plague weapon, he was appalled.

These were biological weapons that "could end the lives of millions of people," as the program's deputy chief Ken Alibek testified to Congress. And it was these kinds of startling revelations that made Secretary of Defense Perry perceive biological weapons as "undeterrable." It made him think in extremes.

"This new class of undeterrables may be madder than MAD," Perry told students at Harvard University during a 1996 graduation speech. MAD refers to Mutual Assured Destruction theory. "Undeterrable" means there is no way to prevent an enemy from creating and using biological weapons, except to threaten them with nuclear annihilation. It was a nightmare game of chicken. Perry, as secretary of defense at the time, was at the center of it.

Former presidential advisor Andy Weber explains the paradox this way: "You can't say, 'Don't you dare hit us with biological weapons, or we will hit you back with biological weapons, assuring all [of our] mutual destruction,' because biological weapons are illegal and you're not supposed to have them."

But nations do have them. And rogue nations want to acquire them.

Which is why a highly classified presidential option to use nuclear weapons against a biological weapons facility is understood to exist as a Presidential Emergency Action Directive, also known as a PEAD.

While this specific idea of hitting a biological weapons facility with a nuclear weapon was proposed during the Clinton administration, after the September 11 terrorist attacks, the idea resurfaced with gusto. When the CIA learned Al Qaeda had an active biological weapons program, led by chief ideologue, strategist, and medical doctor Ayman al-Zawahiri, the nuclear attack program moved to the fore.

In 2005, the chairman of the Joint Chiefs of Staff, General Richard B. Myers, authorized a classified program that allowed a preemptive nuclear strike against a biological weapons facility if the Pentagon learned of an "imminent attack from adversary biological weapons that only [the] effects from nuclear weapons can safely destroy."

We know about this classified program because a draft version of the program, called "Doctrine for Joint Nuclear Operations," was inadvertently discovered by Hans M. Kristensen, a consultant to the Natural Resources Defense Council at the time. "I found it on the Pentagon's website," Kristensen tells us. The DoD was not pleased. The document was never intended to be public. Implications reverberated on Capitol Hill, where the program became associated with a proposed new nuclear weapon, called the Robust Nuclear Earth Penetrator weapon, or RNEP, prompting a congressional review that called it "the most controversial nuclear weapon program in Congress for the last several years."

"[A]ttacks using nuclear [weapons] near urban areas could produce thousands to over a million casualties," the National Academy of Sciences warned. The Union of Concerned Scientists put the figure in the multiple millions. This is because bioweapons labs are almost always built in, or near, population centers.

The Robust Nuclear Earth Penetrator warhead program was officially canceled. A variation, called the nuclear bunker buster program, remains. The weapon is the B61-11 nuclear warhead. It can be loaded onto a B-2 stealth bomber in about one hour's time.

If the Presidential Emergency Action Directive to use nuclear weapons against a biological weapons facility exists, we, the general public, are not meant to know about it. All PEADs are classified. None have ever been leaked. Upon review of the facts here, it's clear the use of a nuclear weapon against a biological weapons facility like Vector is futile—unless it is used preemptively—which is insane.

Not because the nuclear weapon wouldn't effectively annihilate the facility. But because by the time a pathogen escapes from a lab and gets seeded in the population, it is almost certainly already too late.

The Situation Room, the White House—Washington, D.C.

At the White House, the Principals Committee members finish listening to the secretary of defense discuss the nuclear option.

The consensus is clear: the nuclear option is not viable. It would all but guarantee nuclear reciprocation, which would almost certainly lead to all-out nuclear war.

It is nearing midnight. The Principals agree to watch the situation closely and brief the president tomorrow.

National security advisor: *In the interim, someone needs to give me an actionable idea.*

The secretary of state has one.

SecState: *Let's try reaching out to Russia through the Nerc.*

The Nerc, as in the National and Nuclear Risk Reduction Center, a U.S. State Department watch center that continually maintains secure communications with Russia and other nuclear-armed states—24/7, 365 days a year—so as to reduce the risk of crisis escalation, miscalculation, and accidental war.

U.S. Department of State—Washington, D.C.

The State Department's assistant secretary for the Bureau of Arms Control, Deterrence, and Stability calls Moscow. It is midnight in D.C., morning in Moscow. The accident happened twelve hours ago. The clock is ticking.

"If you can deal with a lab leak in the first twelve to twenty-four hours, the outcome can be drastically different," Dr. Robert Kadlec tells us. Kadlec, a retired air force physician, is a long-serving presidential advisor on bioterrorism. During the Covid pandemic, he was a primary driver of Operation Warp Speed, the government-led

effort that developed, manufactured, and distributed 977 million doses of the Covid-19 vaccine across the United States.

In the event of an accident at a BSL-4 lab in Russia, "We would request information and offer to help," says Mallory Stewart, a decades-long veteran of the U.S. State Department and the top diplomat who held the position of assistant secretary for the Bureau of Arms Control, Deterrence, and Stability from 2021 to 2025.

Which is why the assistant secretary in this scenario now holds on a secure telephone line for her Russian counterpart. After a few minutes, she is abruptly told he is not in.

"The outreach to Russia in a situation like this is *critical*," National Security Council veteran Dr. Elizabeth Cameron tells us of the first hours after a lab leak. As the former senior director for global health security and biodefense on the White House National Security Council, Cameron served under four national security advisors and three presidents. "It's critical because you can actually do something…. You have a chance to influence containment."

If a deadly pathogen has been accidently released, sharing information—or even asking for help—makes containment far more likely. Containment of an infected population through quarantine, contact tracing, and other measures allows public health officials to stop a pandemic in its tracks. "Koltsovo is not Beijing," Dr. Cameron says of this scenario, meaning quarantining Koltsovo's 20,000 residents would be possible, whereas quarantining a city like Beijing, with a population of 22 million, would never work. But Dr. Cameron's comments also allude to a much greater existential threat. One that hangs like a sword of Damocles over all of us. Many of today's BSL-4 labs have been built in or near cities with millions of people.

Some of the BSL-4 Laboratories in Major Population Centers

Metro Area (2025 est.)	Population	BSL-4 Laboratory	Notes
Tokyo, Japan	~37 million	National Institute of Infectious Diseases (NIID), Musashimurayama	Japan's only operational BSL-4 lab is located within the Tokyo metropolitan region.
Johannesburg, South Africa	~6.5 million	National Institute for Communicable Diseases (NICD), Sandringham	The Special Viral Pathogens Laboratory is described by NICD as the only such laboratory on the African continent.
Atlanta, Georgia, USA	~6.3 million	Centers for Disease Control and Prevention	The CDC in Atlanta operates multiple BSL-4 laboratory suites within its campus.
Berlin, Germany	~4.7 million	Robert Koch Institute High-Containment Laboratory	Germany's only federal institute in the field of human medicine with a BSL-4 lab.
Rome, Italy	~4.3 million	National Institute for Infectious Diseases "Lazzaro Spallanzani" (INMI)	Italy's national BSL-4 capability is used for high-risk pathogen diagnostics and research.

In a moment like this, the fate of the world could hinge on diplomacy. On cooperation, even collaboration, between two adversaries: Russia and the United States.

That diplomacy can be used to de-escalate a lethal situation involving an illicit weapons of mass destruction cache is something the State Department's Mallory Stewart has unique, firsthand experience dealing with. In 2013, Stewart served as the lead lawyer on a diplomatic agreement between Russia and the United States to dismantle Syria's chemical weapons program, officially called the U.S.-Russian Framework for the Elimination of Syrian Chemical Weapons. The odds were long. Syria was in the midst of a brutal civil war, and chemical weapons had already been used on civilians outside Damascus. U.S. military strikes against Syria were on the table. Instead, Russia (Syria's chief patron at the time) and the U.S.

worked together to get Syria to turn over its illicit arsenal, a rare case in which adversaries set aside their differences to stop the further use of weapons of mass destruction. It was "not easy," says Stewart, but diplomacy prevailed.

Here now, with many unknowns still in play, the assistant secretary of state makes a move. Stopping a bad situation from spiraling into a catastrophic one is still possible.

But the State Department must tread lightly.

Because all biological weapons programs are illegal, all biological weapons programs are clandestine, or disguised as vaccine or other kinds of research. If Russia is maintaining and developing biological weapons at Vector—and the State Department has said publicly it is—Russia's willingness to cooperate in a post-explosion investigation is slim. But the State Department knows the release of a virulent pathogen, including by accident, could initiate a pandemic not just in Russia but globally, if the containment procedures are not immediate, and total. Almost certainly so if the pathogen has been genetically modified to evade cure.

The assistant secretary leaves her office and walks down the hallway, through several sets of high-security doors, and into the National and Nuclear Risk Reduction Center, or the Nerc, as it is known here. This highly secure communications center acts as an arms-control switchboard, a place where electronic signals are traded with foreign governments, especially Russia.

Formally established in 1987, the Nerc's original focus was nuclear. It was designed as a way to reduce the risk of nuclear war from miscommunication, misunderstanding, or a deadly combination of both. As threats of biological terrorism ratcheted up in the late 1990s and early 2000s, the Nerc began covering biological weapons threats, too. What started with a focus on U.S.-Russia relations has since expanded to include other nations. China has not yet formally joined.

"The Nerc acts as an emergency communications channel," Stewart tells us. An electronic backstop. A way for two adversarial countries to speak to one another by way of a single audio tone volleying back and forth every ninety seconds or so.

At a time like this, the stakes feel too high to rely on the beeps alone. The assistant secretary has another option. She stands facing a wall of screens. The distinct electronic audio signal repeats every few minutes, echoing around the otherwise quiet room.

Beep. Quiet. *Beep.*

A signal designed to prevent the end of the world from happening by mistake.

Facing a wall of computer screens, several bilingual speakers sit at their desks on this January night, each of them uniquely aware of the extraordinary power embedded in that uncomplicated sound. In this age of push-button warfare and genetically modified pathogens, those working the Nerc know this tiny room could be the last stop before an Armageddon-like, near-extinction-level event goes down.

It has been a little more than twelve hours since an explosion rocked Vector. The assistant secretary of state knows her next move. Diplomat Rose Gottemoeller explains. "If I have a requirement in the dead of night, to get in touch with the Russian Federation for some reason, the Nerc is available, no matter what, twenty-four hours a day, seven days a week." Gottemoeller is considered one of the most influential arms-control agreement negotiators of the twenty-first century. She also previously ran the Nerc (and served as the deputy secretary-general of NATO). "If we need to communicate with Russia about a biological incident, it's within the Nerc's mission to send that notification," Gottemoeller tells us.

The Nerc's well-established protocols keep communications open at all times. The underlying principle, Stewart says, is to maintain a way to "communicate about communicating." In a time of extreme crisis, the single beep may become a few succinct words. Most

messages are classified. One is not. A framed copy of its contents hangs on the wall. It was just hours after 9/11. "The military-to-military communication link was down," Gottemoeller reveals. In that moment of intense crisis, the Nerc transmitted the following message to its counterparts in Moscow:

> At this time the United States has moved to DEFCON THREE (3).
>
> This is not directed to [sic] Russia, this is due to current emergency situations.

That was a quarter of a century ago. In 2022, during the perilous first days of the war in Ukraine, words were exchanged between Nerc operators and their Russian correlates, we learn.

"Things were extremely tense," Stewart recalls.

President Vladimir Putin had just placed the entire Russian fleet of nuclear-powered, nuclear-armed submarines on what he called "special regime of combat duty." At approximately the same time, he sent an ominous message to the West, warning that anyone who tried to "hinder us" would face "such consequences that you have never encountered in your history."

In that moment of warring animosity, the Nerc, under Mallory Stewart's authority, reached out to Russian counterparts in Moscow.

How's your day going? a U.S. watch officer asked.

"We got a polite message back," she tells us, a fact not previously reported. Verbal communication being a "good sign."

Here now, the assistant secretary of state asks the watch officer if there has been any communication since the explosion, other than the customary electronic beeps. She learns there has been none. She tells the watch officer to reach out to his Russian counterpart. The watch officer types a simply worded message.

How's your day going? he asks in Russian. Waits for a response.

This time, there is no reassuring verbal response. Just a single electronic beep that is meant to indicate *We are not at war*.

The State Department's information gets reported up the chain of command, to the White House. With diplomatic overtures rebuffed or met with silence, there are few viable options available beyond watch and wait.

If a lab leak has happened, the window of containment is closing fast.

Day Two

Koltsovo, Siberia, Russian Federation

After leaving the confession with the priest, the Vector scientist headed into the woods.

By now, the genetically modified euphoria has worn off. Plague symptoms have emerged. He realizes the scope of what he has done.

He has decided to kill himself and has come out here to his cabin in the forest to do just that.

He sits down in the snow, a rifle by his side. It is 5 degrees Fahrenheit (−15 degrees Celsius) outside. His fingers and toes are frostbitten, and the pain in his body is unspeakably intense. His lungs are filled with necrotic cell tissue, and he is drowning in plague. He is delirious. Keeps touching his face, trying to locate what feels like an ice pick in his forehead.

He cries out. Coughs blood into the white snow.

He stands up and continues walking. He can't remember what he was doing out here. Drops the rifle and stumbles on.

After a few yards, he falls down and passes out.

When he wakes up, a group of men is standing over him, staring. One of them leans down, wipes his face with a cloth, pinches his nose, pushes on his chest, and starts breathing into his mouth. This man, a stranger to the scientist, administers cardiopulmonary resuscitation, or CPR.

Respirar! shouts the stranger, which means "breathe" in Spanish.

Respirar!

The group of men standing over the Vector scientist are international sportsmen. Ten big-game hunters on a hunting trip.

The man giving the Vector scientist CPR is a tech entrepreneur from the Dominican Republic, in the Caribbean. The island is called Hispaniola, which the Dominican Republic shares with Haiti. Accompanying this Good Samaritan tech entrepreneur on this big-game hunting trip are his two college-age sons. One of them shot a wolf the day before.

Several of the hunters in the group take turns carrying the dying scientist back to the hunting lodge where they are all staying. It is a long, slow slog. The scientist is obviously very sick, and behind the cloth they have tied around the dying man's face, he is coughing up blood. Several of the others hang back, not wanting to get sick themselves. This includes the only American in the group, an oilman from Dallas, Texas. Middle-aged.

At the hunting lodge, a forestry service vehicle comes and takes the scientist away.

It is the last day of the trip. The ten hunters eat dinner together in one large dining room.

They all use the same sauna.

The same steam bath.

Early in the morning, they all drive together to Novosibirsk Tolmachevo Airport in one small van.

They have all become infected with genetically modified pneumonic plague.

Because of initial dosage, as well as other factors that impact the incubation time in a human's individual body, their symptoms will emerge differently over the next one to three days.

Novosibirsk Tolmachevo Airport—Siberia, Russia

At the airport, seven of the ten hunters board commercial flights that will take them to six of the earth's seven continents.

- Europe
- Asia
- North America
- South America
- Africa
- Australia

Most of these sportsmen are heading to their respective homes, located in various countries around the world. Some are continuing to travel on. The eldest of the group, an eighty-year-old judge from Germany, is heading to Yokohama, Japan, where he will meet up with his two daughters and board the *Diamond Princess* cruise ship for a New Year's voyage. Another, a Spanish art collector, is heading to Cyprus for an auction.

At the airport, the Dominican tech entrepreneur and his two sons board a private jet that will take them home to the Caribbean.

They climb the stairs and board their Gulfstream G650ER. They settle into the large leather chairs and take off. Global travel by Gulfstream can be exceptionally fast. This variant doesn't need to refuel. In twelve hours and fifteen minutes, they will be home.

When someone is exposed to an infectious disease, a window of time passes before they begin showing symptoms. This is called the incubation period.

The incubation period isn't the same for everyone, even if they were infected by the same person at relatively the same time. The amount of bacteria or virus you are exposed to can be a major

factor in the incubation period. So can a person's immune system strength, their metabolism, age, and genetics. Underlying health conditions can also speed up or slow down how quickly the infection takes hold. So can chemical factors, and this includes whether a person is already taking an antibiotic for another ailment when they breathe an airborne bacteria into their lungs.

Of the ten big-game hunters, the Dominican tech entrepreneur got the biggest bacterial load, directly into his lungs, when he administered mouth-to-mouth resuscitation to the scientist.

This Good Samaritan will be the first person outside Siberia to become sick and die—the Dominican Republic's patient zero.

HISTORY LESSON

Typhoid Mary

Back in 1907, before the notorious landmark case involving Typhoid Mary, the world's understanding of disease transmission was different than it is today.

Typhoid Mary's real name was Mary Mallon. Born in Ireland, she emigrated to America and was working as a cook when she became the first person identified by U.S. public health officials as an asymptomatic carrier of disease.

The concept of asymptomatic infection, that you could carry and transmit a disease without showing symptoms, goes back to antiquity when physicians spoke of "hidden carriers." But this concept did not become official in the United States medical establishment until after Typhoid Mary infected at least 122 people with typhoid fever while showing no signs of infection herself.

It was a watershed moment for public health. The term "carrier state" entered the lexicon. The discovery changed epidemiology, which continues to evolve today.

The polio epidemic, which peaked in the United States in the early 1950s, broke new ground in understanding asymptomatic infection. "Most people infected with poliovirus will not have any visible symptoms," according to the CDC. "Fewer than 1% of people [infected] will have paralysis in their arms and/or legs." Meanwhile, asymptomatic carriers silently pass the poliovirus to others, fueling spread.

The HIV/AIDS epidemic, which in America began in the early 1980s, redefined the concept of persistent infection. People can be infected for years before symptoms emerge.

During the Covid pandemic, epidemiological concepts of asymptomatic transmission, persistent infection, and latency advanced further. Early in the pandemic, the idea that infected people could be asymptomatic was rejected by the CDC and the World Health Organization. Only later did studies confirm that around 40 percent of

people infected with the SARS-CoV-2 virus turned out to be silent carriers. These numbers continue to change.

Plague is uniquely different. "There are no asymptomatic carriers of plague, as far as we know," former USAMRIID bacteriologist Dr. Henry Heine tells us. "The Soviet idea of inserting a gene for euphoria into *Yersinia pestis* was the closest thing" to creating an extended period of silent transmission, says Heine. Other factors, like being at the tail end of antibiotic treatment for a different ailment, *could* impact incubation times, but this is "hard to say," says retired admiral Brett Giroir, who served as the assistant secretary of health at the U.S. Department of Health and Human Services.

How the body deals with disease is an enigma. "The human immune system is as mysterious as the brain," says Dr. Heine, who has spent his life studying plague. "We don't know how it works. Anyone who tells you they know how it works is lying to you."

What Heine also assures us is that no one is immune to pneumonic plague. Once it infiltrates your lungs, unless you take antibiotics within a twenty-four-hour time frame, you will die.

But when dealing with a genetically modified variant of highly transmissible pneumonic plague, history will be made anew.

Santo Domingo, Dominican Republic—the Caribbean

It is the end of day two when the tech entrepreneur and his two sons land in Santo Domingo, the capital of the Dominican Republic, where they reside.

All three are feeling euphoric. Each of them is still in his first twenty-four hours of contagion. None of them has any reason to suspect they are infected with genetically modified plague.

Feeling great, the trio heads to Gold's Gym, on Avenue Winston Churchill in central Santo Domingo, to exercise after a long, sedentary flight. They lift weights in a crowded area alongside more than 200 other exercise enthusiasts, infecting approximately 100 of them, according to how transmission rates accelerate in close-quarters environments where the air circulation is poor.

The three men shower and change.

They head over to the popular Hard Rock Cafe Santo Domingo. There, they drink and dine alongside approximately 250 other guests, infecting another 100 or more individuals.

By the end of the evening, the tech entrepreneur and his two sons have begun to feel acutely ill.

As circumstance has it, this tiny island nation will become the first region outside Koltsovo and Novosibirsk, in Siberia, to experience an explosion of mass death from a biological weapon created in a Russian laboratory 7,000 miles away.

Contagious disease spreads around the world at the speed of human travel. It always has.

In the fourteenth century, the spread of the Black Death was limited by the rate at which people moved, which in those days was by caravan or ship and averaged one to three miles' distance each day.

Today, a person can get one-third of the way around the world in less than a day. Or in twelve hours and fifteen minutes, if you have a private jet.

Day Three



National Reconnaissance Office—Chantilly, Virginia

The National Reconnaissance Office has eyes on Koltsovo. It is just after noon here on the East Coast of the United States, the beginning of day three since the explosion at Vector.

Something new is happening on the ground.

Wide-area satellite imagery reveals a flurry of activity in the area.

Armored vehicles are moving in.

Security checkpoints have been set up in a five-mile radius around Vector, on all approaches.

No entry, no exit allowed.

The military is building an exclusion zone.

There are no signs of human or vehicular traffic. Only government traffic. Public transit in and out of the Koltsovo science city has been shut down. All civilian activity within the zone appears to have ceased.

Koltsovo is under military quarantine.

NRO intelligence officers feed the satellite images into JWICS.

Across the military and intelligence communities, what everyone is seeing means one of two things: the Russians think something deadly has gotten out, or they know it has.

Central Intelligence Agency headquarters—Langley, Virginia

In the leafy suburbs of Langley, Virginia, the sky is overcast, and it is bitingly cold. At CIA headquarters, the lead Counterproliferation Division analyst assigned to the Vector situation is asleep in his office, on a cot. He was up all night, watching events unfold across Novosibirsk, Siberia. Now, he jolts awake to an electronic ding. A new message on his Signal app.

This raw intelligence, also known as source reporting, is from an asset in the field. From the groundskeeper at Vector.

A security guard who works the night shift at Vector has not been heard from since the accident.

Over Signal, the CIA analyst learns the last name of this security guard, as well as instructions to check a certain social media account on VK, the Russian equivalent of Facebook.

The analyst uses a classified, intelligence community version of the Wayback Machine to access a group chat among VK users. There, in a discussion among Koltsovo residents that began the morning after the explosion, the missing guard's whereabouts are discussed by family and friends.

Anyone know anything?

Nothing.

Silence is bad. Silence is used to hide things.

He always messages me back when I ask him to.

The group messaging continues into the second day after the explosion, with multiple VK users expressing concern over rumors being shared. The analyst scours the messages.

Disinfectant spray trucks hosing down the street near Dyadya Doner fast foods.

Two men in hazmat suits closed off Pyaterochka, that busy supermarket.

My cousin saw an ambulance driving fast without a siren.

The train station is closed.

And then, the chats abruptly stop. Everything having to do with this discussion is deleted, all at once.

The CIA analyst saves an electronic copy of the preserved chats.

He calls his boss on a secure line.

CIA analyst (into phone): *The locals are calling what's happened at Vector "Chernobyl with germs."*

■

National Security Agency headquarters—Fort Meade, Maryland

At the NSA, signals collection officers note a significant change in what they are hearing around Koltsovo. Cell service has been interrupted. There is no internet access anymore.

Communications coming in and going out are being jammed by Moscow.

Here in the Maryland offices, two desks over, an NSA cryptologic-language analyst is listening in on a senior-level meeting at the Kremlin when she overhears valuable new signals intelligence. That the U.S. eavesdrops on Moscow in this manner was once a jealously guarded secret, but after the 2013 Edward Snowden disclosures, and in the years of public reporting on SIGINT capabilities ever since, these once-taboo revelations have become almost blasé.

In this conversation among officials with the Ministry of Defense headquarters in Moscow, the analyst intercepts a request for "a mobile incineration system" from the Main Military Medical Directorate, the GVMU.

A field-deployable crematorium.

The analyst writes up a memo. "Koltsovo is cremating bodies."

High-fatality expectations, a Russian military officer says to a colleague.

The analyst pushes the information out across the classified JWICS system.

Novosibirsk, Siberia, Russian Federation

It is late at night in Siberia when footage of a press conference from several hours earlier makes its way onto the messaging app Telegram. The health commissioner in the industrial metropolis of Novosibirsk—roughly twelve miles from the Vector Institute—addresses reporters. With a population of 1.6 million, Novosibirsk is Russia's third-largest city, after Moscow and Saint Petersburg.

The official stands at a podium before a small group of journalists seated in plastic chairs.

A cluster of patients in an area hospital are experiencing an atypical pneumonia-like illness of unknown cause that does not respond well to standard treatments, the official says. *Symptoms include fever, delirium, shortness of breath.*

There is no mention of the accident at Vector two nights before. No mention of the BSL-4 facility just twelve miles over the river and down the road.

The official continues.

Tests indicate the atypical pneumonia in these patients is bacterial.

Bacterial pneumonia can usually be treated with antibiotics—doxycycline, gentamicin, and ciprofloxacin among them. The recovery period for bacterial pneumonia is, typically, between seven and fourteen days.

But "atypical" means "not typical." It means "anomalous" or "unusual."

In the medical community, atypical is not good.

Atypical can be very bad.

Even more troubling is this: The statement by the Russian health official echoes almost identical phrasing used by Chinese health officials on December 31, 2019, when they first announced the appearance of an atypical, pneumonia-like illness that turned out to

be SARS-CoV-2, the virus that caused Covid. A virus that, according to official Defense Department figures, infected ~680 million people around the world and killed ~6.8 million of them (estimates vary across major institutions, particularly for mortality).

In intelligence community nomenclature, this kind of vague declaration by health officials when more facts are almost certainly known is called a disinformation signature. An action by a state or non-state actor designed to mask or reshape the truth about an event.

And then, to everyone's surprise, the Russian official says he will answer a few questions.

A reporter raises his hand.

How big is this cluster of patients with the atypical pneumonia?

The way the reporter asks the question sounds scripted.

Sixty-two people, the official says.

How many have died? a second reporter asks, also as if on cue.

Sixteen people have died, says the official.

There is a pause in the room as everyone does the math.

If you take the number of people who have died and divide it by the number of confirmed cases, you get the case fatality rate of a disease outbreak. At the height of the pandemic, Covid had a case fatality rate of around 1 percent, meaning out of every 100 people who became infected with Covid, one of them died. Based on what the Russian health official just stated, this atypical bacterial pneumonia has an extraordinarily high case fatality rate for pneumonia: 25.8 percent.

$$\text{Case fatality rate (\%)} = \frac{\text{(Number of deaths)}}{\text{(Number of confirmed cases)}} \times 100$$

$$\text{CFR} = (16 \div 62) \times 100 = 25.8\%$$

Even more alarming is how fast it strikes. If this outbreak is tied to the accident at Vector—and the U.S. intelligence community almost unanimously believes it is—the disease is hypervirulent, highly transmissible, and advancing with lightning speed.

We are dealing with a very serious situation, the official says. *This is why we require anyone with these symptoms to come to the hospital immediately.*

Hospital data appears on the screen. The official tells the audience he will share more information when he has information to share.

He thanks the audience and leaves.



World Health Organization, Europe—Copenhagen, Denmark

In Copenhagen, Denmark, World Health Organization officials receive word of an outbreak in Siberia of an atypical, pneumonia-like illness of unknown etiology that does not respond well to standard treatments. The message is transmitted internally. This is because Russia no longer operates a World Health Organization country office in Moscow, as it had been doing since 1998. In 2023, the Moscow office was closed down and relocated to Copenhagen, owing to Russia's growing hostilities toward the West.

In WHO parlance, "atypical" means "novel." "Novel" means "new." It means Russia is dealing with an outbreak of an infectious agent not previously identified in humans. Covid was novel. "Novel" also means:

- The pathogen is genetically different from known organisms.
- The population has little or no preexisting immunity to it.
- There is likely no currently available treatment or vaccine.

The mission of the World Health Organization is to foster health security and protect its 194 member states from health emergencies. This includes local epidemics, global pandemics, and other biohazardous events that threaten world security. With news that a novel strain of bacterial pneumonia is spreading in Novosibirsk, Siberia, Russia's third-largest city, WHO officials take a series of action steps.

WHO/Europe requests information and permission to fly a WHO emergency support team into Novosibirsk. In the early days of Covid, WHO requested this of Chinese health officials in Wuhan. The response from that member state was blocked.

Officials with WHO/Europe also request Russia immediately make public the pathogen's genetic code. The germ's genome becomes a blueprint for detecting, understanding, and combating the pathogen. Once scientists have a pathogen's genetic code, they can begin working on antimicrobials, vaccines, and other medical countermeasures. Without the genetic code, doctors cannot properly identify what it is they're dealing with.

Meanwhile, the pathogen is spreading.

And as it replicates, it inevitably mutates.

The transmission chain begins to explode.

■

National Reconnaissance Office—Chantilly, Virginia

NRO imagery analysts on the East Coast re-task satellites over Moscow to focus in on the Gamaleya Research Center, in the northwest part of the city. Gamaleya is Russia's preeminent medical-research institute. More important to the task at hand, it is the facility that produced the Sputnik V, Russia's Covid vaccine.

For the kind of high-resolution images NRO officers are after, reliance on a fast-moving fleet of low-earth-orbit satellites is key. These systems are augmented by the more recently developed

small-satellite constellations that help deliver clear, crisp images from space. Examining these state-of-the-art images, analysts detect new activity underway around Moscow that sets off an array of U.S. intelligence community alarms.

A convoy of military vehicles can be seen driving back and forth between Moscow and Immunotekhnologii, a pharmaceutical company and government procurement shop in the suburbs with deep-freeze warehouses able to hold 10 million doses of vaccine.

It is day three since the explosion at Vector, and it looks like Russia already has begun a mass vaccination campaign.

Novosibirsk, Siberia, Russia



A soldier with Russia's RKhBZ defense troops stands in front of an armored reconnaissance vehicle equipped for nuclear, chemical, and biological warfare. (Ministry of Defence of the Russian Federation)

A member of the CIA's Global Response Staff attached to the U.S. embassy in Moscow arrives in Novosibirsk with a mission to covertly take photographs of area hospitals. On the north side of the Ob River, it appears that soldiers have cordoned off a several-block zone.

Barricades stretch from the busy Marshala Pokryshkina metro station to the Opera House on Krasny Prospekt. Inside this perimeter, on Sem'i Shamshinykh Street, is the Novosibirsk City Infectious Diseases Hospital No. 1, one of the five hospital facilities on the U.S. embassy officer's target list.

In the distance, he observes soldiers guarding the front and rear entrances. Military vehicles line the road.

Patients are being quarantined.

Careful not to be seen, he snaps photographs with his iPhone.

The perimeter is being guarded by personnel from Russia's Radiation, Chemical, and Biological Protection Troops (RKhBZ), the specialized branch of the Russian armed forces responsible for CBRN defense. These RKhBZ guards are wearing full hazmat suits, including rebreathers.

Russia knows something it has not yet told the world: the pathogen is airborne.

The Situation Room, the White House—Washington, D.C.



The White House Situation Room. (The Obama White House / Office of the President of the United States)

It is time to brief the president. It is 11:00 p.m. in Washington, D.C. Gathered in the White House Situation Room are members of the National Security Council: cabinet secretaries, senior defense and intelligence officials, and select members of the president's national security staff, each of whom has been assigned a distinct role in the looming biological catastrophe.

Their roles fall broadly into camps. Defense officials (the secretary of defense and the chairman of the Joint Chiefs) advise the president and prepare for worst-case scenarios. Public health leaders (the CDC director, the secretary of the Department of Health and Human Services, the BioDefense chief, and the surgeon general) are in charge of identifying the pathogen and containing its spread. Homeland security chiefs (secretary of Homeland Security

and the FEMA chief) are responsible for mobilizing disaster response, domestic protection, and border security.

No one here can accurately predict what is about to unfold, but it is the responsibility of these advisors to bring the president current with what is going on in Siberia, and to try to prepare for what might happen next.

Others at the table include the nation's intelligence chiefs (the director of the CIA and the director of national intelligence), who will brief the president on attribution and intent. The secretary of state provides counsel on diplomatic situations and solutions. The medical countermeasure experts at the table are part of the Department of Health and Human Services. They're here to advise the president on the Strategic National Stockpile, the nation's classified war chest of antibiotics, vaccines, medical countermeasures, and hospital supplies. In a biological incident or attack, an extraordinary number of officials (each with their own acronym) are involved. The roster today reads like this:

- The national security advisor leads White House–level decision-making and interagency coordination on behalf of the president.
- The secretary of defense oversees military response and national defense.
- The secretary of state manages diplomatic coordination, foreign governments, and international response.
- The director of national intelligence provides integrated intelligence assessments across all intelligence agencies.
- The director of the CIA oversees foreign intelligence collection related to origin, attribution, and adversary intent.
- The secretary of Homeland Security coordinates domestic security, border controls, and internal federal response.

- The chairman of the Joint Chiefs of Staff advises the president on military operations and force readiness.
- The secretary of Health and Human Services maintains cabinet-level authority over national public health and medical response.
- The Federal Emergency Management Agency administrator manages disaster response, logistics, and recovery operations under DHS.
- The BioDefense chief serves as the president's senior advisor on biological threats, guiding detection, attribution, and the deployment of medical countermeasures.
- The assistant secretary for Strategic Preparedness and Response directs federal medical preparedness and emergency health operations.
- The director of the Centers for Disease Control and Prevention provides scientific expertise on the pathogen, epidemiology, and containment strategies.
- The director of the Biomedical Advanced Research and Development Authority oversees the development and procurement of vaccines and other medical countermeasures.
- The surgeon general communicates public health guidance to citizens.

The meeting begins with the national security advisor bringing everyone up to speed, after which the president skims the briefing memo, then begins.

President: *So. It's bacterial. And it's atypical.* (Looks up.) *Why don't they just say "not typical"?*

The severity of the situation has not yet registered with the president. He is distracted by a thousand concerns: wars around the world, wars at home, wars inside Congress, wars in his own home, wars in his political party.

CDC director: *It's airborne, sir.*

President: *So was Covid. I'm still alive.*

BioDefense chief: *Covid had a case fatality rate of 1 percent. This is 25.8 percent.*

Director of national intelligence: *We still have no acknowledgment of the explosion at Vector.*

SecDef: *Let's be clear here. Vector is a maximum-containment BSL-4 lab, and home to the former Soviet biological weapons program.*

CIA director: *We presume with high probability this is a biological weapon. A lab escape.*

SecDef: *Which means Russia is lying about everything.*

CIA director: *The actual fatality numbers could be a lot worse.*

SecState: *We've asked for information. They've stonewalled.*

SecDef: *If Americans start dying, this is an act of war.*

The president thinks.

President: *Why am I just learning about this?*

Everyone eyes the SecDef.

SecDef: *We had a nuclear option, sir. That window has closed.*

CIA director (clarifies): *We have actionable intelligence now. We didn't before.*

DNI: *Our in-country asset confirms the pathogen is airborne, sir.*

The director of national intelligence points to a photograph on the table in front of the president. Russian soldiers, in gas masks, guarding a hospital in Novosibirsk.

SecState: *To press Russia for information, we need evidence they're lying.*

CDC director: *Until we have the genetic code, we don't know what we're dealing with.*

NatSec advisor: *During Covid, China withheld it for days.*

Secretary of HHS (corrects): *They withheld lifesaving information for weeks.*

SecDef (corrects): *Months.*

Back to the issue at hand.

BioDefense chief: *Until we have an actual, physical pathogen sample, we should assume we are not getting any of the information we require.*

President: *I want that sample.*

The director of national intelligence points to another photograph on the table: satellite imagery.

DNI: *They are gearing up for a mass vaccination campaign, sir.*

CIA director: *This is Biological Warfare 101. Cold War–style.*

SecDef (explaining the strategy involved): *Vaccinate your own people; kill theirs.*

President: *Can we figure out what they're vaccinating for?*

CDC director: *We're working on it.*

The president twists his mouth and thinks.

President: *How long does it take us to make a vaccine?*

Secretary of HHS: *Months.*

ASPR chief: *Or a year.*

President: *What are our options?*

Chairman of the Joint Chiefs: *We raise to DEFCON 4. Or 3.*

SecDef: *DoD is concerned this is a diversion, a signal of internal Russian political trouble or prelude to some bigger provocation to divert U.S. attention.*

The president agrees. The secretary of HHS pulls the conversation back to the lab leak in Siberia.

Secretary of HHS: *They've said it's bacterial.* (Nods to the ASPR chief.) *ASPR will push out all the antimicrobials in the Stockpile.* (Nods to the BARDA chief.) *BARDA will work with pharma and biotech suppliers on readiness.*

CDC director: *We've elevated wastewater sampling.*

SecDef: *They're calling this a novel pathogen.*

BioDefense chief: *Novel means new. That's the atypical part, sir.*

Secretary of HHS: *To be clear, sir, we won't know what antibiotics work, or don't work, until we have that pathogen sample in hand.*

The president nods.

NatSec advisor: *White House will formulate strategic messaging: emphasize credible reports of a lab accident in Russia, emphasize federal readiness in the U.S., avoid speculation about it being a weaponized pathogen.*

SecDef: *NORTHCOM is doing a homeland risk assessment.*

President: *I want evidence Russia is lying.*

Understood.

President: *How long until it gets here?*

CIA director: *Worst-case scenario?*

The president nods yes.

CDC director: *Weeks.*

Secretary of HHS: *Days.*

BioDefense chief: *Or it's already here.*

Part III

ONCE IT'S HERE, IT'S ALREADY TOO LATE

Day Four



Skid Row—Los Angeles, California

It is nearing sunrise on Skid Row in downtown Los Angeles, an area that spans fifty square blocks, roughly half a square mile. Tents and makeshift shelters line the sidewalks, its gutters spilling over with fetid trash. On any given day, there are some 4,000 homeless individuals here on Skid Row. Without regular access to toilets, people urinate against buildings and defecate in alleyways. Without regular access to healthcare or hygiene, Skid Row is a public health nightmare.

"These vulnerable dense populations" are an easy target, says Dr. Michael V. Callahan, the infectious disease expert and world-class virus hunter. "There's no [health] surveillance done in these homeless shelters or other places where vulnerable populations are found in such densities, and are so ignored by the healthcare system."

Like every homeless camp across the U.S., Skid Row can be seen as the dark underbelly of the American dream. "The test of our progress [as a nation] is not whether we add more to the abundance of those who have so much," President Roosevelt said in his inaugural address in 1937, "it is whether we provide enough for those who have too little."

Homeless camps are a breeding ground for disease transmission. "The homeless live in overcrowded areas and are constantly moving among hospitals, shelters, and the streets," the *Los Angeles Times* reports. "Homeless people are especially at risk of getting TB

[tuberculosis]," says Dr. Paul Gregerson, chief medical officer at a Skid Row clinic, "[often] undiagnosed because they have poor hygiene and nutrition, limited access to healthcare, and ongoing contact with infected people." It is this transient nature of life on the streets that inexorably amplifies the transmission rates. "They go from place to place, and the likelihood of passing [disease] along is much greater," Dr. Gregerson adds. "It makes everybody more susceptible."

At the heart of this societal failure, where 6th Street meets Wall Street in downtown Los Angeles, police officers raid a tent and seize forty-three pounds of crystal meth, same as they did in September 2024. Drug busts of this size used to fall under the purview of LAPD's Major Narcotics Division, but they've become so common here on Skid Row, patrol officers must also now shoulder the burden.

"Drug dealers come from other areas to pray [*sic*] on those addicted to drugs in Skid Row," LAPD's operations officer Lillian Carranza posted on X.

As the police arrest people and read them their rights, a bystander approaches one of the law enforcement officers to complain about a disgusting smell.

There's a dead body over there, inside a tent.

More than one, someone else says.

Officers walk over to the tent in question to investigate. Under a pile of filthy blankets, they find a body.

Then, another body. Then a third and a fourth.

The officers are wearing LAPD-issue latex gloves. They are not wearing hazmat suits or respirators. They have no reason to suspect they are in the presence of a genetically modified pathogen.

That pneumonic plague has come to Skid Row.

It arrived in the lungs of the premed student from Koltsovo a day and a half ago, though no one realizes any of this yet.

The aspiring doctor is dead, alone in his bed, inside his single dorm room on the University of California, Los Angeles, campus in Westwood.

■

***Diamond Princess* cruise ship—Pacific Ocean**



In the early days of the Covid pandemic, a single passenger infected 712 others on the Diamond Princess *cruise ship. (Created by Jett Jacobsen with an OpenAI image-generation model)*

The disease has begun spreading quietly around the world. This is how human-to-human transmission of an airborne disease works.

One of the ten big-game hunters, the eighty-year-old German judge, is now a passenger on the *Diamond Princess* cruise ship as it steams across the Pacific Ocean toward Hong Kong. There are 3,700 passengers and crew on board. Belonging to the Grand class

of ships, the *Diamond Princess* is 952 feet long and 205 feet tall. Imagine three football fields' worth of nineteen-story buildings, packed together end to end, side by side. Filled with people.

It is nighttime when this eighty-year-old passenger suddenly collapses. He'd been feeling terrific, moving around the ship's crowded common areas, entertainment spaces, and dining buffets. Now he's so weak and feverish, he can barely move. He is taken to the ship's infirmary in a wheelchair. With him are his two daughters.

The ship's doctor examines this acutely ill elderly man, misdiagnoses him with norovirus, and advises him to disembark in Hong Kong, the vessel's first scheduled stop. The doctor has no idea the man is infected with a novel pathogen. That he has already infected hundreds of other cruise ship passengers and crew, each of whom is infecting other passengers.

This is how, in January 2020, the Covid virus exploded into the world's general population outside China. An eighty-year-old passenger with the SARS-CoV-2 virus in his lungs showed symptoms during the cruise and became sick. That passenger was advised by the ship's doctor to disembark in Hong Kong, a densely populated city of 7.5 million people, where he infected an untold number of others.

"What happened on the *Diamond Princess* cruise ship is the definition of a superspreader event," says retired admiral Brett Giroir, the U.S. assistant secretary for health at the time. These close-quarters environments—which also include airplanes, subway cars, crowded restaurants, gyms, and other places where people stand right next to one another—become superspreader events as the normal rate of infection transmission gets amplified by close proximity and poor air circulation.

There is no universal standard for, or even a consensus on, defining a superspreader event. No agreed-upon threshold for how the basic reproduction rate accelerates in a superspreader event, only that it does. Three European epidemiologists (Joacim Rocklöv

and Henrik Sjödin of Umeå University in Sweden, and Annelies Wilder-Smith of the London School of Hygiene & Tropical Medicine) analyzed what happened on the *Diamond Princess* and found "the basic reproduction rate was initially 4 times higher on-board compared to the epicentre [*sic*] in Wuhan."

In our scenario, we will use this four-times (4×) accelerated transmission rate as our metric in superspreader events.

The transmission rate is generally defined as the speed, or likelihood, at which an infection spreads from one person to another (although this, too, is subject to variables).

In epidemiological terms, the transmission rate is called the R-naught, or R_0. Here are some well-known diseases and their approximate R_0 values.

Disease	**Approximate R_0 (Range)**
Seasonal flu	1.2–1.5
Covid-19 (early strain)	2.0–3.0
Polio	5.0–7.0
Chickenpox	10.0–12.0
Measles	12.0–18.0

Mid-pandemic, Covid had an R_0 of approximately 2–3, for an average R_0 of 2.5. In a Covid superspreader event, that R_0 can become 10 (2.5 × 4).

In one widely cited study, the CDC lists the transmission rate for natural pneumonic plague as 1.3–3.5, for an average R_0 of 2.4, which is similar to Covid. But the plague weapon in this scenario has been genetically modified for an enhanced rate of transmission akin to chickenpox, for an average R_0 of 11.

In a superspreader event involving this genetically modified plague weapon, we multiply R_0 11 by four (11 × 4). This means that in a close-quarters environment, each person infected with this variant of plague will infect as many as 44 additional people.

If enhancing airborne plague to have this much higher of a transmission rate sounds implausible, consider the story of the molecular biologist Aafia Siddiqui and her plans to attack America with a biological weapon.

At the CIA, she became known as Lady Al Qaeda.

HISTORY LESSON

The Story of Aafia Siddiqui

Aafia Siddiqui, a convicted Al Qaeda terrorist, is a Pakistani biologist and neuroscientist currently serving an eighty-six-year sentence in Texas for attempted murder and other terrorism-related felonies. Born to a pious Muslim family in Pakistan, Siddiqui came to the United States in 1990 and studied biology at the Massachusetts Institute of Technology.

After earning a Bachelor of Science in biology, Siddiqui was accepted into a graduate program at Brandeis University, earning a PhD in neuroscience. Shortly thereafter—and here the story remains murky—Siddiqui returned to Pakistan to work for Khalid Sheikh Mohammed, the mastermind of the 9/11 terrorist attacks that killed nearly 3,000 Americans on September 11, 2001.

For several years, the FBI tried to find her, to no avail. In 2004, she was listed on the FBI's Most Wanted Terrorists list, with the bureau's director, Robert Mueller, describing her as "an al Qaeda operative and facilitator." But no one seemed to know where she was. And then, in 2008, she was captured in Ghazni, Afghanistan. A woman acting strangely outside the governor's compound turned out to be her, according to the Department of Justice.

An unsealed federal complaint against Siddiqui reveals that a search of her handbag found documents describing a "mass-casualty attack" against America using biological weapons. "Substances in gel and liquid form that were sealed in bottles and glass jars" were also found in her handbag, as well as a list of targets she intended to attack. "Descriptions of various landmarks in the United States" included the Statue of Liberty, the Empire State Building, Wall Street, and the Brooklyn Bridge, according to the Department of Justice.

After her capture, Siddiqui was brought to a local Afghan police station, where she was questioned by the FBI. During an interrogation, she somehow managed to get hold of a rifle that had been set down by a U.S. soldier, which she fired unsuccessfully at the Americans in the

room. In this exchange of gunfire, Siddiqui was shot in the stomach and seriously injured. She was flown to the U.S. to stand trial.

In 2010, Aafia Siddiqui was convicted in a U.S. court for attempted murder. She is incarcerated in Texas, at a facility for the mentally ill, with a projected release date of June 30, 2082.

Jim Lawler, the former chief of the CIA's Counterproliferation Division, Special Activities Unit, is uniquely knowledgeable about her case, and her intentions. "[Aafia] Siddiqui is a true believer," he says. She was plotting a biological warfare attack to deliver "staggering horror."

"There were thousands of pages on a thumb drive," says David Relman, a senior advisor to the White House on threat intelligence and infectious diseases, and who briefed the intelligence community after reviewing the Siddiqui documents. "It was a wake-up call," Relman says. "In ways that you wouldn't have imagined."

The CIA's Lawler shares a terrifying detail, never reported before: Siddiqui was working on a novel biological weapon to deploy inside the United States. "A chimera [biological] weapon," he explains, "to combine the lethality of rabies with the infectiousness of chickenpox."

A true nightmare weapon.

"Rabies is 99.99 percent lethal and chickenpox is one of the most contagious of all the pox viruses," Lawler says. "She wanted to make a chimera that was genetically modified to have the qualities of both." Left untreated, rabies kills 100 out of 100 victims. As with pneumonic plague, once symptoms set in there is no cure.

"She had that on her computer," Lawler says. "So the ideas are there."

A chimera weapon. A demon germ.

Da Nang, Vietnam



A U.S. Navy carrier strike group in open ocean formation. (U.S. Navy)

The eighty-year-old man on the *Diamond Princess* cruise ship, and the tech entrepreneur and his two sons from the Dominican Republic, are not the only individuals who have initiated superspreader events. There are others. This includes a businessman from Vietnam who owns several hotels in the port city of Da Nang, located on the country's central coast.

It is shortly after sunrise in Da Nang when two U.S. Navy sailors finish eating breakfast in the restaurant of one of these hotels before checking out. They are seated one table over from the hotel's owner, a big-game hunter who just returned from a hunting trip to Novosibirsk, Siberia.

Microscopic plague particles float in the air.

As the sailors breathe, genetically modified *Y. pestis* bacteria enter their lungs and begin to multiply. The sailors have no way of

knowing they have contracted an infectious disease this way, which is similar to what happened with two U.S. sailors who visited Da Nang on an overnight liberty pass visit during the early days of the Covid pandemic.

Here, now, the two sailors check out of the hotel and head back to the aircraft carrier USS *Theodore Roosevelt*, docked in the deepwater terminal at Tiên Sa Port. The sailors are part of a goodwill exchange with local Vietnamese people, a visit that echoes one that took place in March 2020. This is how, during that pandemic, a multibillion-dollar aircraft carrier was operationally neutralized by a deadly microscopic organism—same as is about to happen now.

The USS *Theodore Roosevelt* is a Nimitz-class aircraft carrier, 1,092 feet long by 252 feet wide, roughly comparable in footprint to a New York City block. There are 5,000 people on board. At any given time, three to five U.S. aircraft carriers patrol the mighty seas. They are the centerpiece of American naval power, imperative to its defense-readiness posture here in the Pacific, and beyond.

"[F]our and one-half acres of sovereign U.S. territory," is how retired admiral James Stavridis, also the former NATO Supreme Allied Commander, describes an aircraft carrier. "100,000 tons of diplomacy," in the words of Admiral Michael Mullen, former chief of naval operations and former chairman of the Joint Chiefs of Staff. The very presence of an aircraft carrier in any ocean is to project American influence without having to engage in direct conflict. It is why the USS *Theodore Roosevelt*'s nickname is the Big Stick. It is why it's here in the Pacific Ocean, operating at a cost of more than $6.5 million a day.

An aircraft carrier is one of the most powerful warships on the planet. It acts as the centerpiece of a multi-vessel carrier strike group, often deployed with five other ships: a cruiser, two destroyers, an attack submarine, and a logistics ship. Every U.S. aircraft carrier is a floating, self-sustained military base with as

many as ninety aircraft on deck. Powered by two nuclear reactors, the USS *Roosevelt* can operate for twenty years without needing to refuel. Its defenses include close-in weapon systems (Gatling guns) and surface-to-air missiles. It is capable of engaging in warfare anywhere on Earth.

And it is about to be rendered impotent by an invisible weapon. A self-replicating pathogen that is one of the deadliest bacteria in all of recorded human history.

As happened in the early days of the Covid pandemic, the two sailors return to the densely populated USS *Roosevelt*.

Anchors aweigh and orders in hand, the carrier sails from port.

The two sailors quickly infect dozens of other sailors and aviators on board.

Because pneumonic plague has a short incubation time, and a high rate of transmissibility, by the time the medical technicians on board who specialize in Chemical, Biological, Radiological, and Nuclear defense even suspect there has been a disease outbreak, hundreds of sailors and aviators will already be infected.



Urgent Care Facility, Wesley Health Center—Skid Row, Los Angeles

Back in Los Angeles, on Skid Row, a few hours pass. While LAPD officers work to secure the 6th and Wall Street crime scene, new clusters of infection are spreading, including one just a few blocks to the north. A man walks into the overcrowded urgent care facility known as the Wesley Health Center. He is acutely ill. He has an extremely high fever, cough, and rapid, shallow breathing.

I'm suffocating, he tells the nurse. *I can't breathe.*

The man has rags for clothing. He carries a plastic bag and a Bible. The green Crocs on his feet are two sizes too big; he is wearing someone else's discarded shoes. Despite being acutely

sick, he is clear about the fact that something is seriously wrong with him.

I wasn't like this yesterday, he tells her.

As the nurse takes the man's blood pressure, he coughs up blood. A glob of frothy sputum lands on the linoleum floor between them—frothy because the blood is mixed with air and mucus from deep down in the man's lungs.

This nurse, who sees up to 100 patients a day, is one of those well-trained and conscientious professionals each of us hopes to encounter when we are sick and in need of help. Her efficiency swells from a deep compassion that cannot be faked. She believes in the power and purpose of nursing. When the man tells her, *I think I'm dying*, she takes him at his word.

The nurse leans down to examine the sputum on the floor. She recognizes hemoptysis, the coughing up of blood from the lungs. Sudden onset of hemoptysis can be life-threatening and warrants urgent medical attention. If the nurse hadn't been so rigorous in her observation, she might have mistaken what she is looking at as the result of hematemesis, vomiting blood from the GI tract, esophagus, or stomach.

Hematemesis is common among late-stage alcoholics and chronic drug users.

This man is neither. He is suffering from acute onset of pneumonic plague. The nurse, of course, has no way of knowing this. There hasn't been an outbreak of pneumonic plague in Los Angeles in more than 100 years. The CDC warns that doctors and nurses will have little to no way of detecting it. "In regions where clinicians are unfamiliar with plague, risk of misdiagnosis is high."

The case of the man in the green Crocs mirrors a CDC plague case in Colorado in 2014. In one of its *Morbidity and Mortality Weekly Reports*, the man is identified only as Patient A. "Primary pneumonic plague is rare in the United States," the CDC wrote of Patient A., with just seventy-four reported pneumonic plague cases

in all of America over the past 112 years. The 2014 Colorado pneumonic plague cluster represented "the largest outbreak, and the first instance of possible human-to-human transmission, since an outbreak in Los Angeles in 1924." Until now.

The nurse calls for a doctor. The Skid Row urgent care facility is bursting at the seams with sick people seeking care, same as it is every day of the year.

Every room is filled. The waiting room is packed.

At the front door, an armed security guard keeps people lined up outside from shoving their way in. Doctors here at the clinic are overworked and underpaid. Many work for free.

The physician arrives. He checks the man for trauma or inhalation injury. None found. He writes a transfer order for the man to be taken to the Los Angeles General Medical Center—the city's largest public hospital—located a little over two miles away.

On the way out, the patient pleads with the nurse.

Please take care of my dog.

The nurse asks him what his dog looks like, where it is. Despite being incredibly sick, he's able to give a good description. He loves his dog. He says brightly:

If I'm gonna die, maybe my dog doesn't have to.

Novosibirsk, Siberia, Russian Federation



A wet market in Novosibirsk, Siberia, Russia. (Created by Jett Jacobsen with an OpenAI image-generation model)

Six thousand miles from Skid Row, the health commissioner in Novosibirsk, Siberia, holds a second press conference. It is eleven o'clock at night, an unusual hour to address television news cameras, but the situation is dire, so this is the second press conference in as many days. The official says a few words of welcome and turns the podium over to a medical doctor dressed in a white lab coat.

A preliminary determination of the novel bacteria now identified in a cluster of hospitalized persons in Novosibirsk has been made. The pathogen appears to be a previously unknown strain of bubonic plague.

The room goes silent.

A novel strain of bubonic plague?

Few diseases have demonstrated the capacity to annihilate populations as completely as plague. The Black Death decimated medieval Europe. With the twentieth-century discovery of antibiotics, plague pandemics all but disappeared from Earth. For a novel, or new, antibiotic-resistant, atypical form of bubonic plague to have coincidently emerged roughly twelve miles from a maximum-containment BSL-4 laboratory, several days after an accident there, leads to one obvious conclusion. There's been a lab escape. But dissent is dangerous in the Russian Federation, and this fact is ignored.

The doctor turns the podium back over to the heath official.

Health official: *All initial cases are connected to the Novosibirsk wet market on Central Avenue. This market has now been shut down.*

A wet market sells fresh meat and fish, some of which are slaughtered on-site. Designating a wet market origin to this novel pathogen outbreak is clearly a cover story, and also a wink and nod to the Covid origin story fiasco.

The dispute over the true origins of the Covid virus fractured America during the pandemic, and has continued to do so ever since. It created the deepest rupture in public trust since the Vietnam War. It has unraveled the fundamental concepts of truth and of science unlike any other event in modern American history. It has helped fuel the most volatile political landscape since the Civil War.

Psychologically fraught, this topic is too dangerous for the White House to confront.

■

Central Intelligence Agency headquarters—Langley, Virginia

At CIA headquarters, the lead counterproliferation analyst on the Russia desk has not left his office in days. A colleague dropped

by with a sandwich, but he has no appetite to eat. The mission of the CIA is to deliver foreign intelligence to the president. Ever since POTUS asked for proof that Russia is lying about what it is now calling a bubonic plague outbreak in Novosibirsk, the analyst vowed not to leave his office until he finds it.

And now, finally, he thinks he has.

Ever since the explosion at Vector, the analyst has been monitoring local news in Novosibirsk. In intelligence speak, local news is called OSINT, open source information, or info in the public domain. Because one of plague's ancestral homes lies in Central Asia, the Russian people have long suffered from plague outbreaks and epidemics, and locals in Novosibirsk are gravely concerned about this one. News stations are all over it.

From OSINT channels, the analyst has solidified his assessment of the situation.

The bubonic plague storyline is a cover-up. Russia is hiding something, which means there is something Russia needs to hide.

His boss arrives. He hits play on a video segment from a Russian news program. A health official tells the newscaster this bubonic plague outbreak is the result of a group of people eating the same contaminated meat from a wet market on Central Avenue, since shut down.

The meat was marmot meat, the official says, a local delicacy.

The official scolds the public. He reminds the TV audience it's illegal to hunt marmots without a restrictive permit, but people do. He assigns blame to a forty-five-year-old poacher, hunting on a game preserve outside the city, who shot marmots in the wild, traveled to Novosibirsk, and sold the meat at the wet market before contracting plague and dying. This poacher is the index patient, the official says, the first reported death in an outbreak or epidemic. In an abundance of caution, the poacher's body has been cremated, he adds.

The CIA analyst provides context for his boss.

The marmot is a large rodent. Fully grown, it's the size of a raccoon. Marmots are known reservoirs of plague. During the Soviet bioweapons program, Igor Domaradskij's boss, a Russian general, used to tell him variations on "collect me the best marmots," because marmot fleas historically harbor some of the most virulent forms of *Y. pestis*, the bacteria that causes plague.

In today's Russia, marmots are valuable items on the black market. Their fur is used on clothing, for warmth. Marmot organs are used as medicine, its kidney, stomach, and gallbladder eaten raw by locals, who believe they have medicinal qualities. Marmot meat gets harvested into steaks and sold illegally in local wet markets to be consumed as food.

All of what they're saying is possible, the analyst tells his boss. *None of it is plausible.* And for one simple reason. It is January. Asiatic marmots are in hibernation.

They have been since October. In hibernation, a marmot's heart rate lowers and its body temperature reduces dramatically, allowing it to wake up once every two weeks or so to defecate, also done underground, in a chamber separate from where the marmot sleeps. Only on rare occasions will a hibernating marmot venture to the surface of the ground to poop. That a poacher shot and killed a single marmot in Siberia, in January, is unlikely. That a poacher shot and killed enough marmots to feed sixty-two people, and infect each of them individually with bubonic plague, which is not airborne and therefore not human-to-human transmissible, is near to impossible. It all but confirms Russia is lying.

The plausible explanation is a terrifying one, the analyst tells his boss.

A virulent strain of airborne plague, genetically modified and therefore "atypical," has escaped from Vector's BSL-4 lab.

He is distressed.

They're never going to give us the genetic code, he says. *We will have to wait until it gets here, and then it will be too late.*

To the analyst's boss, this feels like a double lung punch. Schooled on Soviet biological weapons programs, she sees exactly what is going on.

Holy hell, she says. *The contaminated meat story is a page out of the old Soviet playbook*.

Sverdlovsk, he says.

Which would be ironic, if it wasn't so terrifying.

HISTORY LESSON

Sverdlovsk

In April 1979, roughly 900 miles east of Moscow in the city of Sverdlovsk, a biological weapon leaked out of a secret laboratory hidden inside a military facility called Garrison 19.

Soviet-era workers there were fermenting deadly anthrax bacteria, growing massive quantities in stainless steel fermentation tanks and grinding the anthrax spores into fine dust. The idea was that once this aerosolization tactic had been refined, the biological weapon could be released over an American city, float through the air, land in the lungs of the enemy, and kill people in the most gruesome of ways.

Soviet military planners had convinced their Politburo partners that weaponized anthrax could depopulate large swaths of America, while keeping the infrastructure intact, for Soviet conquest. Instead, a Garrison 19 janitor incorrectly replaced an air filter one night, and an accidental release of weaponized anthrax killed over 100 local Russians.

A lab escape.

Two days after the lab leak, Sverdlovsk's local hospital, Hospital No. 20, became overrun with violently ill townspeople. They all had similar symptoms: high fever, headache, chest pains, violent cough.

"There was nowhere to put them," hospital admissions chief Roza Gaziyeva told journalist Sergey Parfenov years later. "Some of them who felt better after first aid tried to go home…. They were later found [dead] on the streets—the people had lost consciousness" while walking. The weaponized anthrax traveled on the wind. Farm animals were found dead more than thirty miles away. Gaziyeva had been working the night shift at Hospital No. 20 that horrible night. "I could hardly wait until morning," she remembered. "I was frightened. During the night we had four people die." With three young children at home, she didn't want to catch whatever infectious disease all these people appeared to have contracted, all at once.

As it turned out, no hospital workers would get sick. There would be no secondary infections.

"Anthrax is a noncontagious biological weapon," Andy Weber tells us.

Meaning inhalation anthrax is very different from pneumonic plague. When a human contracts inhalation anthrax, they are referred to as a dead-end host. The bacteria, *Bacillus anthracis*, travels into the person's lungs and settles into the alveoli. But because of the size and nature of anthrax spores, the bacteria do not migrate out of the lungs once they land there. They stay put, killing only the host.

In Sverdlovsk, at a second hospital down the road called Hospital No. 24, health workers experienced a similar, unmanageable surge of people at death's door. Townsfolk were alive one second, then falling down dead the next. "Personnel were in shock," recalled chief physician Dr. Margarita Ilyenko. "I looked at a patient…two or three minutes before he died, he looked at [me] calmly as though nothing [was wrong]…. A moment later there was blood in his throat and he was gone."

Local morgues were deluged with bodies, all victims of the lab leak of a biological weapon. Galina Lyashchenko, chief of funeral services in Sverdlovsk, remembered that she "alone had to bury no less than 50 deceased." For forensic pathologist Faina Abramova, the experience was ungodly. "We had to handle a very large number of corpses," she remembered. It was "hellish work."

In an interview with *Washington Post* reporter David Hoffman, Dr. Ilyenko explained how the staff could not keep up. Years later, a visual still haunted her: "There [were] dead bodies [and] people still alive lying together. I thought, this is a nightmare. Something is very very wrong."

Not for seven days in April 1979 did anyone from Moscow show up in Sverdlovsk. That's when Soviet deputy minister of health Major General Petr Nikolaevich Burgasov arrived with an entourage of communist doctors. By then, autopsies had confirmed all victims had died from inhalation anthrax.

General Burgasov was in charge of keeping the Soviet biological weapons program a state secret. In a public statement, he declared that all anthrax deaths were caused by a "truckload of contaminated meat sold on the black market." That everyone who died had eaten the same batch of contaminated meat. While locals buried the dead and mourned, Moscow vaccinated more than 42,000 people.

The vaccines were mostly for show.

A DNA sequencing study done by U.S. Defense Department scientists twenty years later revealed that up to four different variants of *Bacillus anthracis* were present in the Sverdlovsk victims. This suggests that as early as 1979, the Soviet military had already begun making progress on genetic engineering.

One shudders to think what Russia is working on now. The public is not meant to know what is really going on in BSL-4 labs around the world, including in the United States. We learn the hard way. After a deadly outbreak.

National Reconnaissance Office—Chantilly, Virginia

NRO satellites over Moscow observe Russia expanding its vaccination campaign. Lines of military trucks are moving pallets of pharmaceuticals from Immunotekhnologii, outside Moscow, to the Chkalovsky Air Base northeast of the city. Supplies are being loaded onto cargo planes for transport across Russia.

The United States does not have a vaccine for plague, for reasons that are complicated. Russia's vaccine, called Live Plague Vaccine, or LPV, is understood to have been created from an attenuated, or weakened, strain of plague. "For the past almost eight decades of usage," writes Russian vaccine expert Valentina A. Feodorova, "millions of [Russian] people have been immunized with this LPV."

Russia has a long history of plague epidemics. The Russian Ministry of Health lists *Y. pestis* bacteria as an "Extremely Dangerous to Human Populations" pathogen on its version of the CDC's Tier 1 Select Agent list. Because of this, Russians generally embrace anti-plague-vaccine campaigns. There are "no recorded live vaccine-related deaths or serious post-vaccination complications," Feodorova adds, which may or may not be true. "Reactions are generally mild and of short duration," she says.

Plague epidemics tend to occur in remote regions of Siberia, in border areas with Mongolia and China. Large plague outbreaks in

Russian cities are uncommon. During the Cold War, there were at least five research institutes dedicated to what Russia calls anti-plague work. As we know from Igor Domaradskij's writings, many of these institutions performed dual-use biological weapons work.

The United States used to have a plague vaccine, but not anymore. During the Vietnam War, soldiers were given the EV76 *Y. pestis* vaccine, but some of them got sick and it was discontinued. Like the current Russian vaccine, EV76 was created from an attenuated strain of the plague bacteria. It worked by stimulating the human immune system to recognize *Y. pestis*, and to produce antibodies to fight the infection it causes. This is Immunity 101.

In 1999, the FDA renewed plague vaccine efforts but discontinued use after EV76 caused severe reactions in nonhuman primates. Some of the apes being used as medical test subjects contracted fatal plague and died.

"There's another great vaccine that's been in development at USAMRIID for a while," Dr. Heine tells us; he worked on this program for the army, fifteen years ago. "But this vaccine is lost in bureaucracy and is nowhere near being ready for human trials—that I'm aware of," he says, a fact that remains largely unknown outside defense medicine circles.

In Virginia, an NRO intelligence officer uploads the images of the Russian truck convoy into the classified JWICS and SIPRNet (Secret Internet Protocol Router Network) for the intelligence community to see, and analyze.

World Health Organization Hub for Pandemic and Epidemic Intelligence—Berlin, Germany

In Berlin, Germany, thousands of red dots flash on a wall-sized electronic map of Earth. Here at the World Health Organization's Hub for Pandemic and Epidemic Intelligence, computational systems

track and monitor infectious disease outbreaks around the world. This recently constructed global center leverages artificial intelligence and pathogenic surveillance to try to prevent the next global pandemic from happening. But will it work?

Each month, the WHO Hub identifies and tracks more than 4,500 individual warning signals. Not all outbreaks become epidemics, but some do. On this day, intelligence analysts are tracking the status of dozens of disease outbreaks of concern: dengue in the Caribbean, Ebola in Sudan, polio in Gaza, flesh-eating *Vibrio vulnificus* in the coastal waters off Florida.



The World Health Organization Hub for Pandemic and Epidemic Intelligence tracks more than 4,500 individual warning signals every month. (Created by Jett Jacobsen with an OpenAI image-generation model)

And, as of a few hours ago, what is being reported as bubonic plague in Siberia, Russia.

The World Health Organization's Hub for Pandemic and Epidemic Intelligence was inaugurated in the fall of 2021, after the Covid pandemic exposed a slow and fragmented global health security system. Traditional epidemic intelligence relies on official case

counts. This data—from hospitals, labs, research groups, and other formal reporting systems—takes days, if not weeks, to register and input into the system. The idea of the WHO Hub is to use AI and social media to get a more immediate picture of a disease outbreak as it unfolds in real time.

At the nexus of this new way forward sits a computer-based system called Epidemic Intelligence from Open Sources, or EIOS ("EE-oss"), a giant filter for the world's minute-by-minute health news. EIOS focuses on unofficial reports and citizen chatter, not lab cases and mortality reports. Proficient across multiple languages, EIOS scans millions of websites, feeds, and social media posts instantaneously, searching the web for real-time outbreaks. It scrapes, filters, and ranks information.

The goal of EIOS is to pull signal from noise.

An intelligence analyst working at his computer here in Berlin gets an alert that focuses his attention on the Caribbean. A social media frenzy is unfolding in the Dominican Republic. Thousands of people are posting about reports of emerging violence at and around a hospital in Santo Domingo, the nation's seaside capital.

Look at this, the analyst tells a colleague.

Roughly 7,000 miles from Novosibirsk, the emergency room at Hospital General de la Plaza de la Salud has just shuttered its doors. Armed guards surround the building. No one is allowed in or out. Social media clips show hospital staff fleeing from windows and through garbage chutes.

The WHO analyst and his colleague cross-check the social media platforms' info with local television.

A hospital security guard gives an interview with a news reporter, on the street.

A surge of people arrived at the hospital, the guard says. *They'd all been at the same gym or the same restaurant.*

Everyone is sick with the same symptoms: fever, delirium, hacking cough. Some of them died before they were admitted.

There're dead people in the waiting room. There are bodies on the floor.

A mystery sickness is spreading, the guard says.

Local public health officials say it's not Covid. But doctors don't yet know what exactly it is.

Other area hospitals have begun reporting similar patient surges. Everyone has the same disease progression: acute onset of fever, delirium, hacking cough, death.

You don't get better; you just die.

People are scared. Whatever is happening is happening fast. Whatever it is, it's super contagious.

Pharmacies are being looted. Grocery stores are getting emptied out.

People are rioting. Rumor has it parts of the city are collapsing.

In Berlin, the AI-based EIOS system has helped the two WHO Hub analysts recognize a disease outbreak in the Caribbean as it unfolds in real time.

Using data from the Dominican Republic, EIOS crawlers scan millions of websites around the world, hunting for clues. The AI system is looking for unusual spikes in emergency room admissions, surges in oxygen-supply purchases, lab test abnormalities, unexplained absenteeism, and other signs that might indicate new outbreaks. From these findings, coupled with keywords being used on social media, the epidemic intelligence analysts expand their search parameters.

#MysteryPneumonia

#NextPandemic

#CoughingBlood

The results trigger immediate concern.

In Nicosia, Cyprus, hospital wards are filling up with people who can't breathe.

In Da Nang, Vietnam, an atypical pneumonia-like illness is killing people faster than bird flu did.

In Paris, France, a mystery illness has a nursing home under quarantine.

In Astana, Kazakhstan, a YouTuber reports an outbreak of plague.

One after the next, similar reports are cropping up across the internet.

#KillerPlague

#LeaveTown

The epidemic intelligence analysts send the information up the chain, to WHO headquarters in Geneva, Switzerland.



World Health Organization headquarters—Geneva, Switzerland

The outbreak that began in Siberia, in Russia, is spreading fast.

World Health Organization officials in Geneva convene an Emergency Committee meeting.

A single question dominates.

Is it time for WHO to declare a Public Health Emergency of International Concern, the highest level of alert?

A declaration of this magnitude requires the situation to be extremely dire: economies will be disrupted, health systems strained to the point of collapse, mass fatalities likely, political fallout inevitable. Under a Public Health Emergency of International Concern, all of WHO's 194 member states must rapidly report cases and share facts transparently. Doctors, public officials, and governments shift to maximum readiness. Emergency operations centers activate. Resources deploy. It's an all-hands-on-deck threshold, the point where delay increases catastrophic risk.

But the World Health Organization is a coordinating body, not a police force. More than that, it's a bureaucracy. To declare a Public Health Emergency of International Concern requires more than just suspicious clusters; it requires test data—still impossible at this point because no individuals in any of the outbreak clusters

identified by EIOS have yet tested positive for plague. Plague PCR (Polymerase Chain Reaction) tests typically take twenty-four to forty-eight hours to deliver results, even in a well-equipped lab. The exception is the island of Madagascar, where plague is endemic and the Red Cross keeps thousands of rapid tests on hand.

What this means is that even as Berlin's AI signals blink red, WHO must follow old-school protocols. Its system is built for certainty, not speed—an architecture born of another era. Despite efforts at reform, WHO can't keep pace with today's fast-moving, next-generation biological threats.

Consider the organization's own timeline from the Covid pandemic. Its AI-driven system, EIOS, first alerted to a "mystery pneumonia" in Wuhan, China, early in the morning on December 31, 2019, just hours after the International Society for Infectious Diseases posted a warning on its ProMed reporting system. (This initial 2019 identification is why the disease is called Covid-19.)

Days passed.

Then weeks.

Not until January 22, 2020, did WHO convene an emergency committee meeting, and even then, after two days of debate, it stopped short of declaring an official Public Health Emergency of International Concern. By the time it finally did, on January 30, 2020, there were 7,818 confirmed Covid cases around the world, across eighteen countries outside China. Covid-19 was now unstoppable. It had spread around the globe.

Date	World Health Organization (WHO) Official Records
December 31, 2019	WHO's Epidemic Intelligence from Open Sources (EIOS) and partner systems pick up reports of "mystery pneumonia" in Wuhan, China. The same day, Chinese authorities inform WHO's China Country Office.

January 9, 2020	Chinese scientists identify a novel coronavirus, later named SARS-CoV-2, also known as the Covid-19 virus. WHO announces the finding publicly.
January 22–23, 2020	WHO's International Health Regulations Emergency Committee meets but stops short of declaring a Public Health Emergency of International Concern.
January 30, 2020	After more spread, including human-to-human transmission outside China, WHO declares Covid-19 a Public Health Emergency of International Concern.

"Time is critical in an epidemic," warns epidemiologist Raina MacIntyre, who believes Covid could have been stopped if only the right actions had been taken. "If you're slow, it's already too late."

"Before the spread of the virus outside of China," she writes in a paper with colleagues, "transmission could have been contained through case isolation, contact tracing and quarantine, and the global pandemic could have been prevented."

Instead, Covid spread to every continent except Antarctica, killing people in all 194 WHO member states, shutting down world economies, paralyzing daily life, and leaving behind a death toll unmatched in a century.

What is about to happen here will be far, far worse.

■

Skid Row—Los Angeles, California

On Skid Row, LAPD works to control a rowdy crowd. With four homeless people dead in a tent, word gets around the streets fast. Officers secure the scene with crime tape. Detectives show up. One steps inside the makeshift tent.

The stench is rancid, the bodies grotesque. Looking around, the officer sees no immediate signs of foul play.

Los Angeles has ~75,000 homeless people. A general field army in military terms. Every day, six to eight people among this demographic die in L.A. County. The most common form of death is drug overdose. A yearslong increase in fentanyl addiction has contributed to a 300 percent death surge. But four people dead in one tent in downtown Los Angeles is uncommon. The story will likely make local news.

When LAPD discovers a deceased person on a sidewalk, under a bridge, or in a tent, they follow structured protocols to ensure proper handling of the body and legal investigation of the scene. Police officers gather evidence. They interview witnesses. Talk to social workers from outreach programs.

The process is slow. No two potential crime scenes are the same. Witnesses tell the police this was a drug-dealing tent. That lots of people came and went from this block, including drug traffickers in nice cars.

Two detectives move around inside the tent, inspecting the bodies with nitrile gloves. Durable and puncture resistant, the gloves are designed to provide protection against hazardous substances, including contaminants and body fluids. When one of the officers moves a pile of garbage to better photograph one of the deceased persons' faces, a flood of fluids erupts all over him.

The odor is overwhelming.

The detective steps outside to vomit.

On the sidewalk, he regains his composure.

The coroner arrives.

The bodies are loaded up for transport to the morgue.

A laborious, labyrinthine process of bureaucracy begins. The L.A. County Department of Medical Examiner–Coroner's office will conduct autopsies to determine cause and manner of death. L.A. Sanitation & Environment workers arrive, bringing with them a maze of standards and rules, all designed to keep city workers from contracting infectious diseases. Workers use tongs and grabbers to

pick up dirty needles and drop them into puncture-resistant containers. They wear masks and gloves and use shovels and brooms to pick up human feces and place the human waste in blue plastic buckets to be carted away. It's a dirty job and a cycle of insanity. According to the official "City of LA Homelessness Dashboard" there were 11,540 sanitation operations recorded in the first half of 2025, a majority of which include repeat visits to the same encampments.

How did America get to this place? What would FDR say?

Death is commonplace on Skid Row. So is depravity. An argument between two men in 2024 ended up with one of the men killing the other with a machete. Just a few months later, two newborn babies were killed on Skid Row, one found dead in an alleyway. But to imagine that Skid Row is now infected with a genetically modified, seemingly centuries-old pathogen stretches the mind into places unknown.

Wesley Health Center, Skid Row—Los Angeles, California

The nurse at the Wesley Health Center urgent care facility heads out for lunch. She exits through the back door, intent on honoring the wishes of the man in the green Crocs. In the small back parking lot, she looks around and finds the man's dog, as he described, tied to a pole.

The dog, an American pit bull terrier, reminds her of a dog she once had back when she was single, before she had little kids. The animal, a neutered male, looks sick. It is shaking, has jaw rigidity and forelimb ataxia, meaning it can't control its front legs.

The nurse considers putting the dog in her car and driving it to a shelter in Mar Vista, where she lives on the west side of Los Angeles, where it will have a better chance of getting adopted. Many of the dogs that go to the animal shelters downtown get

euthanized; there are too many animals abandoned in this area to save them all. But the dog is drooling, which makes the nurse worry the poor thing might have rabies. The right thing to do is to call animal control, which she does.

As the nurse waits on hold for someone from animal control to answer her call, the man's dog coughs up blood.

The afternoon sun is shining. The weather is warm and windy. It is a beautiful day in Los Angeles. Paradoxically, there is tragedy all around. The nurse waits for animal control to pick up the dog, then heads to her favorite taco restaurant for lunch.

The Santa Ana winds are picking up, those strong, dry, deadly winds that blow from the inland deserts across the city and out to sea. In January 2025, the Santa Anas spread the fires that burned parts of the city down. Two nurses and a firefighter she knows lost their homes and everything they once owned. Those terrible days make her feel upset and lose faith in government. The Los Angeles mayor was at a cocktail party in Africa while the city burned. She never even apologized. She should have, the nurse thinks. During the crisis, the nurse read an article in *The New York Times* titled "Before Taking Office, L.A.'s Mayor Said She Would Not Go Abroad." But she did.

A month and a half after all this happened, amid news revelations that the total economic losses from the Los Angeles wildfires had ballooned to a quarter of a trillion dollars, California governor Gavin Newsom started a podcast, and that made her feel even more upset. She learned about it on the *Tim Dillon Show* podcast, which she listens to while on lunch break. "No one who's sitting in an ash heap in Altadena wants him on a podcast," Dillon said of the governor, in his funny-not-funny way. "They want him to run the state."

The restaurant is full of people.

The nurse is starting to feel sick.

The voice of the man wearing green Crocs echoes in her head.

If I'm gonna die, maybe my dog doesn't have to.

Los Angeles County Morgue—Los Angeles, California



The Los Angeles County Department of Medical Examiner–Coroner's office. (Author photograph)

Two miles northeast of Skid Row, in downtown Los Angeles on Mission Road, it is midday at the city morgue, a 1970s redbrick building with an insane asylum look and a crime noir feel. The forensic pathologists and their assistants are busy, at work measuring, fingerprinting, and photographing bodies. After a body's details are noted, the corpse gets wrapped in plastic and placed on a shelf inside a vast, multiroom refrigerator crypt.

The supervisor is out retrieving bodies—victims of accidents, homicide, and suicide. There is no shortage of death and depravity in Los Angeles. The morgue here handles an annual volume of

about 13,000 bodies a year. As the four corpses from the tent on Skid Row arrive, a pathologist's assistant helps with the unload.

These bodies are in particularly gruesome shape, all of them double-bagged. The timeline for performing an autopsy in Los Angeles County depends on several factors, including the workload of the medical examiner's office. Typically twenty-four to seventy-two hours from when a body is received. Forensic test results can take four to twelve weeks.

Because four bodies are an unusual number of bodies to be found in one place, and assuming the story might make the evening news, the coroner aims to make the preliminary cause of death available ASAP. This means the autopsies have been prioritized.

Wearing an N95 face mask and a fluid-resistant long-sleeved, impermeable gown, the pathologist's assistant unzips the first body bag to have a look. "Medieval diseases are infecting California's homeless," Kaiser Health News reports, which looks applicable in this case.

Working at the morgue is not for the faint of heart. The people who do witness a wide spectrum of multifactorial disease each and every day. Sepsis from untreated skin infections, *E. coli* infections, cellulitis, endocarditis, tetanus, methicillin-resistant *Staphylococcus aureus* (MRSA), diphtheria, and typhus are just some of the conditions that plague the unfortunate city residents whose sudden, violent, unexpected, or unattended deaths mean they wind up in a freezer at the L.A. county coroner.

This first corpse is grotesque: The limbs are blackened and necrotic. The fingertips are dark blue, with nail beds lifting from pressure underneath. Purpuric blotches stain the chest and shoulders. Around the nostrils and mouth, a rust-black froth has dried into a crust. Inside the oral cavity, teeth and gums are coated in a tar-like residue. The pathologist's assistant hesitates. Thinks about what to do.

To flag the corpse high-risk means donning a powered air-purifying respirator to continue. A PAPR ("pap-er") is a battery-powered respirator that pulls air through a filter, to protect against inhaling hazardous particles or infectious agents. With aerosol-generating procedures, like sawing bones, a PAPR is always used. When addressing advanced decomposition or undiagnosed respiratory deaths, it's a staffer call.

Infectious diseases hit homeless populations particularly hard, but this situation seems extreme. The assistant makes a note in the log. High-risk or not, examining these four bodies is a bigger job than the coroner has time for today.

There are a dozen bodies ahead in line.

These, too, will have to wait.

The pathologist's assistant zips up the body bag.

Too late. Millions of microscopic plague particles linger in the air.

■

Los Angeles General Medical Center—Los Angeles, California

At the Los Angeles General Medical Center, located three miles northeast of Skid Row, the man in the green Crocs was given a medical screening examination in the emergency department before being admitted to intensive care.

His condition has been worsening by the hour. Back at the clinic, his hemoptysis (coughing up blood from the lungs) displayed as red and frothy. Now it resembles syrup. His lungs are filled with fluid, and he can't draw enough oxygen. His heart, sensing deficit, accelerates. His breath is fast, and his nostrils flare.

For transport through the hallways to the ICU, a nurse places a surgical mask over his mouth and nose. A surgical mask does not contain the spread of airborne pneumonic plague.

The Los Angeles General Medical Center is one of the oldest hospitals in the city, one of largest medical training centers in the

U.S., and one of the busiest public hospitals in the West. Here in L.A., it serves the destitute, the uninsured, and the poor. Dr. Brad Spellberg, chief medical director, describes his clientele. "Homeless patients, patients with mental illness, substance abuse addiction disorder. We are expected to care for the patients the other hospitals won't care for."

Given its role as a Level I Trauma Center, the hospital is equipped to handle a large number of critically ill people. It has more than 600 beds, less than two dozen of which are dedicated to intensive care, but it is not equipped to handle an outbreak of pneumonic plague. A patient infected with a Tier 1 Select Agent–designated pathogen like airborne plague requires an airborne isolation unit, called a Level 1 Special Pathogen suite.

There are a total of just thirteen federally funded biocontainment facilities in all fifty states that have these Level 1 Special Pathogen suites.

A Special Pathogen suite is less like a hospital room and more like a self-contained biosafety fortress. Each is engineered so that a single particle of contagion never escapes. There's negative-pressure air filtration, dedicated air-handling, on-hand decontamination sterilization systems, and pass-through anterooms. Each suite is staffed by a team of highly trained doctors, clinicians, lab workers, and waste-management technicians with access to a private incinerator. This is critical when dealing with highly infectious diseases. Each infected person produces between ten and forty bags of biohazardous waste each day—more than 1,000 pounds per patient. "Our experience caring for a single patient generated a total of 464.4 cu ft of solid waste weighing 1,011 lbs, which was mostly PPE [personal protective equipment]," write John J. Lowe, the associate director of research for the Nebraska Biocontainment Unit at the Nebraska Medical Center, and colleagues in an article for the *American Journal of Infection Control*. Each staff member wears maximum-containment protective gear and portable

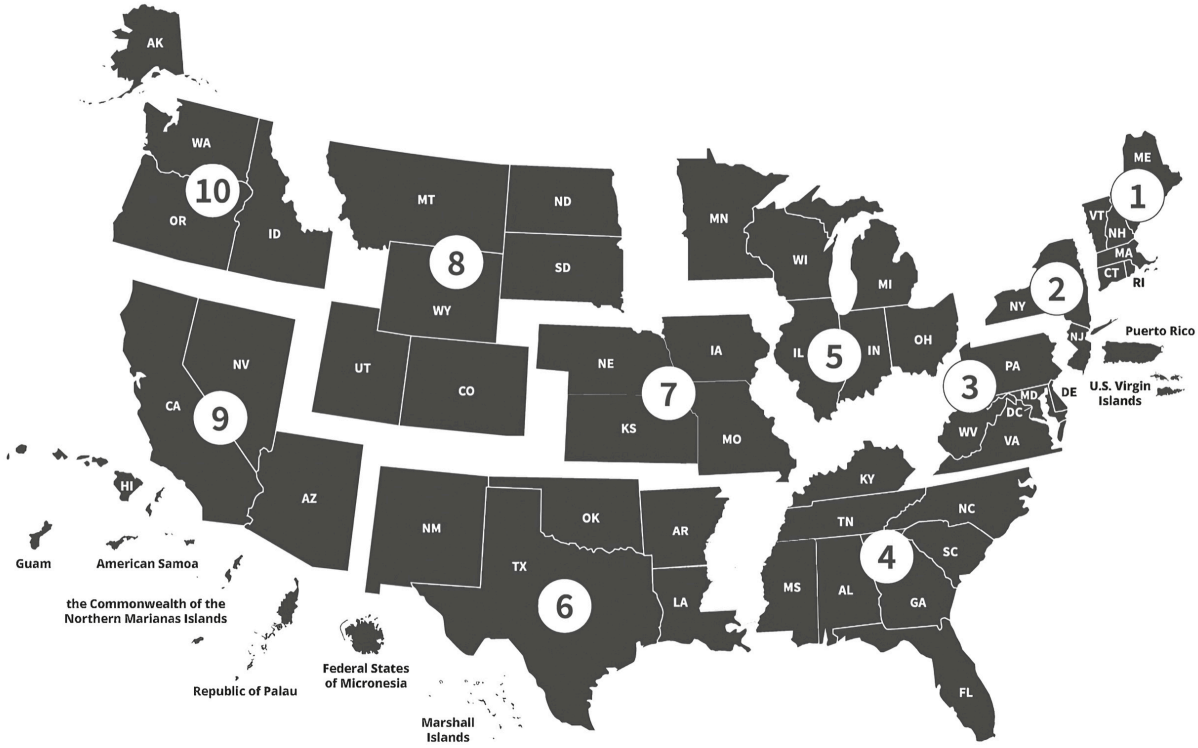
rebreathing equipment while they work. All are uniquely trained to do their jobs in high-risk environments with deadly pathogens usually only ever encountered inside a BSL-3 or BSL-4 maximum-containment facility.

Of the thirteen Regional Emerging Special Pathogen Treatment Centers in America, each facility has between two and ten beds. This means there are approximately 100 high-level isolation units equipped to handle a total of 100 infected persons, in a country of more than 340 million people.

In 2014, the American missionary Nancy Writebol and the American physician Dr. Kent Brantly contracted Ebola (a Tier 1 Select Agent) during an epidemic in West Africa. Both were evacuated from Africa by air, inside specialized biocontainment isolation pods aboard chartered Gulfstream jets, and flown to one of these federally funded Special Pathogen treatment centers. After the two patients were declared Ebola-free and discharged, each suite took two weeks to decontaminate.

Los Angeles is home to one of these thirteen Level 1 Special Pathogen centers. Cedars-Sinai Medical Center, at the edge of Beverly Hills, has two single-bed airborne isolation units, each with a designated trauma elevator and four large sterilizers for decontaminating infectious waste. These two beds must service all of California, Arizona, Nevada, and Hawaii. This region, known as Health and Human Services' Region 9, also includes all U.S. Pacific jurisdictions: Samoa, Micronesia, Guam, Palau, Northern Mariana Islands, and the Marshall Islands.

If an American citizen or resident gets infected with a Tier 1 Select Agent in any of these four states or six overseas jurisdictions, they must be taken to Cedars-Sinai in Los Angeles. If there are more than two infected people, other regions will be called upon to help.



There are only two special pathogen suites designated to handle all of Health and Human Services' Region 9, which includes California, Arizona, Nevada, and Hawaii as well as all U.S. Pacific jurisdictions. (U.S. Department of Health and Human Services)

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The Cedars-Sinai Level 1 Special Pathogen facility has been in use for roughly a decade, but it has never treated a patient with a Tier 1 Select Agent infection. It has never handled a case of airborne pneumonic plague. According to the hospital's press office, once they learn a prospective patient is on the way, the team requires eight hours to prepare for patient intake.

The man in the green Crocs is wheeled through L.A. General Medical Center and up to the ICU, where two nurses wait at the unit doors. Using a log-roll technique, the hospital transport team moves

him from the emergency room gurney to the ICU bed. Inside intensive care, he is attached to a cardiac monitor, intubated, and connected to a mechanical ventilator. His blood is collected, cultured, and sent to the hospital's in-house lab for diagnostics.

The negative-pressure rooms here in the ICU are designed to prevent cross-contagion from diseases like tuberculosis and seasonal flu, not high-consequence pathogens on the CDC's Tier 1 Select Agent list. The whole place is contaminated. Plague particulates waft through the hallways, elevators, and ventilation ducts.

Airborne diseases infect people in mysterious, and often unquantifiable, ways. In *The Demon in the Freezer*, Richard Preston describes how, during a 1970 smallpox outbreak in Germany, someone walking on the street outside a hospital became infected with smallpox despite never entering the hospital; particles escaped from an isolation room through the crack of an open window.

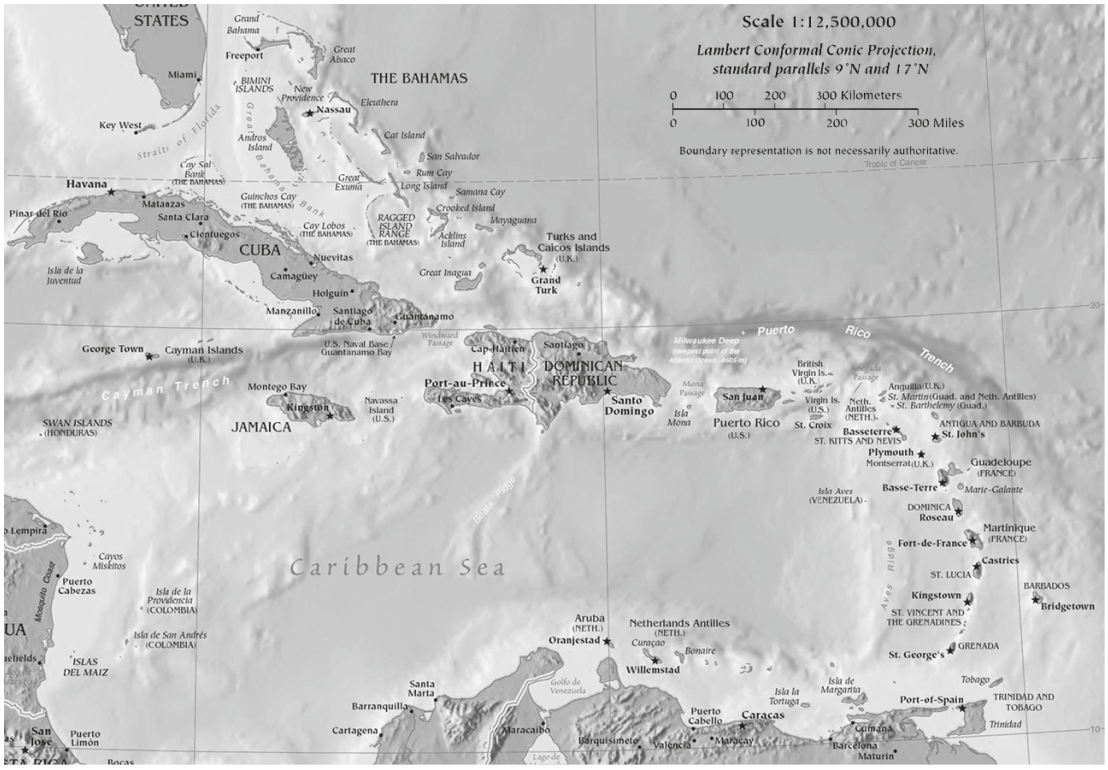
Here at the L.A. General Medical Center, many of the visitors, patients, janitors, chaplains, and ancillary staff now have plague particles replicating in their lungs.

Hours will pass before anyone realizes what is going on.



Naval Air Station—Key West, Florida

At the U.S. Naval Air Station in Key West, Florida, a watch officer assigned to monitor the Caribbean littorals—the coastal waters and shorelines of the Caribbean Sea—flags abnormal maritime traffic leaving the Dominican Republic's Port of Santo Domingo. Given this area's proximity to the Mona Passage, the navy's Joint Interagency Task Force South dispatches a maritime patrol aircraft to investigate.



Map of the Caribbean: Puerto Rico, a U.S. territory, is subject to U.S. Homeland Defense. (CIA World Factbook)

The Mona Passage is an ~80-mile-wide sea channel that begins approximately 20 miles off the eastern tip of the Dominican Republic. It connects the Atlantic to the Caribbean, which makes it the main transit route for boats coming from South America to America's East Coast, illegally. On the other side of the Mona Passage, after another 20 or so miles, sits Puerto Rico—a U.S. territory subject to U.S. Homeland Defense.

This makes the Mona Passage the single highest-priority zone for the Defense Department's Southern Command.

The navy's surveillance aircraft circles the area.

Surface-search radar picks up an unusually large cluster of small boats departing multiple launch points along the Dominican Republic's southeastern shores.

Between drug traffickers, human smugglers, and fishing boats, the Caribbean littorals are a busy place, and under constant surveillance by the U.S. military. But what is happening is something else: a mass migration of people that is a crisis in the making.

U.S. Southern Command notifies its forward Detachment Curaçao, which sends MQ-9 Reaper drones to investigate. Using secure data links, the surveillance crew relays images of dozens, maybe a hundred or more, boats seeming to flee the island near simultaneously—all headed in one direction, toward the U.S. territory of Puerto Rico, less than ninety miles away.

The exodus triggers an alert at the National Military Command Center, the bunker beneath the Pentagon.

The Defense Department has not yet made the connection between the outbreak in Siberia and the exodus from the Dominican Republic in the Caribbean. Health info disseminates down the chain from the HHS and CDC. It has been a little over six hours since Russian health officials declared a previously unknown strain of bubonic plague responsible for the outbreak of an atypical pneumonia-like illness killing people in Siberia.

But while outbreaks like Covid take weeks, even months, to seed around the world, genetically modified pathogens take hours and days.

■

Los Angeles General Medical Center—Los Angeles, California

While doctors at the Los Angeles General Medical Center wait for blood tests on the man in the green Crocs, they put him on IV antibiotics. Without diagnostics, the doctors' best guess is that he has some kind of advanced pneumonia.

The hospital here, like the one in the 2014 Colorado plague outbreak, uses an in-house, automated blood culture system. In-

hospital testing is considered faster than sending samples out. Getting test results back faster saves lives, at least that's the idea.

Most people probably don't spend much time thinking about how complex the testing process actually is. Or how critical it is in a pandemic. But until a doctor knows what they're dealing with, they're guessing. In the early days of Covid, there was no readily available test for SARS-CoV-2. Everything had to be sent to CDC headquarters in Atlanta because they were the only ones capable of testing for Covid at that time.

Early coronavirus testing relied on a diagnostic process called RT-PCR, which stands for reverse transcription–polymerase chain reaction, a state-of-the-art lab technique used to detect and measure genetic material from viruses and bacteria. This includes genetic material from engineered biological weapons. PCR testing requires highly specialized lab equipment, trained technicians, and time.

During Covid, and after a series of now-public devastating missteps, initial diagnoses took many days to deliver results. Only after shelter-in-place mandates were enforced across the United States were extraordinary sums of money, technology, and talent tasked with creating a rapid test that was fast, accessible, and easy to use.

Not until 2021, nearly two years after the pandemic struck, did these so-called dipstick tests become widely available. In big cities like Los Angeles, you could buy a rapid test at the local convenience store and test yourself at home. It worked on the honor system. If you tested positive for Covid, even if you were asymptomatic and felt fine, you were supposed to stay at home so as not to infect others.

With the exception of these in-home dipstick tests developed during Covid, testing for a highly infectious, novel (new) disease is a multistep process performed by professionals. Which helps explain how a disease outbreak involving a novel pathogen, for which there

is no existing test, can transform from outbreak to epidemic to pandemic in record time. The testing process—elaborate and complex—generally involves six steps:

- Sample collection
- Paperwork
- Physical transport
- Pathogen test prep
- Testing
- Delivery of results

Each of these six steps has steps within the steps. In sample collection, a sterile swab must be used to collect mucus or tissue from the patient's nose or throat. The sample is then placed in a tube with preservation fluid and sealed. The specimen gets labeled. Paperwork must be completed, including the patient's name and date of birth. This information gets printed out and attached to the sample tube. At the same time, an electronic order form must be created for matching purposes; a time stamp is required. The tubed specimen is then physically transported to an outside laboratory facility, traveling there in an insulated pouch. This must happen via medical courier, often with temperature requirements so the genetic material inside is not compromised in any way.

Not every medical courier company is authorized to transport contagious pathogens. In 2015, the U.S. Army's Dugway Proving Ground in Utah accidentally sent live anthrax samples to eighty-six other labs in the U.S. and also around the world, and FedEx found out about it. FedEx refused to keep transporting Tier 1 Select Agents, which are regulated under the government's Federal Select Agent Program. These are the first three of six steps.

Once a physical specimen arrives at a testing facility, pathogen test prep begins. A technician receives the sample, logs it with a

barcode scan, confirms its integrity, and preps it for testing. A technician performs tests that include rapid antigen testing (which takes ~15 minutes), PCR molecular testing (which takes ~1–3 hours), and/or culture method testing (which takes ~1–3 days). A human supervisor must review the work. Finally, a human uses a machine to push out an electronic message containing the test results to either the facility that generated the sample or the patient or both.

The reasoning behind an in-hospital automated blood culture system like the one at L.A. General is to speed up this elaborate process. Until doctors have actual lab results, they continue treating their patients based on educated guesswork. But here's more unfortunate news: machines can deliver false results. This is what happened in 2014, with the pneumonic plague Patient A., in Colorado. And it is what happens here with the man in the green Crocs. The automated system at L.A. General Medical Center misidentifies the man as having a bacteria in his blood called *P. luteola*, relatively harmless to most people but potentially lethal in the immunocompromised, which explains the doctor's misdiagnosis. *P. luteola* regularly shows up in dirty settings like hospitals. It is also endemic in homeless shelters and homeless camps.

Misdiagnosed as he is, the patient here, like Patient A. in Colorado, is treated with a broad spectrum of antibiotics (several different antibiotics at once, to defeat the germ's purported antibiotic resistance), including levofloxacin and streptomycin. But his condition is too far advanced. He slips into a coma. Soon, he will be dead.

Down the road at animal control, the man's dog (like Patient A.'s dog in Colorado) is kept overnight, then "humanely euthanized the following day after developing dyspnea and bloody sputum." After forty-eight hours, test results come back, "negative for evidence of rabies virus infection." Animal control workers are relieved not to have to worry about rabies; they have no idea they've been infected

with airborne plague. Domestic animals, we learn, can get plague, too. Cats and dogs can both transmit plague to humans.

In the case of Colorado's Patient A., the outbreak was contained. For starters, he contracted natural pneumonic plague, meaning it hadn't been genetically modified in a lab like Vector. As we know, the transmission rate, or R_0, for Mother Nature's pneumonic plague is 1.3–3.5. As a reminder, the R_0 for the super-plague weapon in this scenario, genetically altered for an enhanced rate of transmission, is 10–12, for an average R_0 of 11.

In the case of Patient A., the CDC went to extraordinary lengths to make sure health workers who treated the patient, and others, were not sickened by *Y. pestis* bacteria. "Medical personnel and personal contacts…were notified of their possible exposure to plague." Of the 114 persons who might have had contact with Patient A. or his dog, 88 were recommended antimicrobial prophylaxis—a heavy dose of antibiotics designed to prevent infection *before* it occurs. A total of three others tested positive for infection, and recovered. "Patient A. was treated with broad-spectrum antibiotics, including levofloxacin and streptomycin, and recovered after hospitalization for 23 days," writes the CDC.

What began in Colorado with one person naturally infected with Mother Nature's pneumonic plague led to eighty-eight people needing antibiotics, according to the CDC. Which brings us to a true horror undergirding this story. Even if the coming pneumonic plague epidemic can be treated with broad-spectrum antibiotics, there will not be enough antibiotics in the United States to go around.

Scarcity triggers powerful psychological reactions. When essential goods become scarce, social bonds collapse.

When there is not enough medicine to go around, survival instincts kick in.

"Scarcity captures the mind," behavioral scientists Sendhil Mullainathan and Eldar Shafir tell us. "It changes how we think."

Which is what former Senate majority leader Tom Daschle was alluding to when he said, "People doing inhumane things, just to survive."

■

National Security Agency headquarters—Fort Meade, Maryland

The NSA picks up new information being relayed between FSB headquarters in Moscow and military officers in Koltsovo.

There are now 2,262 confirmed dead in the science city.

Request additional mobile incinerators.

There is no one on the streets. The place looks like a ghost town.

No more information has been officially released. The internet in the science city is still down.

As the NSA analyst continues to listen, more clues emerge.

The scientist found in the woods by the ten big-game hunters has been identified as responsible for the explosion at Vector. His body has been autopsied.

His organs will be valuable for future use.

Unlike Dr. Ustinov, the scientist who died after accidentally infecting himself with Marburg inside a Vector lab forty years ago, and whose grave is formally marked, this scientist will be carved up for science, buried in a lead casket, and tossed into an unmarked grave.

He committed treason by trying to destroy his work, says the military official.

We found the family, says the FSB officer. *They're all dead from plague.*

From listening in on the conversation, the NSA analyst learns that Russia has no intention of responding to repeated requests from the U.S. State Department.

Screw those bastards.

That the World Health Organization will not be allowed into Novosibirsk for several more days.

Screw those bureaucrats.

That the genetic code has not, and will not, be shared.

Screw those fools, they both say.

■

National Military Command Center, the Pentagon—Arlington, Virginia

In the bunker beneath the Pentagon, officers working at the National Military Command Center view real-time surveillance footage of the maritime exodus from the Dominican Republic's southern coast. The scope of what is happening is unprecedented.

Boats continue to leave the island at an alarming pace.

In the rough waters of the Mona Passage, the U.S. Coast Guard cutter *Richard Dixon* is engaged in a stand-off with a flotilla of several dozen boats filled with migrants desperate to reach the shores of Puerto Rico, forty miles away.

The vessels range from small craft with outboard motors to a smuggler's boat that is more than sixty feet long.

A disinformation campaign is spreading on X, telling people if they get to Puerto Rico, there is free emergency medical care and U.S. citizenship awaiting them.

U.S. Southern Command has deployed Fourth Fleet naval assets to the area.

The Coast Guard is under strict instructions from the Pentagon not to engage.

The combat ship USS *St. Louis* is on its way from Guantánamo Bay Naval Base, Cuba, but even traveling at maximum speed, it will take fifteen hours to arrive.

What is happening is a national security catastrophe in the making. A Coast Guard confrontation with a single boat full of

migrants can easily turn into a public affairs fiasco.

A surveillance drone moves into position over the largest boat in the flotilla. It's a surreal scene. More than 100 men, women, and children are packed shoulder to shoulder on the deck. Many look sick.

Some cough violently, too weak to stand.

A lone man leans against the bow, waving a white shirt tied to a stick.

Help us.

On the horizon, dozens more boats.

Someone holds up a sign.

Unarmed and sick. Request asylum.

If the Defense Department was unsure if the mass exodus was linked to the plague outbreak in Novosibirsk, they now have reason to believe it might be.

The Pentagon and its Homeland Security partners face an intractable dilemma. How do you interdict hundreds of migrants stranded at sea, visibly sick and with a high probability of infection by a genetically modified pathogen?

As startling as this may seem, mass migration in the aftermath of a biological attack or incident has been gamed out in classified and unclassified war games.

From one of them, called Clade X, conducted by former cabinet-level government officials in 2018, there is much to learn.

HISTORY LESSON

The Clade X Scenario

In the Clade X biological war game scenario, run by the Johns Hopkins Center for Health Security, an environmental terrorist group releases a genetically modified biological weapon that quickly wreaks havoc around the world. The outbreak—part of a deliberate attack—begins in Germany, people die, it spreads to other countries, and more people die. As the disease seeds itself in South America, in Venezuela, hospitals break down and anarchy ensues.

Sick and dying migrants flee the northern coast of the continent en masse, headed by boat for the U.S. territory of Puerto Rico, 600 miles to the north.

Nearing shore, a stand-off with the U.S. Coast Guard unfolds.

The consensus of the former cabinet-level officials role-playing current cabinet-level officials is that no humanitarian solution can be found for the migrants, given the circumstances. The officials decide they have no option but to turn the onslaught of infected migrants away. To send them back out to sea, where they will surely starve to death or drown.

"Puerto Rico has fewer than a dozen true airborne isolation beds," former CDC director Julie Gerberding, playing the role of the CDC director, tells the war-gaming group. After some discussion, the group agrees that intercepting and quarantining hundreds of terrified, infected passengers at sea or after they land in Puerto Rico will overwhelm the island's already-strained medical system.

In the Clade X scenario, the secretary of Homeland Security, played by former Department of Homeland Security official Tara O'Toole, stresses how bad the optics are going to be. That live video of frightened families in leaking boats being forced back out into the open ocean will become a cable news disaster. Former Senate majority leader Tom Daschle, playing the Senate majority leader, warns, "This is a catastrophe waiting to happen."

One of the main purposes of this 2018 biological-attack scenario was to highlight gaps in U.S. national security should a mass exodus from a

country in America's backyard threaten U.S. national sovereignty. From the Clade X scenario, officials conclude that among the top challenges the White House will face in a biological warfare attack as far as Homeland Defense is concerned, three stand out:

- Early refugee flows are strategic warning signs of state failure. Refugee flows will likely start before the pathogen reaches U.S. soil.
- U.S. maritime borders are a vulnerable underbelly of U.S. quarantine planning. In the event that a floating quarantine area is needed, there is no predesignated capability.
- America's sovereign borders are at risk of being overrun, but must never be overrun. Extreme measures must be considered as soon as a crisis begins.

In the Clade X scenario, the ultimate fate of the migrants is never revealed. The members of the National Security Council become overwhelmed with a series of cascading crises. Following outbreaks in Germany and Venezuela, 300 of the largest cities in the world become overwhelmed with infection cases. By month twenty, 150 million people are dead—fifteen million in the U.S. alone.

And then, suddenly, the war game abruptly ends.

The world is in chaos. In a bleak, unfinished state of pandemonium.

That is all you get to know.

Which does not mean the government doesn't know what will happen. It does.

The Situation Room, the White House—Washington, D.C.

In the White House Situation Room, the president is briefed on multiple national security threats facing the nation, on multiple fronts. Photographs of migrant boats are spread out on the table.

DHS secretary: *They're heading to Puerto Rico. And Florida.*

President: *Stop them.*

SecDef: *We're constrained by our reaction time, sir. There're now hundreds of boats. Many will reach Puerto Rico before our interdiction force converges.*

The secretary of Health and Human Services advises the president that if even one of these migrant ships makes landfall, the contagion will become seeded in the population.

CDC director: *We have little to no surge capacity there.*

The secretary of defense has an alternative idea.

SecDef: *We have air assets.*

The attorney general is appalled.

AG: *You can't start shooting at migrant boats. They're unarmed civilians.*

SecDef: *Soon there will be Haitian terrorists embedded.*

All eyes are on the president.

President: *Haiti? What does Haiti have to do with this?*

NatSec advisor: *It's the same island, sir.*

Never good to correct the president.

President: *How realistic is their getting to Florida?*

Coast Guard chief: *During Covid, we interdicted 7,175 migrants from Haiti trying to get to Miami.*

President: *Who the hell is in charge of the Coast Guard?*

All eyes are on the secretary of Homeland Security.

DHS secretary: *We are, sir.* (Clarifies.) *I am.*

The chairman of the Joint Chiefs of Staff has an alternative idea.

Chairman of the Joint Chiefs: *With a time of war directive you can transfer the Coast Guard to DoD.*

President: *Do that.* (To AG.) *Write that up.*

AG: *Yes, sir.*

The national security advisor directs the conversation to the outbreak in Russia.

CDC director: *The plague outbreak originating in Russia is now confirmed in Kazakhstan, Vietnam, Cyprus. We know about the Caribbean. Also new reports from Finland and France.*

CIA director: *There are thousands dead in Russia. It's a biological weapon.*

DNI: *The area around Vector is a ghost town. Russian troops in Novosibirsk are abandoning their posts.*

SecDef: *There's a mobile ICBM launch facility there. We've got eyes on.*

President: *How do we know this is all the same thing?*

BioDefense chief: *We don't*. *Everyone is waiting on diagnostics. On testing. Until then, we presume it is.*

President: *I want to focus on the homeland.*

SecDef: *NORTHCOM needs to assume readiness posture.*

AG: *Certain legal parameters need to be met.*

President: *Make those happen.*

AG: *Preparing disaster declaration, sir.*

President to BioDefense chief: *What do we need most, right now?*

BioDefense chief: *A pathogen sample.*

President: *Why don't you just say virus? I'm tired of all these fancy words.*

BioDefense chief: *It's not a virus, sir. It's a bacteria.*

CDC director (clarifies): *A pathogen is a bacteria or a virus that is deadly.*

President: *I thought we have antibiotics for that.*

CDC director: *A bacteria can be genetically modified to evade antibiotics.*

BioDefense chief: *Which can mean there is no cure.*

President: *What the hell is wrong with these people? Why would anyone do that?*

The elephant in the room. It is hard to disagree.

SecDef: *Russia refuses to release the genetic code.*

President: *We should have hit them when we had the chance.*

The SecDef sucks in his cheeks, wrinkles his mouth.

President (to BioDefense chief): *How do we protect our people?*

HHS secretary: *Push out the Strategic National Stockpile. All the antibiotics.*

President: *I thought you said antibiotics won't work.*

BioDefense chief: *We won't know until we try.*

President: *Jesus.*

HHS secretary: *Prep field hospitals.*

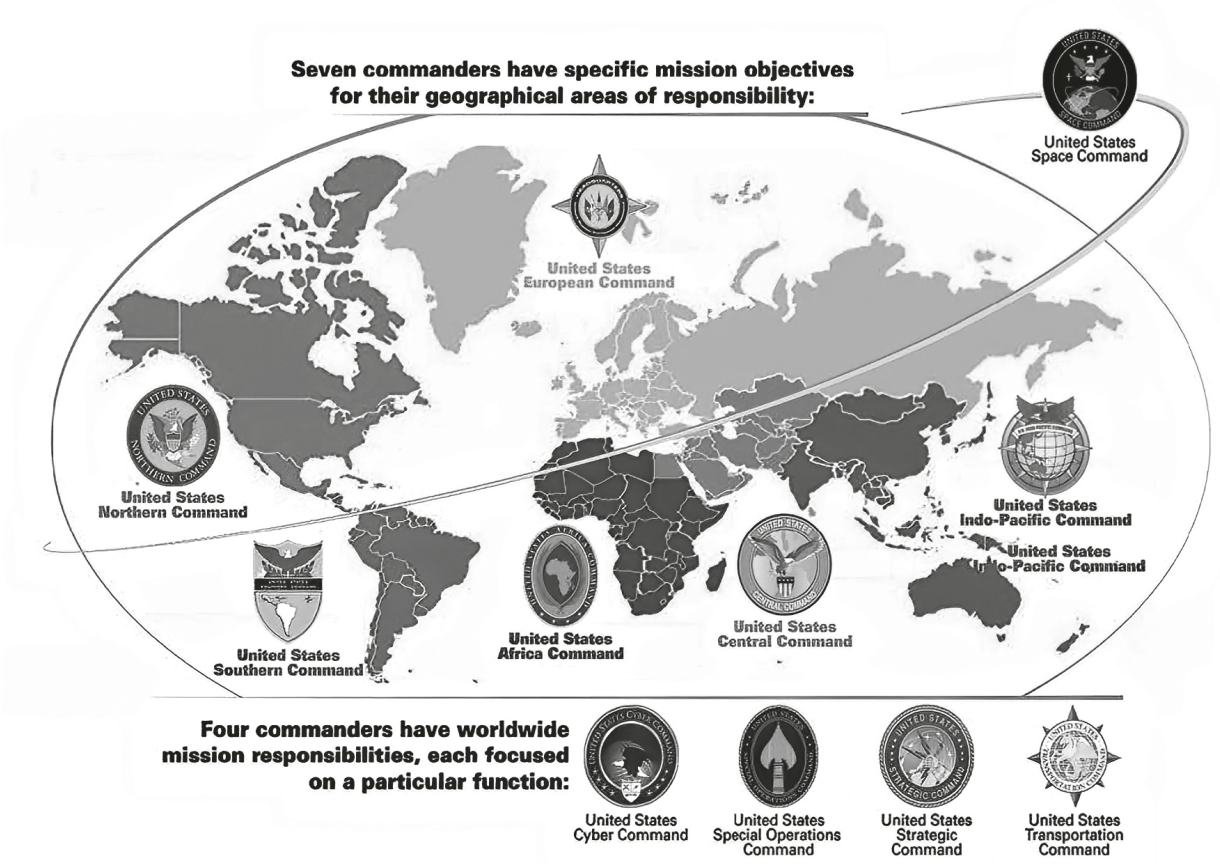
SecDef: *Deploy seeburn forces.*

The SecDef clarifies that *seeburn* means "Chemical, Biological, Radiological, and Nuclear" special forces, acronym CBRN.

President: *Do that.*

Chairman of the Joint Chiefs: *You need to issue a WARNORD, sir.*

A WARNORD is a Warning Order. An advance notice issued by the secretary of defense, on orders from the president, to one or more of the eleven U.S. Combatant Commands—the military organizations that divide and oversee the globe according to geography and function. The earth is vast, but to the U.S. Department of Defense, it is organized into eleven regions, each under the watch of a U.S. Combatant Command. No matter where you stand on the planet, or in space, America's military has a presence. A footprint on every corner of it, projecting power, ensuring readiness, and defending the interest of America around the world. Everywhere. In every corner of Earth, in every domain.



The U.S. Department of Defense is organized into eleven unified Combatant Commands. (U.S. Department of Defense)

WARNORDs can be marked confidential, secret, or top secret. WARNORDs around the world are commonplace, but this one is different. This WARNORD involves U.S. Northern Command, the combatant command that defends the homeland. This WARNORD signals forces to prepare for possible Title 10 domestic deployment.

A military operation *inside* the United States.

An extraordinary operation governed by rare authorities that allow the military to act on U.S. soil, to defend the homeland under a legal framework called Defense Support of Civil Authorities.

A WARNORD directed at the homeland is one step away from martial law.

From America, the war zone.

From military curfews and movement restrictions; the suspension of civil rights and habeas corpus; detaining and jailing citizens without charge. To make the public aware of a domestic WARNORD brings the possibility of panic, a reaction that could undermine the security this mission seeks to achieve.

A WARNORD has been issued, in secret, once before.

In the initial weeks of the Covid crisis, Secretary of Defense Mark Esper signed a WARNORD, alerting NORTHCOM to "'prepare to deploy' in support of potential extraordinary missions." (*Newsweek* reporter William Arkin broke the story, which no one else had picked up on.)

The president authorizes the SecDef to issue a WARNORD.

At Northern Command, in Colorado, forces prepare to deploy. Military forces the likes of which most Americans don't know exist, and have never seen deploy:

- All Chemical, Biological, Radiological, and Nuclear (CBRN) units prepare for a domestic incident.
- All biological weapons–WMD medical response units begin staging for deployment of teams by ground transport and aerial lifts.
- All National Guard Bureau members prepare Weapons of Mass Destruction–Civil Support Teams in each state.
- All forces prepare for Defense Support of Civil Authorities.

The United States faces multiple looming national security threats, on multiple fronts. A "complex catastrophe," in Defense Department nomenclature. The potential for cascading failures of interdependent, life-sustaining U.S. infrastructure collapsing—and causing extraordinary mass casualties and catastrophic follow-on effects.

Former FEMA chief Craig Fugate calls a scenario like this a "Maximum of Maximums" event.



***Diamond Princess* cruise ship infirmary—Pacific Ocean**

The *Diamond Princess* cruise ship is two hours from the Kai Tak Cruise Terminal at the Port of Hong Kong when the eighty-year-old passenger in the isolation ward crashes out and dies. The ship's doctor has begun to panic. There have been thirty-four new admissions in the last hour. One of his nurses is missing. What the hell is going on?

To manage a patient with a potentially infectious disease, the *Diamond Princess* has two isolation cabins, each with a windowed door so staff can keep an eye on the two patients inside. Each room has negative-pressure ventilation to keep contaminated air from getting out.

When the eighty-year-old passenger arrived in the ship's infirmary last night, he was escorted by his two daughters. The man is a judge from Germany. His situation was bad when he came in. Now he's dead. An hour ago, one of the two daughters experienced a rapid onset of symptoms similar to her father's. Her fever spiked to 104 degrees Fahrenheit (40 degrees Celsius). The second daughter also became unwell. Medical personnel put both daughters into the second isolation room.

Physicians on the *Diamond Princess* are independent contractors. They render medical services—tests, treatments, and prescriptions—for a fee. The daughters who accompanied their sick father told the ship's doctor they wanted the absolute best care for him and made clear they were willing to pay for it. The doctor notified Port of Hong Kong health authorities, telling them he suspected there'd been an outbreak of norovirus on board. Norovirus, a highly contagious gastrointestinal virus, is a scourge on cruise ships. It

spreads through contaminated food, on surfaces, and person-to-person, causing acute gastroenteritis, or inflammation of the stomach and intestines. Most people recover within one to three days without medical treatment. Deaths are rare but do happen among the elderly and the immunocompromised.

After being notified by port authorities, the Hong Kong Fire Services Department's Ambulance Command arranged to have an isolation stretcher system waiting at the dock to transport the passenger to a local hospital for emergency care. But the situation is no longer about one patient.

One of the nurses tells the doctor she's counted forty people in the hallway. One of them is unconscious on the carpet. Another nurse hurries about the infirmary, unsure what to do. A third nurse leaves, unannounced, and heads to the staff quarters to rest but falls down by the employee salad bar. Colleagues try to help her. There's rust-colored froth around her mouth and bloody mucus pooling on the floor.

On the upper decks of the cruise ship, people become violently ill. Near Neptune's Reef and Pool, a woman grips the ship's railing and coughs up blood. Organs she barely ever noticed she had before have begun shutting down. *Y. pestis* bacteria in the blood shoots toxins into the immune cells, rendering the body unable to defend itself. Plague bacteria are like stealth warriors, invading marauders that self-replicate. Unimpeded, they multiply until the host is overwhelmed and dies.

On Deck 6, a man experiencing a fever spike closes his eyes to try to stop the pain. The blood vessels in his lung tissue are breaking down and the blood is leaking into his alveoli, the lobes filling up with fluid and pus like waterlogged sponges. He is drowning. Can't breathe. He coughs up a stream of bubbly pink sputum, a mixture of pus, dead white blood cells, proteins, and other cellular debris. The material is infectious. It reeks of decay. He trips. Falls. Tumbles down the stairs. How has this happened? He

came for the lobster tails and the Japanese whiskey. Instead, he got infected with a genetically modified pneumonic plague.

To think: Somewhere, a scientist in a lab coat reengineered Mother Nature to do this. To kill hundreds of millions of people and leave the infrastructure intact.

The former Soviet bioweapons engineer Sergei Popov told Milton Leitenberg he regretted working on such an evil program. "I admire those people who had the courage to say 'no,'" he told journalist David Hoffman. "I always believed [those weapons] could never be used because it was so absurd." But he, and others, did work on these biological weapons. "For a long time, I just wanted to forget what I've done," Popov told an audience of biodefense experts in 2002. A quarter of a century later, in this scenario, the biological weapons that he and others helped design, and convinced themselves would never be used, have begun killing people around the world.

Pandora is out of the box.

The Soviet Biopreparat scientists are not solely to blame.

The twenty-first-century expansion of the high- and maximum-containment biosafety laboratory network, and the gain-of-function experiments, were an American-led, post-9/11 affair. The starting gun on a vast new biotechnological arms race. A buildup fueled by fear, terrorism, paranoia, and greed. A BioDefense bonanza that has now become a cash cow for a new generation of defense contractors and biotechnologists, with everyone wanting a piece of the pie.

The demands for whole new classes of drugs—of anti–biological weapons countermeasures—continues unabated. If you don't already know about this, you will.

The genie cannot be put back in the bottle. All the clichés are true.

The medical center on the *Diamond Princess* is overwhelmed. Patients are dying. Nurses are dying. Soon, the ship's doctor will be

dead. Across the vessel, passengers become frantic as they realize something dreadful is happening. That there is a nightmare contagion on board. That they may already be infected with it.

The captain, who perhaps knows best the ship's capabilities, and how they are soon to be vastly overrun, broadcasts an emergency announcement. Everyone must go to their cabins, lock the doors, and stay inside. Using Hong Kong Maritime Distress Protocol, the captain uses VHF Channel 16 to send a declaration of distress:

Mayday, Mayday, Mayday.

This is Diamond Princess, Diamond Princess, Diamond Princess.

Mayday, Diamond Princess, call sign 2HFZ7.

Position: Latitude: 22.32° North, Longitude: 114.70° East.

We have a grave emergency.

There is a suspected biological agent on board causing acute illness and death.

We request immediate medical, quarantine, and evacuation assistance.

Total persons on board: 3,700.

Over.

Like the *Titanic*'s radio operators, he closes with a cry for help.

SOS. Save our souls.

Part IV

THE LAST DAY OF AMERICAN DEMOCRACY

Day Five



Skid Row—Los Angeles, California

It is morning in Los Angeles. On the sidewalk in front of the Wesley Health Center on San Pedro Street in Skid Row, a volatile crowd of acutely ill people push against one another, jostling for position in what is supposed to be a line. Everyone here is desperate to get into this free health clinic. None of them are aware they are infected with pneumonic plague.

A full day has passed since four bodies were found in a tent around the corner, and two and a half days since the premed student first infected forty-four homeless people in a downtown Los Angeles superspreader event. Transmission tables—predictive but never precise—tell us several thousand people who either live in Skid Row or have crossed paths with people who do have now contracted genetically modified pneumonic plague. Most of them are still experiencing euphoria, but others have begun succumbing to horrific pain.

Pneumonic plague is called a fulminant disease because it explodes suddenly and violently, like a flash of lightning. It doesn't smolder or linger, but overwhelms the body, moving quickly from infection to death. Because homeless people are ignored by America's national syndromic surveillance system, the lethargic, bureaucratic U.S. national healthcare system fails to make the connection that this outbreak of illness is the same airborne plague that is now spreading around the world.

Long before this outbreak occurred, the conditions for misrecognition were cemented in place—people lying on sidewalks, unresponsive, somehow normalized as a feature of daily life. Fentanyl is but one of the underlying culprits, a highly potent synthetic opioid that acts primarily on receptors in the brain and spinal cord, reducing responsiveness to external stimuli. Mixed with the animal sedative xylazine, it causes sedation, severe muscle relaxation, and prolonged immobility, giving users a frozen, statue-like appearance. Methamphetamines, also rampant in Skid Row, generally have the opposite effect, producing extreme paranoia, hallucinations, unpredictable behavior, and explosive aggression.

Two plague-infected men fight over a place in line.

One of the men knocks the other over, and the two of them fall into a couple propped against a wall. A woman tries to shield her two children from the fray, but she can hardly focus on the world anymore. Inches away, a man thrashes about on the pavement, his arms and legs contorting like a circus act.

A man leaning against a parking meter suddenly rushes into traffic, swinging an imaginary stick. Horns honk. Violence is no stranger in this landscape of extreme poverty and degradation, but it will be hours before anyone realizes what is actually going on.

The armed security guard at the front door of the free clinic tries to keep order. It's been a long and strenuous day. Half of the staff didn't show up for work. Like Nurse 1, many of them called in sick.

Someone in line picks up a tire iron and threatens the guard.

Let me in, dammit. I was here first.

The security guard dials 911 again. Where are the police?

Sirens can be heard in the distance. A helicopter circles overhead.

What is happening here on San Pedro Street has begun happening in pockets across the fifty-block tract that is Skid Row. Clinics, healthcare pop-ups, the Midnight Mission—they're all seeing masses of people gathering outside their front doors.

Sensing physical danger, the security guard draws his firearm and retreats inside. Here in the waiting room, behind reinforced, double-locked doors, the plastic chairs are filled with semiconscious people. There's no place for anyone to sit. Nowhere left to stand.

What the hell is happening? the guard asks a nurse.

He sees a man in the fetal position on the floor, shoulders heaving violently, coughing up blood.

Hemoptysis is not from opioid overdose, says the nurse.

The security guard tries to process what he sees. He's an army veteran and served as a private first class in Afghanistan more than a decade ago. He witnessed medical mayhem on village patrols, saw the dead and the dying in battlefield triage tents from inches away. This is something else.

He stares at a man whose eyes are bleeding, subconjunctival hemorrhaging in medical terms. Face gray, lips dark blue, the man looks terrified. He shouldn't be conscious, the guard thinks, and he wonders if a person can become immune to pain.

Nearby on the linoleum floor, a woman writhes in agony, her skin mottled with red spots. A man bends over and hurls up what looks like pieces of lung. The detritus splashes where pools of copper-colored, frothy sputum cover the floor. People are slipping and falling into it, their hands and elbows coming into contact with trillions of *Y. pestis* bacteria. Invisible to the naked eye, but there.

To think, this is America. This is Los Angeles, California, where it's sunny about three-quarters of the year. People surf in the morning and ski in the afternoon. Eight miles west, a Beverly Hills parking lot recently sold for $90 million.

The guard has no idea what to do. He's no doctor, but anyone can see what is happening here is something catastrophic. Something more than a bad batch of fentanyl.

A second nurse approaches him, terror in her eyes.

What if it's contagious? she says. *I have kids.*

The guard redials 911 on his cell phone, but the system is overwhelmed.

California's half-billion-dollar Next Generation 911 system upgrade experienced widespread failures when it launched in the winter of 2025, and it is failing again now.

Weeehhh, weeehhh, weeehhh.

The busy signal repeats.

HISTORY LESSON

The BioSense Program

Back in 2003, in the wake of the 9/11 terrorist attacks, the Centers for Disease Control and Prevention established a multibillion-dollar national syndromic surveillance system called BioSense. Promised as a "national radar" for America's health, the goal of the BioSense program (now platform) is to detect a disease outbreak—a biological incident or attack—in cities and states and to help stop it in its tracks, before any health anomaly can become a catastrophic national event.

Under the BioSense platform, the CDC collects biosurveillance information on Americans from 7,200 healthcare facilities across fifty states, Washington, D.C., and Guam. This includes near-real-time data from emergency departments, urgent care clinics, ambulatory care centers, and other registered facilities, all of which feeds into centralized servers at the CDC for rapid analysis.

"Global health security is national security," warns the CDC, and promises that its BioSense program is "the first line of defense to stop outbreaks where they start." But the program does not include any data from any of the nation's homeless shelters or clinics. None. This means that the entirety of America's ~800,000-person homeless population is left out of the CDC's national syndromic surveillance program.

"[We] do not consistently track and report data [on this] demographic," the Department of Health and Human Services, which oversees the CDC, confirms through its press office.

"These vulnerable dense populations…[present] an accident waiting to happen," warns Dr. Michael V. Callahan, one of the world's leading infectious disease experts.

Warnings ignored.

And now this.

Los Angeles Police Department—downtown Los Angeles

A half mile north of Skid Row, inside the LAPD Communications Division center, 911 dispatchers are inundated with reports of some kind of a mass-victim incident in the Skid Row area of downtown.

The presumption is mass overdose.

All messages say more or less the same thing.

People are collapsing in the streets.

People are unconscious on the sidewalks.

Not breathing.

Foaming at the mouth.

Across America, the phenomenon of mass overdose in homeless camps has gone from rare to commonplace. In July 2025, police in Baltimore responded to a "mass casualty" incident in an open-air drug market, after twenty-seven people overdosed on fentanyl mixed with what was reported to be some kind of powerful sedative. Thirteen medical units and four fire trucks were sent to triage people on-site, with dozens of officers trying to locate more potential victims.

"Every single person started overdosing at the same time," recalled Bill Brooks, the director of Penn North Recovery Center. "We've never seen anything like it, so it was a kind of all-hands-on-deck type situation."

"They were out here all day and night canvassing, administering Narcan," Mayor Brandon M. Scott told *The New York Times*. Narcan is the brand name of the drug naloxone, which reverses opioid drug overdoses.

"Fentanyl-related mass-overdose events [are] killing Americans at an unprecedented rate," is the Drug Enforcement Administration's position.

In our scenario, LAPD Air Support launches a second helicopter to provide additional aerial situational awareness and video surveillance around Skid Row.

LAPD issues a Tactical Alert.

This elevated operational status increases police presence, mobilizes additional resources, and now holds police officers beyond their regular shifts.

Across the city, LAPD units from other districts U-turn and head downtown.



Los Angeles Fire Department—downtown Los Angeles

In a mass-victim incident or event, including one that is likely drug-related, the Los Angeles Fire Department runs the medical side of the response. Here at the Metropolitan Fire Communications center, ten blocks northeast of Skid Row, the 911 emergency dispatch center for all fire and emergency medical services within the city of Los Angeles is experiencing severe operational strain.

The clustered, mass-victim incident developing in the area around 5th Street and San Pedro is crippling the system. Reports of new victims involved in this mass-overdose event are coming in nonstop.

You better get here quick.

Tweakers dead in the street.

*F*** the police.*

Ambulances, fire engines, and paramedic squads race through the downtown area, headed to Skid Row.

LAFD establishes an Incident Command Post at the intersection of Wall Street and Boyd Street, several blocks northwest of the Wesley Health Center.

First responders fan out to administer Narcan, oxygen, and advanced life support on-site. They'll treat victims and coordinate

transportation to area hospitals. From a transmission standpoint, this is disastrous.

Because no one has any reason to suspect a biological weapon is in play, no one is wearing biohazard protective gear.

"We are not prepared to deal with an outbreak of pneumonic plague in downtown Los Angeles," Los Angeles fire commissioner Jimmy H. Hara tells us. "Even our hazmat team is not prepared to deal with a catastrophic biological event."

Fire Commissioner Hara is no stranger to triage and high casualty counts. He's been a doctor his entire adult life. During the Vietnam War, he served as the medical officer for the Cruiser Destroyer Force of the Seventh Fleet. Also a professor of family medicine, he more recently served as the liaison between the Kaiser Permanente hospital system and all of Southern California. "Each hospital could handle maybe a few cases of [airborne] plague," Fire Commissioner Hara says, "and that's only if they realized what they were dealing with."

The volume of first responders becoming infected will create an untenable situation.

"Those who come to the rescue will be the next generation of victims," Fire Commissioner Hara warns.

HISTORY LESSON

Biological Incident Operations: A Guide for Law Enforcement

More than twenty years ago, the U.S. Army's Edgewood Chemical Biological Center wrote a handbook for police officers describing what to expect in a biological incident or attack. It acknowledges a merciless truth. Unlike U.S. military personnel, who are trained and equipped to enter contaminated battlespaces in protective gear and gas masks, local law enforcement officers and first responders will face biological threats unprotected.

Since the publication of the U.S. Army's guide, hundreds of billions of dollars have been spent on what the government calls BioDefense. Thousands of reports and monographs have been written, and countless agencies, organizations, and task forces stood up. Hundreds, if not thousands, of biological warfare games have been rehearsed. Scores of unclassified biological warfare simulations, gamed out by many of these same former cabinet-level officials, are on record for public view. Even more are classified.

If any of this has had or will have any effect, either on preventing a biological attack or on the response and recovery from one if it should happen, remains unknown.

"The government spends billions of taxpayer dollars every year on programs that may, or may not, work to prevent biological catastrophe," America's first DHS secretary, Tom Ridge, and Senator Joe Lieberman wrote in an op-ed for *The Hill* in 2018. "Some of the biggest threats to the nation come from the smallest organisms on the planet."

Even the highest-ranking government officials tasked to solve a biological warfare problem know the biological warfare problem is unsolvable.

The army guide warns that if it does happen, like nuclear war, biological war will destroy and reshape the modern world. Written decades ago, it hasn't been updated, nor does it need to be. The wicked problems inherent to a biological attack in 2004 remain the

same today. In military nomenclature, a wicked problem is a problem without a solution. The term is borrowed from systems theory and refers to a problem so complex and so dynamic that by the time it reveals itself, the conditions of the problem will have already changed. The army guide reveals four wicked problems that will never go away:

- **Biological attacks are invisible.** Silent and odorless, they won't be detected until people start dying and contagion levels are already out of control.
- **An aerosolized pathogen is the ultimate nightmare scenario.** Humans must breathe air to stay alive; with an airborne pathogen incident or attack, breathing becomes the primary dispersal mechanism of death.
- **Law enforcement, first responders, doctors, and nurses will be exposed.** The people best equipped to respond and help will become sick and die, leaving few professionals left to care for the sick and the dying.
- **Mass panic will likely collapse the medical system.** The sudden onset of dying people will lead to a crushing wave of infected people and not infected people ("the worried well"), overwhelming local emergency medical systems before diagnoses can be made. The noninfected will become infected while waiting for aid.

It is the sworn duty of the law enforcement officer to respond to the call for help. To preserve public safety, protect life and property, and enforce the law. Like firefighters rushing into the World Trade Center on 9/11, this first wave of first responders may or may not be aware of the existential reality they face in a biological incident or attack.

That most of them will die.

Office of Emergency Preparedness and Response, Los Angeles County Department of Public Health—Los Angeles, California

Two miles northwest of the LAFD's communications center, city health officials with the Emergency Preparedness and Response

Division of the L.A. County Department of Public Health engage in a rapid-fire, situational briefing about the presumed mass fentanyl poisoning on Skid Row.

The building here on Commonwealth Avenue is a late-modern office tower featuring a reflective, mirrored-glass facade. The seventh floor is dedicated to public health crises, with the ops center being the nexus of department planning and coordination. Here is where bureaucrats gather to mobilize a response to a public health emergency like the one unfolding over in Skid Row.



Office of Emergency Preparedness and Response, Los Angeles County Department of Public Health. (Author photograph)

The initial assessment by officials, just now getting reports from law enforcement and first responders, is that a potent batch of fentanyl is almost certainly responsible. Congress warned about this in 2022. "Illicit synthetic opioids have the effect of a slow-motion weapon of mass destruction in pill form," the Commission on Combating Synthetic Opioid Trafficking found. That year, more than

107,000 Americans died of a drug overdose, analogous to thirty-six 9/11-level death tolls. "To put this in perspective," former attorney general William Barr told Congress in 2024, "during the bloodiest single year of World War II, we lost 106,000 troops killed in action. In short we are now sustaining, year in and year out, a casualty rate from drug overdoses that exceed the death toll we suffered in a world war." Congress investigated further. "The fentanyl crisis is one of the most horrific disasters America has ever faced," a bipartisan committee found.

In our scenario, county health department operators view incoming data on WebEOC, an antiquated, web-based emergency management software system developed decades ago to replace paper-based incident reporting. This system can see some of what fire and police departments see, but health officials don't have unrestricted access to live feeds, meaning they're not privy to everything happening in real time.

The system is flawed to the point of breaking. A 2022 after-action report following a terrorist-attack exercise in Los Angeles found that L.A. County's Emergency Operations Center was "unable to coordinate the dissemination of emergency public information" effectively, and that it "did not take any corrective action to establish an alternate method" after it was clear the system had failed.

What L.A. public health officials do know is that optics are important. Skid Row is a hot-button issue, and what is happening is dramatic. If the situation isn't handled delicately, the story will spin out of control. It is late morning. The L.A. County public health director is on her way home, to work remotely for the rest of the day, when her deputy calls to strongly advise her that she needs to hold a press conference.

You cannot afford to wait.

She sighs, U-turns, and heads back to the Emergency Operations Center downtown. She can videotape a public service

announcement from the media room there.



Governor's Mansion—Sacramento, California

In Sacramento, California, the governor has just uploaded to the internet his most recent podcast interview and is waiting on popularity numbers from his chief of staff when he learns the mayor of Los Angeles is holding for him on Line 1.

Chief of staff: *It's urgent.*

There has been a mass-victim event on Skid Row.

There are, like, dozens of homeless people dead.

The governor tells his chief of staff to transfer the mayor over to video comms.

He pauses watching his own podcast and waits for the mayor to appear on-screen. This governor's podcast is styled after California governor Gavin Newsom's podcast, the stated goal of which is to have "honest discussions," including with people from the other political party. When Governor Newsom's podcast first aired in 2025, a leading San Francisco newspaper criticized him for "sucking up to right-wing influencers and making digs at his own political party," calling the whole endeavor "genuinely humiliating."

It's important to the governor in our scenario that his podcast is a success, and not misinterpreted. Like many governors in American history, he plans on running for president in the next election.

The governor's guest on the podcast he just uploaded is a very popular right-wing influencer with 15 million social media followers. New media can make or break a campaign; the governor's college-age son recently helped him realize this. That his being friends with eighty-five-year-old senators and popular Hollywood celebrities and musicians will not help him win the presidency, not in the modern world.

Internet influencers will.

The mayor appears on the governor's video screen.

She's in a serious bind. There are forty, or maybe fifty, homeless people dead—according to the fire chief, twenty minutes ago. One hundred or more people are unconscious or unresponsive on the sidewalks, with no way of knowing what's going on inside the countless tents set up across Skid Row. Narcan is failing. First responders are encountering hostility from gathering crowds. LAPD officers report being hit with bottles and stones.

Jesus, says the governor. *What kind of drugs?*

Mayor: *Fentanyl. Most likely.*

Governor: *Shit.*

Mayor: *People are looting.*

The governor nods. *Of course they are.*

After years of violent protests over policing issues in Los Angeles, escalating a law enforcement response comes with inherent risk. Raise numbers too dramatically, and the possibility of igniting a flashpoint becomes real. But too little force invites more chaos. Things have already begun to spiral out of control.

You need to declare a state of emergency, the mayor tells him.

Done, says the governor. *I'll release the Guard.*

Mayor (concerned): *From Camp Pendleton?*

Governor: *Yep.*

Mayor: *A quick-reaction force takes minimum eight hours to deploy.*

Governor: *Yep.*

Mayor: *That might be too long.*

Governor: *Maximize SWAT.*

The mayor nods.

He asks if there is anything else she needs.

No.

Governor: *Keep me posted.*

The governor hangs up and gets back to what he was doing.

Skid Row—downtown Los Angeles

Sirens ablaze and top lights flashing, the LAPD incident commander races from police headquarters over to San Pedro Street, a seven-block drive. As he crosses from Little Tokyo into Skid Row, this veteran officer senses something is not right.

It has been an eventful day at LAPD headquarters downtown.

Eight officers did not come to work. Two of them are fighting for their lives in an intensive care unit in a Torrance hospital; both men were involved in the same Skid Row drug raid the day before.

Reducing his speed in a crosswalk, the commander observes an uptick in craziness right in front of him. A man hurls a Big Gulp at the police car, middle finger raised. The light turns green, the commander continues on.

This veteran law enforcement officer, like many interviewed for this book, has been with LAPD for more than three decades. He will retire soon, earlier than planned. The last few years have been "terrible for morale," the officer tells us. Support for law enforcement has plummeted to a new low. Last month, someone at a Starbucks spit on him. Los Angeles mayor Karen Bass empathizes with the officers' predicament and concedes that residents' perception of police officers is inconsistent.

"First they want to defund the police, then they want help from the police [when they] are being targeted by ICE," Mayor Bass tells us.

The incident commander arrives on scene. Fire trucks and ambulances surround the Wesley Health Center, and LAFD officers are triaging victims sprawled out and unconscious on the streets. With the overdose-reversal drug naloxone having no effect, oxygenation becomes the only remaining intervention. Firefighters and paramedics switch to bag-valve masks and begin manual ventilation. Skid Row is combusting. *Why are people coughing up*

blood? A drug-addled man overturns a gurney, scattering medical supplies into the street. A euphoric crowd surges toward an ambulance, pounding on its doors. LAPD works to control the unrest. Officers are trying to get into the Wesley Health Center, but the doors to the clinic have been barricaded shut. People are hurling objects; law enforcement can't get inside.

Over the radio, the battalion chief reports a new cluster of casualties in an alleyway behind the Midnight Mission. LAPD shuts down the street.

Where the hell is the on-site toxicology investigator? the LAFD commander shouts.

An emergency message has been sent to L.A. County public health officials, requesting emergency assistance, but no public health officials are on scene. The Los Angeles County Department of Public Health is "[a] corrupt, bloated, inefficient bureaucracy," the Los Angeles–based AIDS Healthcare Foundation insists, and it is not alone in its assessment. A 2025 audit of the agency dedicated to Los Angeles public health found that hundreds of millions of dollars of Los Angeles's $875-million-a-year budget for the homeless (which has since been raised to $953 million for fiscal year 2025–2026) had been spent recklessly and without transparency. "It's now been verified by two audits that [the city] cannot produce an account for the work that they are funded to do," City Council member Monica Rodriguez told the Associated Press, "and that, to me, is an egregious breach of taxpayer trust." The Los Angeles public health system has been fractured for a long time.

Inside the Wesley Health Center, behind the blockaded doors, doctors and nurses try in vain to get control of a rapidly deteriorating situation. The security guard hurries up the back stairs and makes his way out onto the roof.

Calling 911 still gets him a repeating busy signal. He needs law enforcement help. Waving his hands from up here on the rooftop is all he can think of to do.

There are more than a dozen people dead inside.

A group of nurses has barricaded themselves in a supply room.

A crazy person set the bathroom on fire. Smoke is filling the downstairs.

What is happening in Los Angeles has no precedent.

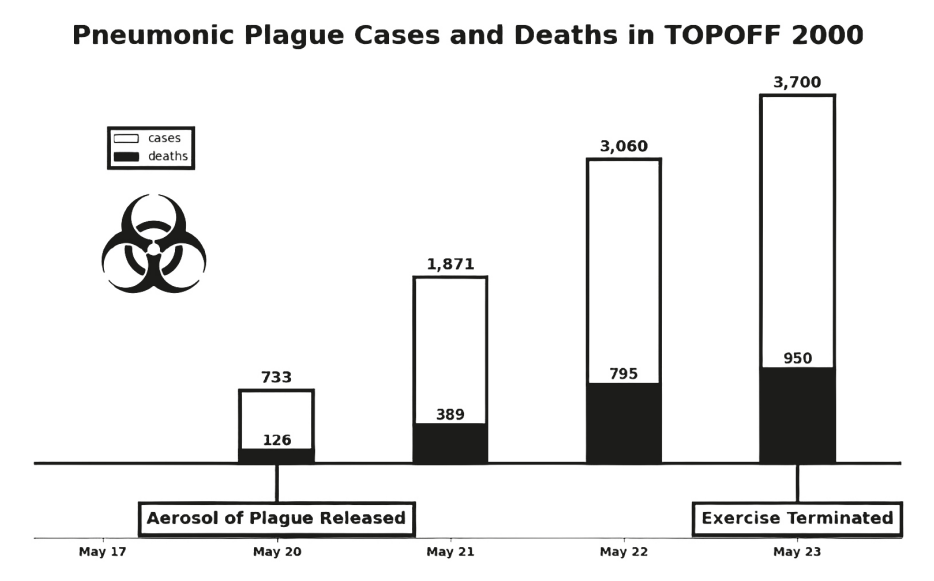
There is, however, practice.

HISTORY LESSON

TOPOFF 2000

Back in the mid- to late 1990s, Congress and the White House launched a series of domestic preparedness programs requiring the federal government to regularly sponsor full-scale biological-attack exercises so America's federal, state, and local law enforcement and first responders would be aware of how to deal with a catastrophe of this magnitude, "in advance of an actual incident." These were live-action exercises involving thousands of participants, not just tabletop discussions.

The intensifying fear in U.S. national security circles around this time was that terrorists would get ahold of a biological weapon and release it inside America. Many government simulations during this period followed this terrorist-attack narrative.



(Image by Jett Jacobsen, redrawn from a graph by the Johns Hopkins Center for Civil BioDefense Studies)

One of the first unclassified exercises was called TOPOFF 2000, a full-scale, multi-agency, multi-jurisdictional simulation (TOPOFF stands

for Top Officials). One part of the scenario involved an attack by terrorists who covertly deployed pneumonic plague inside the Denver Performing Arts Center, in downtown Denver, Colorado.

The scenario's authors based their infection rates on pneumonic plague's natural contagiousness of R_0 2.4 on average. In their Denver attack simulation, the bioweapon released had not been genetically modified by the terrorists who deployed it. Factoring in that intravenous antibiotics given quickly to victims at Denver hospitals would reduce new infection rates dramatically, after four generations, the number of new plague cases reads like this:

- Generation 1: 733 new cases
- Generation 2: 1,871 new cases
- Generation 3: 3,060 new cases
- Generation 4: 3,700 new cases—"Exercise Terminated"

The exercise abruptly ends after the fourth generation of infected. What you don't learn, unless you really dig into the details, is that the reason the exercise stops is because the Denver healthcare system essentially collapses. In the after-action summary, TOPOFF's coauthor, Dr. Thomas V. Inglesby and his colleagues, write, "Health department officials became exhausted and a feeling of hopelessness quickly overwhelmed a number of [those] participating."

The TOPOFF 2000 scenario revealed how utterly ill-prepared both state and federal governments were to deal with a biological catastrophe.

Supplies ran out.

First responders could not triage victims fast enough.

Hospitals were overrun.

There was widespread confusion about who was in charge at the federal level. Inglesby found jurisdictional overlaps between the Department of Justice (the law enforcement lead), FEMA (in charge of consequence management), Health and Human Services and CDC (in charge of co-managing public health), and the Defense Department (providing military support).

What was true in May 2000, when the TOPOFF exercise took place, is true today. It is impossible to adequately respond to a biological incident or attack with an airborne pathogen like pneumonic plague. The only difference between then and now is that advances in

biotechnology have all but guaranteed the pathogen in a biological incident will be genetically modified for great virulence and higher transmission rates and to evade cure.

Emergency Operations Center, Los Angeles County Department of Public Health—downtown Los Angeles

The director of the L.A. County Department of Public Health steps to the podium to deliver a press briefing. She is a small, middle-aged, pale-skinned woman wearing a blue dress and comfortable high heels. Behind her is a neat row of flags, a wooden desk, and a leafy houseplant. Beside her, a young man energetically interprets her words in sign language.

Public health director: *We would like to acknowledge an outbreak of what appears to be a mass drug overdose in the downtown area of Los Angeles. This is a public health emergency.*

She smiles in a manner meant to convey empathy.

At this time, we understand the situation to be related to the opioid crisis, a war being waged against our citizens, particularly against our unhoused neighbors.

She pauses. Continues.

Our officers are administering Narcan, but we do have a lot of casualties at this time, so we need everyone to help out. If you are experiencing any symptoms of chest pain, high fever, or cough, please seek immediate assistance through the County of Los Angeles or the City of Los Angeles public health system, or our community partner organizations.

A graphic of a map appears in the corner of the screen, with bus routes to various L.A. County public hospitals marked in bright red.

We have reports of violence. This is unacceptable. It is not who we are. We need to let our law enforcement officers and first responders do their jobs.

Another pause.

If you're not sick, and you live in the downtown area, please stay home.

The sign language interpreter furrows his brow.

Homeless people don't have homes.

We will keep you informed as we get further information.

She thanks the audience and steps away.

The camera shuts off.



Airspace—Dallas, Texas

In the skies over Dallas, Texas, an aircraft with 420 passengers is about to land. Flight attendants have been paying particular attention to the acutely ill patient in seat 8A, in business class.

As we know, this Texas oilman, a Dallas resident, was one of ten hunters on a big-game hunting trip in Novosibirsk, in Siberia. Like the others on that trip, he became infected with pneumonic plague three and a half days ago, after the group came upon the Vector scientist in the forest, near death. The Texan flew from Siberia to Frankfurt, where he attended a business meeting, had dinner, went disco dancing, spent the night, took a taxi to the airport, went through security, boarded this plane, and sat down in seat 8A.

Naturally occurring pneumonic plague has an incubation period of one to three days, according to the CDC. This novel variant appears to have an incubation period of around one day in most humans. The Texan's delayed incubation period is related to the fact that he was at the tail end of a ten-day doxycycline treatment for a sinus infection when he breathed in the airborne plague.

"It is hard to say if the [tail end] of an antibiotic [for another ailment] would entirely kill pneumonic plague," the former assistant secretary for health Brett Giroir tells us, or just slow it down, as it does here in this scenario. "You would have to test it on humans

first" to know for certain, Giroir says. "Not something I would want to see," but adversarial nations may do this. With a genetically modified variant of a disease, behavior is impossible to predict without data. We all know this from Covid.

The Texan's initial dose of contagion was also smaller than the other hunters', another key variable in disease transmission, as we know. The Texan is germophobic. When the group came across the scientist in the snow, he went out of his way to keep a distance. Did not offer to help carry the man, citing a bad back. But you can't outfox genetically modified plague. He avoided the sauna and the steam bath, but he got infected in the van on the way to the Novosibirsk airport. The doxycycline in his system slowed down the *Y. pestis* multiplying in his lungs, but it did not kill the germs in entirety. By the time he sat down in seat 8A, roughly twelve hours ago, the genetically modified euphoria had worn off and he had begun showing full-blown symptoms of plague.

In this last hour of the Frankfurt–Dallas flight, the attendants have been helping the Texas oilman as best they can, but emergency medical supplies on board the 747 aircraft are limited. Clearly this passenger needs hospitalization, immediately.

Everyone is in their seats.

Tray tables and seat backs up.

Everyone preparing for landing.

The flight attendant makes an announcement.

Ladies and gentlemen, we have a passenger on board who requires emergency medical attention.

This is an announcement millions of fliers have heard before.

The one where the flight attendant asks everyone to please remain seated until first responders can get the sick passenger off the plane.

The captain will leave the seat belt light on until it's safe to move around the cabin. Thank you for your cooperation.

Many of the other 419 passengers and several crew on board have begun to feel ill. Many are experiencing a tightening in the chest, a slight fever building, a hint of dizziness. Few people feel terrific after an eleven-hour flight; no one on this one tells the flight crew how they're feeling, physically, as they disembark.

At the Dallas–Fort Worth airport, an emergency medical team is pre-positioned at the gate when the flight from Frankfurt touches down. EMTs board the plane and load the semicomatose passenger onto a rolling stretcher. Using a stair truck, the man is lowered down to the tarmac and into a waiting ambulance.

The other 419 passengers deplane. It's been a long flight. Many look harried and pale. Some cough. One man, immunocompromised from a previous condition, feels so weak, he waits for everyone else to deplane before slowly making his way off the aircraft and into the bustling terminal.

Across the United States, there are multibillion-dollar systems in place for what the U.S. BioDefense industry calls biological threat surveillance and detection. None alarm here. One congressional report after the next reveals most of these elaborate sensing systems almost never work as designed.

The story of Thomas Eric Duncan highlights many of the reasons why.

HISTORY LESSON

Ebola in Texas

On September 20, 2014, a Liberian man named Thomas Eric Duncan arrived at the Dallas–Fort Worth International Airport, unaware that he was infected with Ebola hemorrhagic fever virus.

Feeling ill after his arrival in Dallas, Duncan went to the Texas Health Presbyterian Hospital emergency room, where he was misdiagnosed with a sinus infection, prescribed antibiotics (which do nothing to kill a virus), and told to take Tylenol. After four hours in the busy emergency room setting, he was discharged.

His condition worsened. Days later, Duncan was taken by ambulance back to the same Dallas hospital that had not admitted him when he first came in, a visitor from West Africa with early Ebola symptoms. By this time, he was displaying late-stage symptoms of Ebola, which include bleeding from the eyes, symptoms that are almost impossible to misdiagnose.

It is not as if the Ebola crisis was unknown to the medical establishment and ordinary American citizens alike in 2014. When Duncan arrived at the Dallas–Fort Worth International Airport, the Ebola epidemic in West Africa already had killed 3,000 people. There had been more than 100 front-page American news stories about the Ebola outbreak happening on the other side of the world. "A substantial portion of the American public [was] concerned about being infected with Ebola virus disease (EVD)" at the time, according to a prominent study on media attention.

Aware they had a nightmare situation on their hands, hospital officials in Texas contacted the CDC. The following morning, the CDC confirmed Duncan had Ebola, making him the first case of Ebola hemorrhagic fever virus to be diagnosed inside the United States. (Before him, several already-diagnosed Ebola patients had been flown into the country for treatment at specialized isolation units at Emory University Hospital in Atlanta.)

Like the infected traveler in this scenario, Thomas Eric Duncan's long journey to the United States began on a faraway continent and

included a plane change in Europe, in Brussels, Belgium. Unlike pneumonic plague, Ebola is not airborne. Ebola is spread by physical contact with an infected person, usually through body fluids like spit or blood. Early symptoms include a rash, fever, headache, and muscle pains, which progress into vomiting, diarrhea, and death; 60 to 92 percent of Ebola victims bleed to death, with blood pouring out of the eyes, ears, nose, and skin. Duncan had contracted Ebola in Liberia after he helped transport a pregnant woman with Ebola to a local hospital. When he left West Africa, he was symptom-free.

At the time of his travel, Liberia accounted for roughly 45 percent of Ebola deaths. That no government officials, in either Belgium or the United States, asked Duncan if he'd been in the Ebola Hot Zone before they granted him entry may seem implausible, in hindsight. But this is what happened.

Because Ebola is not airborne, none of the other passengers on the flights Duncan traveled on, or at the airports he visited, became infected with Ebola. But he did infect two healthcare workers at the Texas Health Presbyterian Hospital in Dallas, where he ended up in the ICU before dying a horrific death. If that is hard to fathom, what happened next seems even more outrageous.

One of the attending nurses caring for America's first diagnosed Ebola patient was a woman named Amber Joy Vinson. She had already booked and paid for airline tickets to travel to Cleveland, Ohio, when she began caring for Duncan in the hospital's ICU. Nurse Vinson was going to visit her mother and her fiancé. And to organize her upcoming wedding.

In 2014, diagnostics were such that Ebola could not be detected in the bloodstream until symptoms emerged. Because Nurse Vinson had been caring for an Ebola patient in the hospital's ICU, she consulted the CDC about her airplane travel plans, asking if she should get on her flight.

The CDC advised her to take her temperature.

When she reported she had a slight fever of 99.5 degrees Fahrenheit (37.5 degrees Celsius), a CDC official noted that its threshold for fever is 100.4 degrees Fahrenheit (38 degrees Celsius) and cleared Nurse Vinson to fly on a commercial aircraft. Upon returning from her trip to Ohio, Amber Joy Vinson tested positive for Ebola.

When the public learned about this, there was outrage. CDC director Tom Frieden tried to defend what happened by saying "she did not

vomit, she was not bleeding," and therefore it was fine to let her fly. Frieden later apologized. A second ICU nurse attending to Duncan also tested positive for Ebola.

Both Texas nurses were given first-class medical attention and recovered.

On October 8, 2014, Thomas Eric Duncan died, becoming the first person to die of Ebola hemorrhagic fever virus in the United States.

Skid Row—downtown Los Angeles

"The line between order and anarchy is thin," says Dr. Thomas Ehrhard, former special assistant to the deputy secretary of defense. It tears fast. In downtown Los Angeles, the rioting begins to swell.

Snippet images of the bodies of dead homeless people have begun making their way onto the internet, with a range of sentiments, from policy outrage to dehumanization.

#CleanUpTheStreets

#UrbanDecay

#TweakerApocalypse

In California, people have become numb to stories about homeless-camp fiascoes. From fires and explosions, to news that private firms are being paid $100 million to clear out these camps only to have the residents return, many Californians have stopped paying attention.

It is not yet lunchtime in Los Angeles. People are busy at work. With access to a several-block area of Skid Row restricted, police have managed to keep legacy news vans at bay. But the citizen journalists and internet influencers know how to outfox the system, arriving on electric scooters to film the unfolding chaos. This network of activists specializes in tracking police activity by monitoring scanners and scraping open-source feeds. And among these guerrilla-style documentarians is the very popular right-wing

internet influencer—the one from the governor's recently uploaded podcast. He makes his way directly into the chaos, livestreaming the madness on his iPhone.

Violence downtown and around Skid Row is reaching new levels in a city accustomed to riots.

The influencer is shocked to see just how many homeless people are lying unconscious or dead in the streets.

Police have barricaded a ten-block area around the Wesley Health Center. From a nearby rooftop perch, he videos officers breaching the clinic's front door with a battering ram.

Police sirens screech. Firefighters blast air horns. Ambulances can't get through. Behind the cordons, first responders triage semiconscious people on their likelihood of survival. Closing in around them, panic-stricken, plague-infected locals are becoming increasingly out of control. Triage means some victims get immediate help, others must wait, while others still are deemed beyond saving and must be left to die. To a crowd of drug-addled, mostly mentally unwell individuals, seeing unresponsive people get marked with black triage tags (for "expectant/deceased") gets interpreted as something far more sinister and dark.

They're killing us on purpose, one man shouts.

It's the managed die-off, another person cries. *Eugenics!*

Bystanders look stunned as the sheer number of bodies escalates. More corpses are being recovered from a row of tents along San Julian Street. There are some 4,000 people who call Skid Row home, and everyone is now clamoring for information, wanting to know what the hell is going on. Local street medics and outreach groups rush in to help, like neighbors in a bucket brigade after a house catches on fire.

At the intersection of Crocker and East 7th a woman collapses in the crosswalk. The influencer climbs down from the rooftop and starts filming what's happening on the street. A man shrieks in delirium, his bowels emptying involuntarily as he gasps for air.

Around the corner, behind a fish-packing plant, a group of dying men convulse, their lips darkened from cyanosis, their noses and fingertips blackish-blue. A man falls out of his wheelchair, eyes engorged, blood clinging to his mouth. The climate of acute drug addiction blurs the reality that this is an outbreak of infectious disease. Street fentanyl suppresses nociception, or how the nervous system registers harm, allowing burns, frostbite, open wounds, and advanced disease to go unnoticed by the afflicted until organ failure or respiratory collapse. Instead of looking like victims of a plague outbreak, humans at the edge of death blend right into the stimulant-affected throng.

People howl and scream and make bestial noises. Like Dante's *Inferno*, or a Hieronymus Bosch painting, the landscape on Skid Row begins to further resemble Hell as many of the infected experience the last stages of genetically modified euphoria, exacerbated by methamphetamines, fentanyl, and Tranq. On the streets and sidewalks, in the alleyways and the public parks, people convulse and fall to the ground, coughing up blood.

If only everyone knew to stay away. Instead, looters see opportunity. Mobs form. Police cordons fail. Using the swelling chaos as cover, people break windows and begin stealing anything not chained down. The shops along Winston and Wall are stormed and overrun, and the pharmacies on Maple are attacked and emptied out. Vandals overturn porta-potties. They set fires to dumpsters, mattresses, even the benches in the park.

More bodies are pulled from RVs parked along Wall Street.

Twenty-five bodies on this block alone.

As police string more yellow crime tape, the belligerent crowd starts throwing bricks.

Over the police radio: *SWAT, three blocks out.*

A one-legged man in a wheelchair pleads with a police officer.

They're killing us, man.

What's happening to us? someone else asks.

It's the New World Order plan.

Conspiracy makes sense when nothing else does.

Where is the president? a man in a USS *New Jersey* cap asks with out-of-place politeness. He is old and fought in Vietnam. Served his country, then went to school on the GI Bill. He still can't understand how he wound up here, without a home.

At the edge of a police barricade, the influencer livestreams the bedlam. He pans to a homeless man lying dead on the sidewalk, where another man pokes the body with a stick, then leans over and steals the man's shoes.

First they addicted us to drugs, the thief tells the influencer. *Now they're genociding us.*

As SWAT units roll down the street in BearCat armored trucks, the influencer runs alongside. Slow-moving and explosive-resistant, these military-grade personnel carriers carry twelve officers—some seated inside and others riding on the exterior side steps. LAPD's Special Weapons and Tactics division resembles a military force. Kitted up in ballistic helmets and plate-carrier vests, knee and elbow pads, team members carry the latest in lethal tech: Heckler & Koch 416 gas-operated assault rifles slung tight across their chests, Geissele Super Duty systems and laser lights on their head mounts. For breaching walls and doors, the team leader carries a Benelli M4 Super 90 entry shotgun. Less-lethal options include Tasers, 37mm gas launchers, beanbag shotguns, and pepper spray.

The influencer keeps filming. He stops to deliver a final, ominous message to the millions of internet users who follow him online.

Crazy shit is happening down here, the influencer says. *Everything they've been telling you is lies.*

Dallas, Texas

The near-death passenger on the flight from Frankfurt is taken to Texas Health Presbyterian Hospital in Dallas, the same hospital where Thomas Eric Duncan was misdiagnosed and later died. The hospital has since made substantial upgrades to its infectious disease preparedness protocols, including that all patients being admitted are asked to answer screening questions about recent travel. Since the airline passenger, the Texas oilman, is comatose, and he is alone, his travel documents are scrutinized.

The hospital's infection control officer tasked with examining his U.S. passport notes his recent travel history to Novosibirsk, Russia. To her watchful eye, this tiny detail raises a red flag. She checks the CDC's website for Travel Health Notices. Sees that the Novosibirsk region of Siberia has been moved from Level 3, "Reconsider Nonessential Travel," to Level 4, "Avoid All Travel." Looking further, the infection control officer notes the outbreak in Siberia involves a novel variant of what the Russian Federation is still calling "bubonic plague."

The CDC's Travel Health Notices, like its Health Alert Network Notices, "are overlooked by many healthcare professionals," Los Angeles fire commissioner Hara tells us. "They're too busy taking care of patients."

The public health official here in Texas, astute and conscientious as she is, is exceptional. She remembers what happened during the 2014 Ebola debacle and does not want to ever make that kind of mistake. She does a quick search of "plague" on the CDC website and gets all the information she needs to sound an alarm.

Texas health officials notify the CDC.

The alert triggers a series of Tier 1 public health alarms and immediate notification procedures. The CDC lists plague as a

National Notifiable Condition. If it involves "suspected intentional release," it is categorized as "extremely urgent."

A hazmat medical team descends upon the emergency room. This team, unlike the one that removed the passenger from the aircraft when it landed, is made up of first responders in biocontainment suits with powered air-purifying respirators, fluid-resistant impermeable gowns, and tape-sealed booties and gloves. They load the patient into a transportable respiratory isolation enclosure, a transparent polyvinyl tent mounted on a stretcher with its own negative-pressure exhaust system.

The team escorts the comatose patient from the emergency room to the isolation ward on the third floor.

All the while, fifteen miles to the northwest of the hospital, the Dallas Fort–Worth International Airport ranks the third-busiest airport in the world. Roughly 250,000 passengers pass through the airport each day. According to airport administrators, as many as 65 percent of inbound passengers take connecting flights. This means approximately 272 of the 419 other passengers on the flight from Frankfurt have, by now, boarded several dozen to hundreds of other flights around the country, and around the world.

We know from retired admiral Brett Giroir that an airplane, like a cruise ship, is a breeding ground for a superspreader event. So are busy hospitals. And busy airports. According to airport statistics, some 35 percent of all passengers, roughly eighty people from the Frankfurt–Dallas flight, will exit the airport and disperse into the greater Dallas–Fort Worth area, a metropolis of nearly 9 million people.

With each infected person infecting an average of eleven people they come in contact with (i.e., using R_0 11 transmission figures), hundreds to thousands of locals will begin showing symptoms of pneumonic plague, starting in about twenty-four hours. Given the potential for superspreader events in a metropolis this size, where each infected person can potentially infect some forty-four people

(i.e., R_0 44), the number of infected people will soon be in the several thousands. In a relatively short period of time, citywide contagion will be near to impossible to stop.

■

The White House—Washington, D.C.

The president is in the East Wing, screening a film in the White House Family Theater when the Secret Service abruptly interrupts. The film is a time-sensitive director's cut of an elaborately expensive documentary being made about his wife, which explains why the president of the United States is watching a movie in the middle of the day.

The special agent in charge informs the president they are moving him to the Presidential Emergency Operations Center, a secure bunker located deep underground beneath the East Wing. Total transit time, forty seconds.

When the president arrives, the secretary of defense; the chairman of the Joint Chiefs of Staff; the directors of HHS, FEMA, DHS, CDC, and CIA; and other senior advisors are on video comms.

National Security advisor: *It's here, sir.*

DHS secretary: *It landed in Dallas.*

The president closes his eyes and shakes his head. He wishes this wasn't happening.

HHS secretary: *It came in on a plane from Frankfurt.*

But it is happening.

BioDefense chief: *The passenger was in Novosibirsk, Siberia, several days ago.*

CDC director: *The situation evaded our attention.*

Everyone glares at the CDC.

BioDefense chief: *Several hundred passengers have since boarded an undetermined number of other commercial airline flights.*

President: *Jesus Christ*.

CDC director: *We are in the process of contact tracing.*

Everybody squirms, all of them thinking about the failures of Covid.

CDC director: *To be clear, we don't have diagnostics yet. This is still presumptive plague.*

BioDefense chief: *We can't wait. We have to act now.*

He advises the president to make a Stafford Act emergency declaration, the cornerstone of federal disaster law in the United States. This triggers a whole-of-government response under protocols set forth in the National Response Framework (issued by FEMA) and its Biological Incident Annex for consequence management.

President: *Do it.*

In the event of a biological incident or attack on the homeland, the civil side of the federal government, not the military, takes the lead. (If the attack can be tied to terrorists, the FBI runs a criminal investigation in parallel.) The Department of Health and Human Services, through its public health agency, the CDC, directs the medical and epidemiological response. FEMA takes charge of overall coordination, working with the military to support states' governors. The Defense Department operates under its Defense Support of Civil Authorities framework, a legal system that allows military forces to assist civilian agencies during domestic emergencies without violating the Posse Comitatus Act, which prohibits the use of the military to enforce the nation's laws. But what remains conspicuously absent from this infusion of federal intervention is the authority to restore order; the Stafford Act was designed to manage natural disasters, not wrangle angry, panicked, violent crowds.

The secretary of defense knows this. And so does the national security advisor. He reads aloud from a tablet in his hand.

NatSec advisor: *Sir, as you know, we have anti-law-enforcement disturbances going on in Chicago, Portland, Minneapolis, and—as of*

just a few hours ago—Los Angeles.

The secretary of defense presents an alternate idea.

SecDef: *We need to move NORTHCOM from WARNORD to EXORD.*

In plain English, the SecDef wants to move U.S. Northern Command from Warning Order status to Execution Order status, meaning move the military from "get ready" mode to "do it now" mode.

Do it, the president says.

The SecDef's Execution Order allows the Pentagon to deploy its Weapons of Mass Destruction Response Forces, a five-organization structure known collectively as the CBRN (Chemical, Biological, Radiological, and Nuclear) Response Enterprise.

The force involves 18,730 soldiers, airmen, and operators organized into task-specific units. Stationed across U.S. military bases around the country, the entire CBRN Response Enterprise is ready to deploy directly into a battle zone saturated with a biological weapon. It's a colossal, well-oiled machine—rehearsed and ready to go.

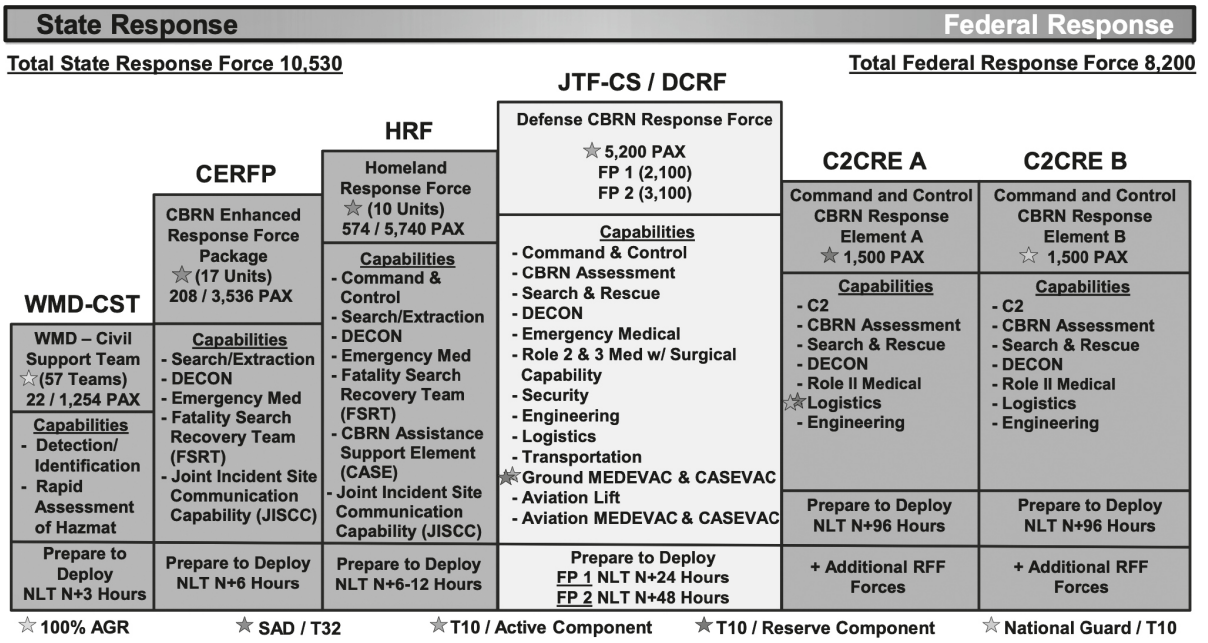
In the event of a large-scale biological incident or attack, these state and federal troops together act as one massive force, which is why they practice together, annually, in a joint exercise called Vibrant Response.

"All of the units showed continued and excellent growth throughout the exercise and are ready to respond to help protect lives and end human suffering," says Major General William J. Prendergast of the 2023 exercise he commanded.

The problem is time. In biological warfare, time is an Achilles' heel.

UNCLASSIFIED

CBRN Response Enterprise (CRE)



U.S. Weapons of Mass Destruction Response Forces are organized under the CBRN (Chemical, Biological, Radiological, and Nuclear) Response Enterprise. (U.S. Army)

For a plain-text version of this image, go to this page.

Only a small number of these Response Enterprise components can move within hours. Most of the state-level forces take half a day to mobilize, with federal units taking much longer, often one to four days before they deploy. With a fulminant disease like pneumonic plague, containment depends on how quickly help arrives, while there is still time to have an effect. With every eighteen to twenty-four hours that pass, a new generation of infection explodes. And with every new generation comes the increasing reality of widespread civil unrest.

"Biological warfare triggers a whole set of cultural and social dynamics that are dystopian," Dr. Thomas Ehrhard tells us, with an authority that is terrifying because Dr. Ehrhard designed, and gamed out, large-scale nuclear and biological war games at the Pentagon for the secretary of defense.



Federal Emergency Management Agency headquarters—
Washington, D.C.

At FEMA's Washington, D.C., headquarters, run jointly with HHS in this time of crisis, all federal resources surge at once. With Level 1 Maximum Activation in effect, every agency involved now operates at full capacity, mobilizing all personnel and assets to confront the looming threat. Across D.C., alarms sound, computers ding, and cell phones alert.

The agency chiefs and their deputies have convened in a basement bunker to discuss the Strategic National Stockpile, the government's billion-dollar classified stash of emergency medical supplies. Hidden away in a warren of secret warehouses and underground bunkers across America, the Strategic National Stockpile holds antibiotics and vaccines, nerve agent antidotes, botulism antitoxins, drugs for cesium poisoning after a radiological attack, and other medical countermeasures. (The stockpile is publicly acknowledged, but the precise details are classified.) Bundled together with basic medical supplies like surgical masks and bandages, these so-called 12-Hour Push Packages are prewrapped and preloaded onto fifty-ton pallets, ready to go. And now they are about to.

The group of officials is meeting in this basement bunker, known as a SCIF (sensitive compartmented information facility), because stockpile locations are highly classified. In the event of a biological incident or attack, were the locations of the stockpile to be made

public, federal contingency plans make clear that the Strategic National Stockpile will almost certainly be attacked by civilians and overrun. When medicine becomes scarce, fear kicks in. Competition, not cooperation, becomes dominant. Law-abiding citizens can quickly become criminals if their families' lives are at stake.

The pathogen landed in Dallas four hours ago.

The City of Dallas does not have enough antibiotics on hand for everyone who is about to become infected; no American city does. Exactly how many millions of doses of antibiotics there are in the Strategic National Stockpile is highly classified information. What portion of the stash gets dispersed to the first cities affected in a biological event is also classified.

It is safe to assume there is not enough medicine for more than 340 million Americans.

"You can't defend against everything," as former U.S. Army bacteriologist Dr. Henry Heine said.

Still, nothing is more important in this moment than getting these 12-Hour Push Packages into position. In this scenario, Dallas, Texas, is first on the list.

The U.S. Department of Health and Human Services approves the release. Inside this trillion-dollar bureaucracy, the assistant secretary for Preparedness and Response coordinates stockpile distribution. In order to get supplies to Dallas, FEMA and HHS must synchronize their efforts with U.S. Transportation Command, the Pentagon's global logistics organization capable of moving troops, equipment, and critical supplies faster than anyone operating in the civil sector.

All hands are on deck. Security and secrecy must be tightly maintained and controlled. Even the Texas governor needs to be kept in the dark as to the location where these first 12-Hour Push Packages will arrive. He'll be briefed on the details shortly before the supplies land.

But a 12-Hour Push Package takes twelve hours to deploy, hence its name.

A lot will happen in twelve hours.



Dallas, Texas

The Dallas passenger is dead.

At the Texas hospital, a Defense Department Biological Select Agent and Toxin–certified officer triple-packages a pathogen sample—collected from the man's sputum, blood, and lung tissue—places it into a biohazard container, and labels it "Category A: UN 2814," thereby completing a long checklist of CDC requirements.

On the authority of the president, the secretary of defense has bypassed FEMA's National Response Framework and requested the Defense Department assist in an "urgent specimen move." Few things are of higher priority in this moment than getting this pathogen sample to the U.S. Army Medical Research Institute of Infectious Diseases at Fort Detrick, Maryland. USAMRIID is the Defense Department's only BSL-4 lab.

U.S. Transportation Command / Air Mobility Command converts the SecDef's request into a Special Assignment Airlift Mission. Because this is a national-level biohazard transfer requiring secure custody, a series of rigorous steps unfolds.

U.S. Marshals escort the pathogen sample from the hospital's containment suite to the Naval Air Station, Joint Reserve Base, Fort Worth, located about fifty miles to the west. There, the biohazard container is loaded onto a precleared aircraft via secure military ramp. Federal Aviation Administration air traffic control applies special handling rules to this Boeing C-32A military aircraft, whose flight plan lists "dangerous cargo" on board.

The 1,200-mile journey to Joint Base Andrews in Camp Springs, Maryland, begins. It receives expedited routing, with no rerouting

over dense population centers because of the CBRN/hazardous materials on board.

In Maryland, an army medical logistics courier cleared for handling a Category A Select Agent will receive the container for ground transport to Fort Detrick. The distance from Andrews Air Force Base to Fort Detrick is seventy miles. Under police escort, total travel time is anticipated to be sixty to seventy minutes.

So, approximately three and a half hours from now, the pathogen sample will arrive at the nation's leading military laboratory for biological defense research. Like a strange and circular journey through time, the U.S. Army Medical Research Institute of Infectious Diseases is where America's biological warfare program began during World War II. Fort Detrick (originally called Camp Detrick) is where America's first biological weapons engineer, Dr. George W. Merck, conceived America's first biological warfare production facility. Dr. Merck was chairman of the War Research Service at the time, and president of the eponymous Merck & Co., one of the largest pharmaceutical companies in the world.

Once the pathogen arrives at USAMRIID, army microbiologists, bacteriologists, and geneticists will spend hours performing diagnostics and analysis and deliver their scientific results directly to the White House. The future of the nation hinges on what the scientists learn. The urgency factor is unprecedented.

The president is waiting.



U.S. Department of Health and Human Services headquarters—Washington, D.C.

It is evening in the nation's capital. The CDC director and the U.S. surgeon general meet at the headquarters of Health and Human Services, the cabinet-level department under which they both serve. The dedicated press facility here at HHS, located inside the

Humphrey Building on Independence Avenue SW, is used for briefings during national crises.

The president has decided the nation needs to be told what is going on, even if only in broad, indirect terms. The surgeon general is a uniformed officer in the U.S. Public Health Service Commissioned Corps, not a military officer, but having someone in uniform is meant to project authority and a sense that everything is under control. The CDC director, a physician in civilian clothing, opens the briefing. She speaks to the cameras and a small group of journalists.

CDC director: *There is a plague epidemic going on in Siberia, in Russia. Together with our partners at the World Health Organization, we have been watching this situation closely. It involves an atypical strain of plague, so this is concerning.*

The CDC director does not mention the words "lab leak" or "biological weapon."

CDC director: *An American citizen traveled to that region and returned earlier today to Dallas, on a flight from Frankfurt, Germany. He was likely infected with this disease, and has since died in Texas.*

She turns the podium over to the surgeon general, who assumes a stern-but-friendly approach.

Surgeon general: *This is a serious situation, folks. This form of plague, called pneumonic plague, is highly contagious. It infects the lungs. Symptoms include rapid onset of fever, delirium, and a bloody cough. It is critical that everyone pay close attention to what's going on here, so we can get this situation under control.*

The surgeon general assures the public there are currently no confirmed cases in the United States.

Surgeon general: *It is, however, an airborne contagion.*

CDC director: *So we expect there will be cases.*

Surgeon general: *Which means if you were on this flight from Frankfurt to Dallas, this is a very serious emergency situation. We*

need you to contact the CDC.

A telephone number, email address, and website for the CDC appear on-screen.

CDC director: *We will arrange to come and get you and make sure you get the right antibiotics. This is understood to be a bacterial pneumonia, not a virus.*

Surgeon general: *In the meantime, if you were on this Frankfurt-to-Dallas flight, you need to self-isolate immediately. And you need to contact everyone you have been around, because they could also be at risk of contagion, and they also need to self-isolate.*

CDC director: *I'm going to repeat myself here: anyone who thinks they might have been infected needs to contact the CDC.*

America's two leading public health officials work together to get the message across without contradicting themselves. They need to balance urgency and alarm with panic and hysteria.

Surgeon general: *If you feel you're too sick to wait, put on a N95 mask, very tightly fitted on your face, and go to a hospital.*

The CDC director tells the public they have issued an all-hospital directive to all emergency departments across the country with specific instructions on handling plague-symptomatic patients. A copy of the directive appears on-screen.

DO NOT WAIT FOR DIAGNOSTIC TEST RESULTS IF YOU SUSPECT PLAGUE
A confirmatory diagnosis can be established later using specialized laboratory tests. Never delay or withhold treatment pending the receipt of laboratory test results.

The CDC director advises America's physicians that gentamicin and fluoroquinolones are to be considered first-line antibiotic treatments for plague. To keep the front lines working, HHS and FEMA have transmitted joint emergency instructions authorizing state, local, and tribal governments to instruct all law enforcement officers, first responders, doctors, healthcare providers, and frontline

emergency personnel to begin one of two treatments, which now also appear as a graphic on-screen:

- Pre-exposure prophylaxis: Antibiotics given before exposure
- Post-exposure prophylaxis: Antibiotics given after exposure

Surgeon general: *We all have the same goal, folks. We need to keep this pathogen from spreading.*

He opens the floor for reporters' questions.

Journalist no. 1 (reading from X): *There are, like, fifty or a hundred homeless people dead in Los Angeles right now, and the internet is freaking out. Is this the bubonic plague from Russia?*

The surgeon general is caught off guard. This is the first he has heard about this.

Journalist no. 2: *And if it is, why didn't you say so?*

The CDC director is also caught off guard. This is the first she has heard about this, too.

Journalist no. 1: *And what's the difference between bubonic plague and pneumonic plague?*

Like deer in headlights, the surgeon general and the CDC director are blindsided by the questions.

Los Angeles County public health officials have been treating the outbreak on Skid Row as a mass-overdose situation, which is a non-reportable event to the CDC. They track fatal overdose data based on coroner reports, which can take months to receive and compile.

And because the CDC's BioSense program does not include any data from homeless clinics as part of its national near-real-time biosurveillance program, the CDC has entirely missed seeing the outbreak in Los Angeles as the initial incendiary spark in what is about to explode into a catastrophic biological event.

Los Angeles Emergency Operations Center—downtown Los Angeles

In downtown Los Angeles, city officials in the Emergency Operations Center are watching multiple live-action broadcasts when they're hit with a shocking revelation. The mass-casualty event on Skid Row is almost certainly not the result of synthetic street drugs but an outbreak of pneumonic plague.

Mayor (stunned): *Jesus, Mary, and Joseph. What the hell is going on?*

Deputy health commissioner (also stunned): *I don't know.*

The mayor's chief of staff is focused on the anarchy unfolding right outside the building.

Chief of staff (points): *Are you watching this?*



The Los Angeles Emergency Operations Center is located less than one mile from Skid Row. (Author photograph)

KTLA 5 News is broadcasting a livestream from its helicopter hovering directly overhead.

The downtown Emergency Operations Center is surrounded by thousands of violent protesters. Parked cars are being torched along the street. A Metro city bus is on fire. The chaos outside has metastasized way beyond Skid Row. Emergency vehicles can't get through.

Mayor: *Someone give me an update.*

The deputy director for Emergency Preparedness and Response was in the middle of a briefing on hospital status when the D.C. coverage of the HHS press conference upended the meeting. Now, he continues.

EPR deputy director: *The emergency room at L.A. General is at capacity.*

Staffer: *ReddiNet is reporting multiple crowd-surge incidents at hospital entrances with people being crushed against secured doors.*

Police chief: *LAPD is reclassifying as Tier One biohazard MCI* [mass casualty incident].

Mayor (to fire chief): *LAFD?*

Fire chief: *We're holding the line, ma'am.*

Chief of staff (interrupting): *The governor is on conference channel one.*

The room goes silent, everyone staring at the TV screens as they wait. A cameraman in the news helicopter zooms in on rioters trying to set the Emergency Operations Center on fire. Its perimeter of palm trees is ablaze.

The Los Angeles EOC is a two-story, 84,000-square-foot, $107 million fortress, seismically retrofitted and hardened against bomb blast. Like a castle from the Middle Ages, it is designed to keep the proverbial pitchfork rebellion at bay. It has twenty-four-hour on-site guards and video surveillance. Reserve sewage tanks, generator systems, perimeter fencing, and steel gates. With self-contained HVAC and communications systems, days-long backups of food,

water, power, and medical supplies, the facility is designed to self-sustain for more than thirty days without resupply, as long as it doesn't catch fire and burn down.

The governor appears on video comms.

Governor: *White House is sending a biohazard team from Los Alamitos. ETA is twenty-five.*

Mayor: *Where the hell is the National Guard?*

The governor tells the group the Guard is forty miles out. He blames the slow response on the former president's overuse of the California National Guard in 2025.

The mayor calls the governor an asshole for bringing politics into the mix at a time like this.

The governor apologizes and hangs up; his office is fielding calls from D.C. The mayor turns back to the team around the table.

Mayor: *Do we pull back PD and fire on suspicion of a biohazard, or do we wait for confirmation from this Los Alamitos CBRN team?*

The police chief, the fire chief, and the health commissioner weigh in. A staffer busts out a telephone book–sized manual and drops it on the conference room table. The protocols in the City of Los Angeles's Emergency Operations Plan: Chemical, Biological, Radiological, and Nuclear (CBRN) Hazard Specific Annex are opaque and contradictory. The staffer starts to read. Someone says *Jesus*. Someone else says *We're all screwed*.

Chief of staff (points to TV): *Are you seeing this?*

FOX 11 Los Angeles is covering the mayhem swelling outside. It's a citizen journalist whose iPhone footage they're livestreaming, visible in the bottom corner of their news broadcast. You can hear his voice, narrating what's going on.

A staffer recognizes him: It's *the right-wing lunatic from the governor's podcast!*

The footage is alarming. From Little Tokyo to the Crypto.com Arena, there are bodies on the sidewalks and in the streets. Some are covered in tarps; others lie exposed. Crowds surge. Law

enforcement officers and first responders are being hit with broken pieces of concrete. Trash cans and barricades burn. Control is fracturing. Police lines are starting to collapse.

A gang of marauders in a crosswalk smash the window of an Amazon delivery truck caught in the mob. They pull the driver from behind the wheel and knock him to the ground. A pool of blood forms around the man's head as the group pummels him with feet and fists, similar to what a mob did to truck driver Reginald Denny during the 1992 Los Angeles riots, also on live TV.

Police officers launch canisters of tear gas at the rioters. Someone in the crowd has a gun.

Shots fire.

Radio (on the screen): *Officer down!*

Influencer (on the screen): *Holy shit! Homeless people are killing cops!*

SWAT officers open fire on the mob.

There is an exchange of semiautomatic gunfire. *Rat-a-tat-tat-tat.*

An eruption of blood as bodies go down.

Influencer (on the screen): *Holy shit! Cops are killing homeless people!*

For a brief moment, there is silence around the conference table.

The mayor interrupts.

Mayor: *Pull back the force.*

She looks horrified.

Mayor: *If our first responders get sick and start dying, there will be no one left to help the sick and the dying.*

Years ago, when she was first starting out as a civil servant, she read the U.S. Army's *Biological Incident Operations: A Guide for Law Enforcement*. It's just now coming back to her. Recalling the handbook's contents gives her a sinking feeling in the pit of her stomach.

Pneumonic plague is a nightmare scenario. Once it takes hold, there is little to nothing anyone can do to stop the spread.

Centers for Disease Control and Prevention Emergency Operations Center—Atlanta, Georgia

At CDC headquarters in Atlanta, Georgia, operators in the Emergency Operations Center field thousands of calls from people claiming to have been passengers on today's Frankfurt-to-Dallas flight.

I have plague.

Come and get me.

The government is an empty shell.

These are the end-times.



The CDC Emergency Operations Center provides real-time global situational awareness during public health emergencies, but its systems neither track nor report data on America's ~800,000 homeless. (U.S. Centers for Disease Control and Prevention)

The CDC's Emergency Operations Center is considered one of the most critical public health command centers in the world. In the event of a crisis, this is the nation's central nervous system for

information. Its open-floor operations room with its wall of video screens, dashboards, maps, and satellite links provides staffers with the most up-to-date information available to the CDC. But the phones are ringing off the hook, and watch officers cannot keep up with this deluge of mostly conspiratorial calls.

If any of these calls are rooted in fact, it's impossible to discern signal from noise. There are too many calls coming in. The system is overwhelmed.



Skid Row—downtown Los Angeles

The first biohazard team to arrive on Skid Row is the 9th Weapons of Mass Destruction Civil Support Team, a unit of the National Guard.

"HAZMAT-suited men, their breathing amplified by their gas masks," is how their public affairs office describes them.

SWAT has cordoned off the area around the Wesley Health Center, the closest thing to ground zero in this mass-casualty event. BearCat armored vehicles block entrance to the street as the Guard's twenty-two team members unload into the maelstrom from inside a fleet of vehicles specialized for CBRN-focused operations. The operators look otherworldly, some of them like scuba divers on land or creatures from the black lagoon in full-face gas masks and thick rubber suits, oxygen tanks and hoses. Others, in lockstep, wear bright yellow, chemical-resistant biocontainment suits with bubble helmets and clear visors. Everyone has tape-sealed rubber gloves and tape-sealed boots, and all are wearing self-contained breathing apparatuses with pressurized air filtering inside on a loop. If a suit tears or is punctured the air flows out, not in.

They are entering into a Hot Zone environment.



A Weapons of Mass Destruction Civil Support Team member. (U.S. Army photograph by Elizabeth Phillips)

They have come from Joint Forces Training Base Los Alamitos, twenty-eight miles south of downtown, where they remain on alert status 24/7, 365 days a year. This small National Guard unit is the first of the massive, 18,000-plus-person Chemical, Biological, Radiological, and Nuclear Response Enterprise to deploy—the only unit that can respond to a biological attack in under one hour. There are a total of fifty-seven of these smaller teams, located in each state, U.S. territory, and Washington, D.C., with two each in California, Florida, and New York.

These Weapons of Mass Destruction Civil Support Teams train for chaos. They deploy into extreme-hazard environments, riddled with the dead and the traumatized, where risk of contamination is always high. But they are not here to save anyone. These are not the people you want to see in your hometown, or walking down your street. This counter-WMD task force has a targeted mission: detect, identify, and characterize the pathogen. Get in, get a sample, get out.

The White House and its BioDefense team need a specimen sample, one that must get to USAMRIID urgently. A single question needs to be answered: Is the pathogen killing people in Los Angeles the same one that killed the Dallas passenger? Only diagnostic testing can confirm this as fact. Diagnostics reveal a pathogen's genetic makeup. Diagnostics are a pathway to containment protocols and medical countermeasures that might work. Until then, the trillion-dollar National Response Framework force is guessing, at best.

The team's signal officer deploys a Talon IV robot with three live-feed cameras. The surveyor deploys a lidar (light detection and ranging) system to measure distances, for topographical mapping of the target site. The deputy commander sends up a mini–helicopter drone for surveillance. The teams come with their own mobile lab equipment, sampling kits, and handheld test strip systems for battlefield detection of pathogens like anthrax, Ebola, and plague. With these blast-resistant carry cases in hand, they head toward San Pedro Street in search of ground zero. The Wesley Health Center is a diagnostics gold mine. There's biohazardous waste inside.

This city block is empty like a ghost town, cordoned off by SWAT, access to civilians denied. Chemicals from tear gas and smoke from burning garbage linger in the air. The shops have been ransacked, their windows smashed. A few stray dogs mosey around. There's a

lone man on a graffiti-covered bus bench in conversation with a storefront mannequin. As Yeats observed after the First World War:

The falcon cannot hear the falconer;
Things fall apart; the centre cannot hold;
Mere anarchy is loosed upon the world…

At the front door of the homeless clinic, the WMD Civil Support Team members step over bodies and into the waiting room. Anyone still inside this place is dead.

They unsnap their cases and remove GPS-tagged, army-grade biological agent detectors, collection kits, air samplers, and surface swabs. The tech advisor sucks up particulate matter from the floor using a handheld field-unit vacuum.

A medical officer uses a swab to take a pathogen sample from a corpse.

Pausing for a moment, he closes the victim's eyes with his gloved hand, says a few words quietly, then moves on.

Sample in hand, the team heads back to the Unified Command Suite vehicle, parked on the street under military guard. The pathogen specimen has been collected following all chain-of-custody protocols. Using a military-grade DNA amplification system, the technical officer runs a preliminary test for *Yersinia pestis*. Estimated time: 15 to 100 minutes.

Eighteen minutes pass.

Y. pestis is present.

Presumptive plague, confirmed.

The officer uploads the data via Iridium satellite systems. It goes directly to the Pentagon. From there, to the White House. To the president.



Weapons of Mass Destruction Civil Support Team members conduct reconnaissance and biological sampling operations. (U.S. Marine Corps photograph by Sergeant Alfonso Livrieri)

Presidential Emergency Operations Center, the White House—Washington, D.C.



President George W. Bush and Vice President Dick Cheney in the President's Emergency Operations Center on September 11, 2001. (George W. Bush Library)

From inside the Presidential Emergency Operations Center, the president meets with his Principals Committee for BioDefense on comms. Everyone but the president and his national security advisor is on video.

President: *One of you tell me how this airborne plague has killed hundreds of people in Los Angeles if it only just landed in Dallas.*

HHS secretary: *We missed that, too, sir.*

President: *That's not an answer.*

BioDefense chief: *Someone must have infected an individual in a homeless camp and it spread. Maybe a doctor, or a healthcare worker. At this point we just don't know.*

NatSec advisor: *Let's be clear, it's not just a homeless camp. It's Skid Row.*

SecDef: *Skid Row in Los Angeles has more than 4,000 homeless people who are mentally ill and law enforcement averse.*

The president swears.

CDC director: *We don't have full diagnostics yet, but what is happening in Los Angeles is presumptively confirmed as airborne plague.*

SecDef: *For God's sake, it's a bioweapon that leaked from Vector. Let's be the administration that acknowledges facts as facts.*

A dig at the former administrations' handling of Covid's origins.

BioDefense chief: *Pneumonic plague doesn't just appear in Los Angeles. At least it hasn't in more than 100 years.*

President: *What about the fiasco in the Caribbean? Why has no one updated me on what's happening with the sick migrants trying to get to Puerto Rico?*

All eyes on the secretary of defense.

SecDef: *SOUTHCOM continues to interdict multiple migrant craft bound for U.S. territories and the homeland, sir. Maritime interdiction operations have escalated to a show of force.*

President: *In plain English.*

SecDef (he tries): *Navy ROEs allow for disabling fire at noncompliant vessels when verbal warnings fail.*

Rules of Engagement (ROE) are Pentagon directives that define when, where, and how the military may use force to accomplish its mission while remaining consistent with law, policy, and command intent.

The president considers all that is happening. The room waits.

An aide interrupts the secretary of defense with an urgent message. The SecDef scans the memo, then reads it aloud.

SecDef: *We have a carrier strike group in the Pacific whose readiness condition is under review. Two sailors on the USS* Roosevelt *have tested positive for pneumonic plague.*

The president swears again.

The SecDef reads the memo silently. The carrier's commander has initiated Health Protection Condition (HPCON) Delta and made a stark commander's assessment. Given the mode of transmission (airborne) and the environment on a warship (densely populated), the risk of spread is significant. From the commander's notes: "Moving to MOPP-4. USS *Roosevelt* mission readiness is under review."

SecDef (to the room): *The navy is moving to Mission Oriented Protective Posture Level 4.*

Translation: each crew member on the USS *Roosevelt* has been ordered to put on their navy-issued MCU-2P NATO-standard gas mask, hoods, gloves, and boots.

BioDefense chief: *This protective equipment will be useless for anyone who has already been infected with* Yersinia pestis*, with plague.*

SecDef (to the chairman): *Quarantine the USS* Roosevelt*.*

Chairman of the Joint Chiefs: *Copy.*

BioDefense chief (to the president): *Quarantine all of Skid Row.*

CDC director: *And probably Dallas, too.*

President: *Can we do that?*

BioDefense chief: *Yes, we can.*

HISTORY LESSON

Quarantine

Quarantine is among the most extraordinary measures the U.S. government can impose on a person or group—on American citizens who have not been convicted, or even accused, of committing a crime. Quarantine means to be forcibly confined and medically examined by order of law. In the United States, quarantine can be imposed on anyone infected by a legally quarantinable disease. As of 2026, under Executive Order 14047, legally quarantinable diseases are:

- Plague
- Smallpox
- Viral hemorrhagic fevers
- Cholera
- Diphtheria
- Yellow fever
- Infectious tuberculosis
- Severe acute respiratory syndrome (SARS)
- Flu that can cause a pandemic
- Measles

To be clear, this executive order for quarantine includes anyone the CDC or HHS thinks *might* be infected, even those *not yet showing* symptoms of infection, and not yet testing positive. Being forcibly quarantined against your will, in isolation, is a terrifying thought. Being forcibly quarantined with a group of people, some of whom almost certainly have been infected with a disease (even if you have not), conjures up images of being forced into a medieval death house. Imagine this happening to you, or to your kids.

From the Bible to the texts of Hippocrates, physicians have long encouraged the isolation of sick people to stop the spread of

pestilence. In late Roman times, lepers wore bells so healthy people knew when they were coming and could stay away.

It was during the Black Death that the word "quarantine" emerged. In the fourteenth century, after authorities figured out that foreign ships were bringing infected people into European cities, harbor officials required vessels to anchor off the coast of a port city for forty days, a period of time after which the infected become the dead. In Italian, *quaranta giorni* translates as "forty days."

In modern times, similar principles apply. Dogs coming into the U.S. from foreign countries considered high-risk for rabies must be vaccinated and quarantined for twenty-eight days. The Apollo astronauts were similarly detained and medically examined. "After we got back from the Moon we got quarantined for twenty-one days," Apollo 14 astronaut Edgar Mitchell told us before he died. "The doctors checked us for lunar microorganisms. Moon germs."

Consider the story of the story of American Ebola nurse Kaci Hickox during the Ebola epidemic of 2014. A little over one month after Thomas Eric Duncan unwittingly brought Ebola into the United States, and subsequently died of the disease, Hickox was forcibly quarantined by New Jersey officials after returning home from West Africa. Working for Doctors Without Borders, she'd been in Sierra Leone, treating patients infected with Ebola. A newly implemented New Jersey state policy required healthcare workers returning from all Ebola-affected regions to be quarantined for twenty-one days, even if they didn't test positive. Upon arrival at Newark Airport, Hickox was detained and held in a tent at University Hospital in Newark. She immediately hired a lawyer, who went to the press.

"Kaci Hickox's confinement against her will [is] unconstitutional, illegal and unjustified," said the ACLU's Edward Barocas. Hickox wrote in the *Dallas Morning News* that she'd been made to feel like a criminal and wasn't allowed to shower. That hospital staff seized nearly all her possessions and was treating them as potential biohazards. U.S. ambassador to the United Nations, Samantha Power, took Hickox's side. "We need to make sure [returning healthcare workers] are treated like conquering heroes and not in any other way," Power told NBC. Hickox defied the quarantine, left, and was then re-quarantined.

The public was divided. People were terrified of catching Ebola in 2014. At the same time, who wants to be forcibly quarantined, and forcibly medically examined? Physician and medical ethicist Steven H.

Miles offers context on the Hickox debate. "She defied the quarantine which resulted in enormous public attention and discussion of quarantine and public fear."

Eventually, the court found the New Jersey quarantine order to be reasonable under the circumstances because there are grave public health risks posed by an Ebola outbreak. The court ruled that public health officials must balance individual rights with public safety during a health crisis. The quarantine was a temporary measure taken out of precaution, the court found, and not arbitrary or overbroad. The federal claims were dismissed on grounds of immunity.

Ebola hemorrhagic fever is deadly. But it isn't airborne, unlike pneumonic plague.

Here now in this scenario, using the National Emergencies Act and his quarantine authority as per Executive Order 14047, the president authorizes a quarantine of all of Skid Row, with the ability to expand the quarantine to all of downtown, or all of Los Angeles, as he sees fit. Codes, laws, and emergency powers are in place. The attorney general transmits documents to Congress, to be published in the *Federal Register*.

To implement and enforce a quarantine on tens of thousands of people is a stunning act of federal power. And it is unchartered territory.

Internet influencer's home—Hollywood Hills, Los Angeles, California

The popular internet influencer is back in his home, high above the fray in the Hollywood Hills. Just a few years ago, he was an impoverished college dropout, a man of the people. He has since become very wealthy from his YouTube channel, but his brand remains "man of the people." To maintain an aura of class struggle, he films his videos in a shed behind his large, glass-walled house.

The influencer uploads a high-energy, fast-paced explainer video, with a small avatar-like version of himself appearing in the bottom-left corner of the screen. This is the signature style of narration he's

become famous for. This ninety-second video, accentuated with colorful graphics, including arrows and exclamation marks, is edited documentary-style, with historical footage and archival documents interspersed throughout.

People, the shit is hitting the fan, he says.

Behind him, there are video clips of the pandemonium on Skid Row and beyond.

Something very sinister is going on.

The video pans across dead bodies covered in tarps. To homeless people coughing up blood.

First there's bubonic plague in Russia, he says. *In Siberia, which is a real place.*

News footage from the outbreak in Novosibirsk plays, sound up. The influencer's media team managed to locate the same OSINT as the analyst in the CIA's Counterproliferation Division.

Now it's here.

More images of Skid Row dwellers coughing up blood.

Everybody raging against the machine.

Shots of driverless Waymos burning are intercut with SWAT officers on BearCats and a dumpster on fire. The images of the mob attacking the Amazon driver are slowed down for effect.

So, why did the government try to pretend it was a drug overdose? he asks.

A series of fast, repeating clips come next, followed by the L.A. County public health director's press conference earlier today, about a mass drug overdose, with the video and audio sped up ×3.

Public health director (on video): *A war against our citizens. A war against our citizens. A war against our citizens.*

The influencer points behind him, to more images of homeless people dying in the streets.

Except now they say it's bubonic plague. Or pneumonic plague, whatever that is.

Next comes footage of the surgeon general and the CDC director at their press conference.

Surgeon general (on video): *An airborne contagion. An airborne contagion. An airborne contagion.*

The influencer leans in.

Why the contradictory messages? he asks.

Public health director (on video): *Chest pain. Cough. Chest pain. Cough.*

More truncated clips of the public health director.

Either the government has no idea what is going on, the influencer suggests, *or it's a plot to get us all vaccinated again.*

Behind him on the screen, there is present-day footage of Russians standing in line to get vaccines, intercut with years-old images of Americans standing in line for Covid vaccines.

The influencer offers an alternative idea.

Or it's a Russian disinformation campaign. Like Operation INFEKTION. Or Operation Denver, as it was really called.

He describes a 1980s-era Soviet disinformation campaign, designed by the KGB, to make Americans think the AIDS virus was created by the U.S. Army in a Fort Detrick lab. A disinformation campaign that claimed the CIA wanted to kill off homosexuals and was willing to wage biological warfare against American citizens to achieve it. The influencer explains (correctly) how the bigger goal of the Russian influence operation, a campaign known as Active Measures, was to exploit anti-American government sentiment. To undermine public trust in the government, the American healthcare system, and its scientific institutions. To create treacherous political divides.

The influencer concludes with a warning.

If the Russians failed then, they're winning that battle now.

He pivots back to Los Angeles.

Whatever this thing is, homeless people are being put on buses against their will.

His video shows repeating images of sick people being offered water and food. Being loaded into buses, in zip ties.

Sinister. Yep. Hello?

The influencer's broadcast nears its end.

These are dark times, my friends.

He issues a warning: *If I lived in Los Angeles, which I do, I'd leave. Which I'm going to.*

The video freezes on an image of a policeman, bending over, coughing up blood.

Whatever this is, it looks contagious.

He asks, then answers, rhetorically. *Why haven't I left already?*

He pans to an image of his Amazon cart, displayed on a laptop.

I ordered a gas mask on Amazon, he says. *A half-face respirator with replaceable filter canisters or cartridges, because we all learned in Covid, those two-ply face masks don't do anything.*

He uses his laptop to show viewers the estimated Amazon arrival time.

It's here in three hours. Unless my FedEx driver gets attacked by a murderous mob.

He zooms in on an image of the gas mask.

As soon as it comes, I'm outta here.

He signs off. He has no idea that he has already been infected with pneumonic plague. No gas mask will save him. In roughly thirty-six hours, he will be dead.



Half-face respirator masks can be purchased online for under fifty dollars. Their effectiveness against genetically modified plague is unknown. (Author photograph)

Presidential Emergency Operations Center, the White House—Washington, D.C.

Inside the bunker beneath the White House, there is a heated debate among the president's closest advisors, focused on a singular issue: Could Los Angeles collapse?

With Skid Row quarantine orders approved, federal authorities scramble to figure out who does what, when, and in coordination with whom. The president must also make a preemptive decision about how to deal with widespread expansion of civil unrest.

SecDef: *The only way to handle this, Mr. President, is Defense.*

Chairman of the Joint Chiefs: *We train for this.*

Attorney general: *You have options, sir. As commander in chief.*

Chairman: *We're moving DoD assets wherever they're needed.*

FEMA chief: *We need to secure essential functions, starting right now.*

National security advisor: *We need to talk about messaging before we do anything else.*

The room goes quiet.

There is a second scourge infecting the nation; everyone in the room and on video comms knows this to be true. Violence rooted in political polarization. Tribalism. Hatred for the other party. Sectarian unrest. Consider the extreme political violence that has happened right here in the United States in the past few years.

In 2020, the FBI stopped a plot by a local militia to kidnap the governor of Michigan. In 2021, a violent mob stormed the U.S. Capitol, seeking to overturn a presidential election certification. In 2022, the husband of the Speaker of the House was attacked in their home by a crazed individual wielding a hammer. In 2024, a former president, campaigning for a second term, was shot at and nearly killed at a campaign rally in rural Pennsylvania. In the spring of 2025, the governor of Pennsylvania's home was firebombed. Two months later, a sitting state senator and his wife were gunned down in their Minnesota home; they miraculously survived. Hours after that, in the same state, a former state House Speaker and her husband were gunned down and killed in their home. In the fall of 2025, political activist and internet influencer Charlie Kirk was killed by an assassin's bullet as he spoke to an audience of mostly young college students in Utah.

CIA director: *No one trusts us. It doesn't matter who is in the White House.*

NatSec advisor: *People assume we're the worst.*

Trust in government is at an all-time low. A 2025 Pew Research poll found that just 22 percent of Americans trust the government "to do what is right," an alarming descent in respect. Two generations ago, in 1958, 78 percent of Americans believed the government did the right thing "always or most of the time." Exacerbating an already dire situation, a 2025 poll by *The New York Times* and Siena University revealed that 64 percent of Americans

believe the country is "too politically divided to solve the nation's problems." By 2026, things were even worse.

The Principals tell the president he needs to address the nation with a positive attitude and message because whatever he says will have secondary effects, at an unprecedented scale.

NatSec advisor: *We need unity at a time like this.*

White House chief of staff: *People look to their president.*

The president loses his composure. He tells his advisors they have all failed miserably at their jobs. That anything truthful he could say is too depressing and horrible to hear. He begins to rant.

The truth is that as far as we know right now, anyone infected with pneumonic plague must get antibiotics into their system within twenty-four hours of symptoms, or they're dead, but there aren't enough antibiotics to go around, so tens of millions, or maybe even 100 million, Americans are going to die. The CDC has said first-line antibiotic treatments for plague are gentamicin and fluoroquinolones, but the truth is, they already suspect these antibiotics might not work. The surgeon general says only infected people should go to the hospital, but the truth is, in about twenty-four to forty-eight hours huge numbers of American hospitals will be understaffed, overrun, and contaminated with plague. HHS says everyone not infected with plague is supposed to shelter in place, indefinitely, until hundreds of millions of antibiotics can be manufactured and distributed to people's front doors, but this is untruthful because in about twenty-four hours, the supply chain will begin to fail.

The president pauses. Waits. No one speaks.

He continues: *Is that what you want me to say?*

More silence. The SecDef speaks up.

SecDef: *Now is not the time for emotion, sir.*

BioDefense chief: *You need to shore up details around your National Emergencies Act declaration so we can effectively execute quarantines.*

The president nods. Composure restored, he makes a National Emergencies Act declaration, which gives him at least 123 emergency powers, including rapid deployment of the military and other resources.

Of these powers, "many are measured and sensible," legal scholars at the Brennan Center for Justice tell us, "but others seem like the stuff of authoritarian regimes: giving the president the power to take over domestic communications, seize Americans' bank accounts, and deploy U.S. troops to any foreign country."

But these powers exist. And now they are being deployed.

With this emergency declaration, executive power expands and dormant emergency statutes come to life. A dense machinery of constitutional, statutory, and operational authorities unlocks.

What is happening in America seems unfathomable. A Russian lab leak at a BSL-4 facility in Siberia has killed untold thousands of local people, spread to other continents, and seeded itself in the United States, all in a matter of days.

The public remains mostly unaware. Los Angeles is in chaos, but in other time zones across the country, where it is the middle of the night, many Americans are asleep.

But the influencer's video is starting to go viral. It already has 15 million views.

Soon it will be viewed by hundreds of millions of people around the world.

U.S. Army Medical Research Institute of Infectious Diseases—Fort Detrick, Maryland



The U.S. Army Medical Research Institute of Infectious Diseases at Fort Detrick in Maryland is the Defense Department's only BSL-4 lab: "We rapidly identify biological warfare threats." (U.S. Army)

The pathogen samples from the Dallas passenger arrive at Fort Detrick in an armored vehicle. Received under the strictest chain-of-custody protocols, the specimen moves through multiple negative-pressure airlocks and HEPA filter systems before entering one of the maximum-containment laboratories at USAMRIID, where special pathogens are handled.

This is the world's largest high-containment facility, with 931,000 square feet of constructed area. Nothing comes in, and nothing goes out, without strict control mechanisms in place.

Before polymerase chain reaction (PCR) rapid diagnostics were invented in the 1980s, microbiologists detected *Y. pestis* in clinical laboratory settings like this one. Before molecular biology was revolutionized by the amplification of specific DNA sequences, in order to understand a pathogen, microbiologists relied on technologies that date back hundreds of years.

Microscopy, using a microscope to see objects too small to be perceived by the naked eye, was invented around 1590 by two Dutch eyeglass makers, Hans and Zacharias Janssen, father and son. Twenty years later, and building on that science as science always does, Galileo Galilei developed his own compound microscope, known as the occhiolino, a "little eye" of lenses and light. By using more than one lens, Galileo figured out how to make tiny objects under a microscope appear even larger than before.

Decades later, in the 1670s, a fabric merchant named Antonie van Leeuwenhoek engineered an even more powerful microscope, with magnification up to 270×, thus becoming the first person to see bacteria, protozoa, sperm cells, and red blood cells. His invention was a lens into the invisible world. He was one of the first people to observe and describe bacteria that came from plaque he scraped off his own teeth.

More than two hundred and fifty years passed. When electron microscopy was developed in the 1930s, scientists were able to see the bacteria inside cells. Using tiny beams of electrons to illuminate germs, microbiologists could see formerly hidden structures like cell membranes and bacterial pili.

The pathogen samples from the dead Texas oilman are logged into the laboratory information management systems, moved into a biosafety cabinet, divided up, and placed onto glass slides. With their gloved arms in the Class III biosafety cabinets, microbiologists in biocontainment suits work quickly. The White House is waiting.

A sequence of dyes used to color bacteria is applied. Under light microscopy, *Y. pestis* appears as a rod-shaped bacillus that often

shows bipolar staining (the ends of the bacterium take up more dye than the center) producing the characteristic "safety pin" visual appearance. But it will be several more hours before these results become clear.

Across the lab, bacteriologists complete additional prep work. Plague cultures are being grown using blood agar, a gel-like substance derived from seaweed and sheep's blood. To find out more about the bacteria, microbiologists need to grow more material, which they will then use in a series of upcoming tests.

New samples get swabbed, put on agar plates, and placed inside incubators. After twenty-four to forty-eight hours, if *Y. pestis* is present, small grayish colonies will form, like mold growing.

These new colonies will be used to test the pathogen for antibiotic resistance. To see which antimicrobials might kill the bacteria, and which won't. If the strain is novel, weaponized, or unusual in any way, in time that, too, can be discerned under a microscope.

In a quest to find medical countermeasures, the cultivated plague samples will be tested on small animals. Nearby in the rodent room, an army of mice are being anesthetized to prevent them from feeling pain in the upcoming experiments. These mice will be sprayed with aerosolized plague and given antibiotics like streptomycin, doxycycline, ciprofloxacin, and an array of other pharmaceuticals to test for drug effectiveness.

"That's how we test [antibiotic] resistance," Dr. Henry Heine explains.

Some of the mice will live; others will die. Many will be killed for autopsy. In postmortem examinations, their tiny organs will be examined for necrosis, hemorrhage, and bacterial colonization.

While the petri dishes incubate, and the mice are being readied, the genetic-testing component of diagnostics moves at an accelerated pace. Microbiologists extract DNA from the specimen sample and feed it into a high-speed sequencing machine. A

complete genetic fingerprint of the organism can take twenty-four hours, but initial decoding of its genetic signature happens faster.

A genomic scientist examines the data. What she sees is terrifying. The sequencing machines reveal signatures of human design. DNA scars from laboratory tools. Sequences that don't fit into normal evolutionary mutation patterns.

This organism was engineered.

And it looks alarmingly like a twenty-first-century version of something Russian scientists worked on during a Soviet-era secret biological weapons program.

The lead scientist at USAMRIID calls the secretary of defense, who calls the president.

■

The White House—Washington, D.C.

It is the dead of night. The president is in bed, sound asleep, when he is awoken by an aide telling him he has an emergency phone call.

The secretary of defense is on the line.

The SecDef tells the president the news from USAMRIID. That the pathogen is genetically modified airborne plague.

The president sits at the edge of the bed, trying to gather his thoughts, when the Secret Service abruptly interrupts.

The special agent in charge tells the president they are moving him.

Now.

Not to a SCIF. Or the Situation Room. Not even to the Raven Rock Mountain Complex, the Pentagon's underground continuity command post, seventy miles from the White House, in the Pennsylvania forests.

They are moving him to an undisclosed location.

Alone. Far away.

The SecDef interrupts the president's reverie. The secretary of Homeland Security and the FEMA chief have now joined the call.

SecDef (urgent): *We're at DEFCON 2. Sir.*

Defense Readiness Condition Two is the military's second-highest level of alert. It means the U.S. armed forces are ready to deploy and engage in a major conflict within the next six hours.

DHS secretary (urgent): *We need to move to COGCON 1.*

Continuity of Government, Readiness Condition One is the civilian government's highest level of alert.

The national security advisor appears in the doorway, electronic tablet in hand.

NatSec advisor: *Sir, you need to move us to Devolution.*

Devolution is the secret transfer of power to backup leaders and hidden command centers. The shift to COGCON 1 reflects that Devolution protocols are underway.

Devolution ensures the government keeps running even as the nation's infrastructure collapses and hundreds of millions of American citizens die.

Devolution means a secret cadre of military personnel is now scrambling to help the U.S. Secret Service protect the president—the commander in chief—no matter the cost.

Devolution is happening now.

Part V

MARTIAL LAW

Day Six



National Capital Region—Washington, D.C.

Devolution is happening.

Across the National Capital Region, known to the rest of us as Washington, D.C., these three simple words are whispered into cell phones—in the back seats of armored cars, inside SCIFs and basement bunkers, in private offices, and in bathroom stalls. Three words that shift the future of American democracy into a landscape that is entirely unknown.

Devolution is happening.

Or, "Activate Devolution of Operations Plan," in formal terms.

The official Decision Matrix for "Event with Warning" has been met.

COGCON 1 has been declared.

Across the power center of the modern world, a tiny, secret subset of the chosen deploy. These are individuals who always have had a go bag stashed in the trunk of their car.

Long before this scenario's airborne plague began to decimate the nation, and anarchy began ripping it apart at the seams, government planners supposed it might. In an effort to prepare for a catastrophic attack involving weapons of mass destruction, those tasked with thinking about this quietly wrote up plans to keep the federal government running, if it did.

Individuals like former FEMA chief Craig Fugate.

"Can the government continue to function in a lawful manner?" Fugate tells us this is the central question the architects of the

Devolution Plan sought to answer, and that it must be answered in the affirmative. Fugate signed off on the Devolution program on the last day of the Obama administration, in January 2017 (a current baseline, from which updates are made).

"Everyone's familiar with DEFCON," says Fugate, referring to the armed forces' Defense Readiness Condition—a five-level alert system with level one indicating a worst-case scenario. "DEFCON is for the military. COGCON is for civilians," he explains. When Fugate became FEMA chief during the Obama administration, the existence of COGCON was still classified. Since publicly acknowledged, COGCON 1's operational mechanics remain tightly held. "DEFCON 1 means we're at war, like nuclear war," Fugate says. In a catastrophic event or attack, "COGCON 1 means you send your Devolution crews out, spread leadership across the country."

Continuity of government is bedrock. Survival of leadership is the highest duty. Devolution is required to keep the Republic intact, even when everything else breaks down.

"The Continuity program is built around low-probability, high-consequence events," Fugate clarifies. "Asteroids, nuclear war…a plague pandemic."

Events that threaten human survival.

Events that could bring about a near-extinction-level event.

"In the event of a [pneumonic] plague pandemic," Fugate says of this scenario, "someone has to carry out essential functions. The federal government has to continue to exist."

This mysterious and intentionally opaque government program known as the Devolution Plan has been covertly rehearsed countless times over eight decades, in every administration since the invention of the atomic bomb. In the past, variations on this classified program have gone by different names, including:

- Plan C and Plan D, led by the Net Evaluation Subcommittee, in the 1950s

- Federal Emergency Plan Other Than Plan D (OTD) and Operation Garden Plot in the 1960s and 1970s
- Rex 84 and Cable Splicer in the 1980s
- PPD/NSC-32, PPD/NSC-62, and PPD/NSC-67 in the 1990s
- Federal Continuity Directive 1 in the 2000s

Devolution involves the passing of power during a catastrophic event to a secret, preapproved set of individuals. It is a kind of parallel government to be covertly enacted if the nation's leaders, as well as a certain group of civil servants who oversee America's essential functions, are dying or might soon be dead.

Devolution is an extreme backstop in a worst-case scenario.

The Devolution Plan is activated when officials fear what is happening could result in America's downfall.

Devolution is a final federal government effort to maintain a last tenuous thread of control.



Basement SCIF, Federal Emergency Management Agency headquarters—Washington, D.C.

In the basement bunker beneath FEMA's Washington, D.C., headquarters, the FEMA director, the HHS director, and the BioDefense chief convene. Also present are a team of deputies and subject-matter experts. It is late at night. What is happening is existential-level serious.

Everyone is bracing for a "Maximum of Maximums" event, says Craig Fugate, former FEMA chief.

"Two questions being asked," says retired admiral Brett Giroir, the former assistant secretary for health, are, "what are we dealing with, and how do we allocate resources?"



Officials meet inside the Federal Emergency Management Agency's National Response Coordination Center. (U.S. Department of Homeland Security)

Everyone stares at a set of documents in front of each of them.

No one says a word.

They are looking at stochastic infection rate tables under the heading "Biological Situational Awareness, Top Secret."

With the pathogen now confirmed by USAMRIID as genetically modified airborne plague, these are the projections for infection rates that are likely to occur across the United States.

Some foresee tens of millions of deaths.

Others fear hundreds of millions of Americans will die.

Stochastic modeling is a tool used in epidemiology to simulate how an outbreak might move within a population when the transmission dynamics are still probabilistic, meaning based on probability. In CDC nomenclature, "probabilistic modeling" refers to approaches that incorporate random variables and statistical distributions, including Poisson regression models and Monte Carlo simulations, to estimate how a pathogen might spread under uncertain conditions.

It is guesswork.

Everyone around the table knows this.

No one wants to say it out loud.

No computer or human can accurately predict infection rates when a novel, or new, pathogen is involved—and certainly not if it is genetically modified by human design. There is no proxy pathogen to use as a stand-in, no reliable estimates for how such an outbreak might unfold or accelerate.

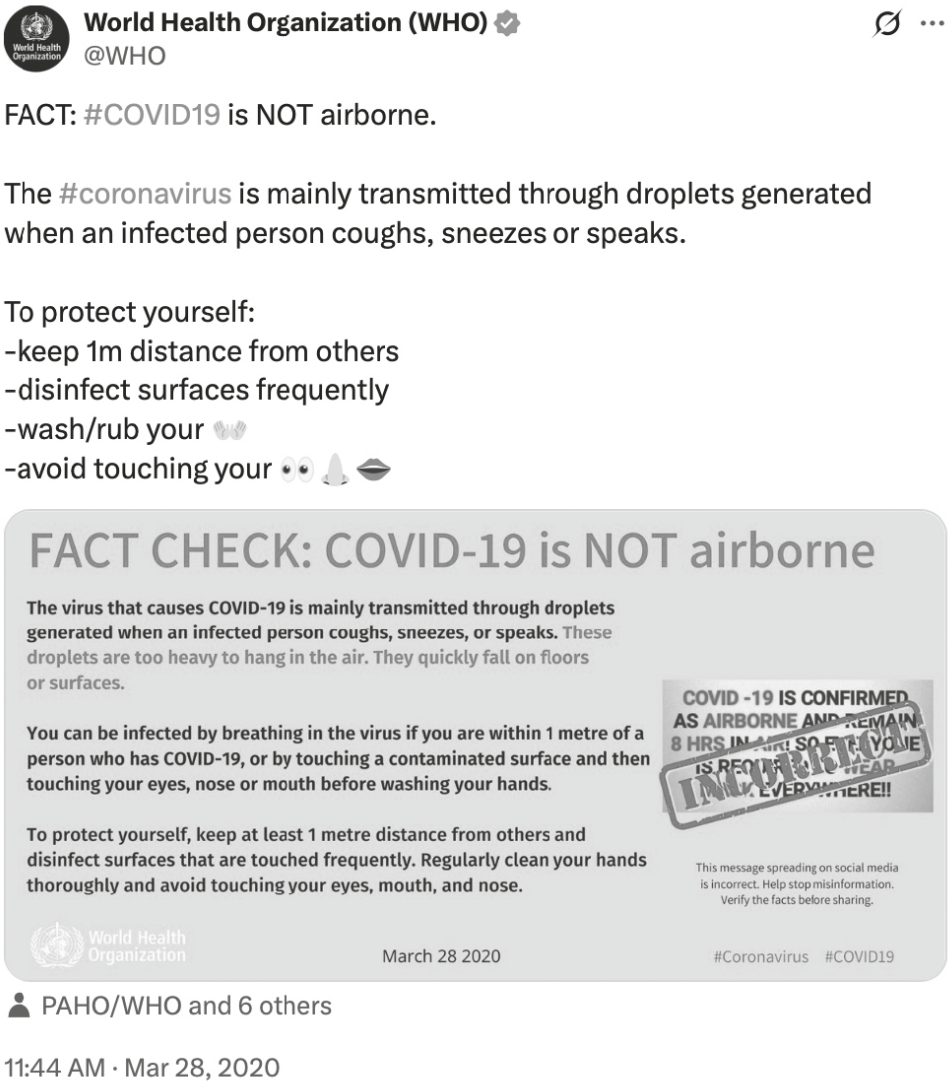
How a genetically modified pathogen infects people is impossible to predict until parameters required to model infection rates become known. These include:

- Reproduction number (R_0)
- Case fatality rate
- Antimicrobial resistance
- Immunity

During the Covid pandemic, Americans witnessed forecast accuracy collapse, with the CDC's own Covid-19 Forecast Hub proving inaccurate time and again. A 100-author study, now available at the National Library of Medicine, examined 9.7 million Covid forecasts produced by 67 federally funded forecasting teams and found that most "were not reliable…[for] a novel pathogen." In that study, individual forecast tables had success rates "below 50%"—about as accurate as a coin toss.

For months, the World Health Organization assured the public that Covid was not airborne, tweeting: "FACT: #COVID 19 is NOT airborne," in March 2020.

Covid was, in fact, airborne.



A March 28, 2020, tweet from the World Health Organization. (@WHO via X)

It took the CDC more than fifteen months, until May 2021, to formally acknowledge airborne transmission in one of its scientific briefings. By then, more than 3.3 million people had died worldwide from the coronavirus.

There were other false presumptions. The World Health Organization warned people they could contract the virus by touching contaminated surfaces (fomites), sending millions on a global hunt for disinfectants and triggering widespread supply-chain

shortages. The CDC echoed the same claim, even entering into a partnership with Lysol. In the end, surface transmission of Covid proved exceedingly rare.

Disguising guesswork as facts has far-reaching psychological consequences. Like the fable of "The Boy Who Cried Wolf," false alarms erode trust.

Here now, inside FEMA's basement SCIF, no one knows how to respond to these prediction tables. What do you say when genetically modified plague has begun to spread across the United States and you are in charge? A genetically modified pathogen with a case fatality rate of (at least) 25.8 percent—if you believe the Russians. What if, as with Covid (which had a case fatality rate of around 1 percent), it takes eleven months to develop a countermeasure? Will society collapse first?

The computer-generated infection rate tables in front of these federal officials are guesses. Were the infection variable data for the pathogen that escaped from the Vector lab in this scenario available to them, that information would read like this:

- Reproduction number (R_0) = R_0 10–12
- Case fatality rate = 100%
- Antimicrobial resistance = resistant to all antibiotics
- Immunity = 0% (no natural or acquired protection)

Using open-source computational systems that can mirror the CDC's probabilistic modeling capabilities, in less than six days just about every American not wearing biohazard gear or living in extreme isolation will become infected with pneumonic plague.

The FEMA chief and the BioDefense chief excuse themselves from the table. Each man has enough real-world experience to recognize the situation as the nightmare that it is. They step into a smaller SCIF down the hall for a private discussion.

The BioDefense chief speaks first.

Are you staying or going? he asks his colleague.

"One of them has to stay, one might have to go," Giroir tells us, the idea being one is needed to lead Devolution efforts from a classified site outside Washington, D.C.

Giroir has direct experience in outbreak scenarios. In the early days of Covid, when given the option of working remotely or staying behind in the FEMA command center (which HHS shared), Giroir opted to stay in D.C.

"You can't [both] lead the nation from a [faraway] bunker," says the retired admiral. Someone has to be the forward face.

Giroir's real-world experience is extraordinary. As the director of the Defense Sciences Office at DARPA (the Defense Advanced Research Projects Agency) from 2006 to 2008, he oversaw programs focused on biodefense innovations, including rapid diagnostics and medical countermeasures. In the first weeks of the coronavirus outbreak, when 329 of the Americans quarantined on the *Diamond Princess* cruise ship needed to be rescued from Japan, Giroir oversaw their repatriation. He sent two of America's most experienced infectious disease experts, Dr. Michael Callahan and Dr. James Lawler (not the CIA's James Lawler), to Yokohama, Japan. Wearing full biocontainment gear, they brought the Americans home, in two military aircraft, and oversaw their subsequent quarantine at U.S. military bases in Texas and California. None of these Americans died of Covid.

The Covid pandemic was not Giroir's first tangle with an outbreak of a highly infectious disease. During the 2014 Ebola crisis, after Dallas hospital nurses Amber Vinson and Nina Pham contracted Ebola hemorrhagic fever from the visiting Liberian Thomas Eric Duncan, Texas state and U.S. federal government health officials offered no medical countermeasures for the infected nurses, just hospice-type comfort, as it was presumed they would die. In a race to save Vinson's and Pham's lives, Giroir arranged to have a

colleague with a private plane and a pilot's license fly to California, collect an experimental Ebola treatment called ZMapp, and return to Texas with the medicine. "These were the only two doses of ZMapp available in the country at the time," recalls Giroir. Both nurses survived.

The endings aren't always happy. Earlier in his career, during a meningitis outbreak in Texas, Giroir, a pediatrician, treated dozens of sick children, an experience that made him painfully aware just how fast, and how mercilessly, a fulminant disease strikes.

"Some children died within twelve hours of their first symptoms," he remembers. "Others lost arms and legs from gangrene."

Time is everything when you are working in the shadow of a killer disease. The clock is always ticking.

And so is taking action. Fast.

The BioDefense chief in this scenario tells the FEMA chief he is staying put in D.C.

"I'd take the [pre-prophylactic] antibiotics and continue to lead," Giroir says.

With the criteria for Devolution met, the wisest move is for one to stay and one to go.

The FEMA chief nods.

He exits the building and heads to the helicopter that is waiting to take him to Mount Weather.

Similar to the Raven Rock Mountain Complex, the Mount Weather Emergency Operations Center includes a fortified underground federal complex. Located fifty miles west of the White House, in Virginia's Blue Ridge Mountains, Mount Weather is designed to ensure continuity of government in the event Washington, D.C., is incapacitated. In the event of Devolution, it becomes a closed, self-contained node.

From up in the air, the FEMA chief calls the White House, who informs him that the president is on the move.

President's motorcade, outside the National Capital Region—undisclosed location

The president's motorcade moves swiftly out of the National Capital Region. He is not in the Marine One helicopter by design. The idea is to disguise his departure out of D.C. In a time of intense crisis, the whole world watches the moves of the president of the United States. Everyone wants to see what the White House will do.

The president is en route to an undisclosed location that is part of the Devolution Plan. If the perception is that the president is being moved to an enormous, secure bunker like the Raven Rock Mountain Complex, or the Mount Weather Emergency Operations Center, the reality is different.

It is far more nuanced.

"We'd hide him in plain sight," former FEMA chief Craig Fugate tells us.

The president's motorcade is accompanied by vehicles not normally involved in moving the president. This is because the transfer of the president from the White House to a classified Devolution facility is so singularly important, the Defense Department is required to assist the Secret Service for support.

The armored vehicles racing out of the National Capital Region with the president also carry members of a little-known military unit called Very Important Personnel Protection Support Activity, or VIPPSA. They are here to ensure the president's safe passage; Devolution presumes the American president could be targeted for death, including from improvised explosive devices along exfil routes as he is moved.

VIPPSA support missions are rare due to their manpower intensity. Once, a three-city, five-day visit to the United States by an unnamed foreign dignitary generated a request for nearly 800 of the

Pentagon's EOD (Explosive Ordnance Disposal, or bomb) technicians in support of the Secret Service.

As the convoy moves, the president is briefed by his advisors on a secure video screen.

NatSec advisor: *Los Angeles is on the verge of collapse.*

BioDefense chief: *People in Dallas are also starting to panic.*

President: *What should we do?*

SecDef: *Invoke the Insurrection Act.*

The president agrees.

He saw this coming, from administrations before.

■

Los Angeles, California



Los Angeles burns in January 2025 as false evacuation orders intensified the chaos. (Author photograph)

It is 2:00 a.m. in Los Angeles when sleeping residents are jolted awake by a barrage of screeching, oscillating alarm sounds blaring from every smartphone not powered down.

Large swaths of the city are on fire. The influencer's video has gone viral. From Venice Beach to the Cahuenga Pass, homeless camps are being firebombed by residents taking matters into their own hands.

Emergency Alert!

Text messages from Los Angeles officials flood electronic devices county-wide.

EMERGENCY ALERT.
This is an emergency message
from the Los Angeles County Fire Department.
A mandatory EVACUATION order has been issued in your area.
LEAVE NOW.
DO NOT WAIT.

As happened during the January 2025 fires that decimated parts of Los Angeles, many of these area-based evacuation orders are false alarms. "Technical errors," the city called them, telling residents to be sure to check the city's website before evacuating with all their most valuable possessions in under a ten-minute time frame.

Visuals of plague victims dying on the streets of Skid Row flood social media feeds. On X, the image of the police officer bent over and coughing up blood, intercut with the Amazon driver being dragged from his vehicle and beaten into unconsciousness, has been viewed more than 100 million times.

It is the middle of the night in Los Angeles. Dawn on the East Coast. A storm of nationwide panic unfurls.

The internet is ablaze.

#KillerPlague

#HomelessApocalypse

#NextPandemic

From California to Arkansas, from the Dakotas to the Florida Keys, Americans on their smartphones scramble to figure out what is real and what is AI. What is information and what is disinformation. It is difficult but not impossible to discern.

The CDC's website has crashed. Its phone lines are jammed.

The federal workforce is in disarray. Employees without a need to know have no idea that Devolution is happening. Those cleared for Devolution have disabled their cell phones so no one tracks their movements. So no one learns they've been chosen to live, while millions will be left to die.

Across Instagram, top posts of celebrities dancing and sports fans cheering have been replaced by images of masked Los Angeles residents lighting the wicks on gasoline-filled glass bottles and hurling these Molotov cocktails into homeless camps. Around the world, a murderous panic sets in. In London, where it's late morning, supermarket fights over canned goods turn deadly. In Germany, a mob sets fire to the Bayer AG headquarters in Leverkusen after internet misinformation claims millions of bottles of antibiotics are stored there underground. In Ürümqi, China, hospital doors get soldered shut, plague victims sealed inside. In South Korea, military officers stationed along the DMZ send up drones to observe activity in the North. The North responds with a barrage of artillery fire.

In the "event of collapse," says Lieutenant General Kim Bong Su, vice chairman of the Joint Chiefs of Staff, Republic of Korea, "we are worried [that] starving people [in North Korea] looking for food would break into the warehouses where their biological weapons are [stored]." It's a nightmare scenario for the entire Korean peninsula, one that rivals the nuclear threat. "Biological [might be] more dangerous," perhaps because it's more likely, says the vice chairman. "If the north were to collapse [the situation] will be impossible to contain."

Around the world, chaos spreads with an eerily uniform pattern. Each new generation of infected is swept up in the same manic euphoria, with newly infected people drifting toward crowds of other people, as if all is well. Uninfected family members try desperately to reason with their loved ones, to force them to see the danger, and to flee. They, too, become infected, and the cycle repeats—faster and wider each time. All of them will eventually die of plague.

Across Los Angeles, infernos rage. A gas station in Hollywood catches fire and explodes. With the L.A. Fire Department overwhelmed, whole neighborhoods are on fire with no one to put out the flames.

People are terrified.

Extrajudicial violence soars.

There are reports of Los Angeles residents shooting homeless people in the streets.

As former Senate majority leader Tom Daschle has warned, a large-scale biological event will mean "Death physically. Death governmentally. Death in virtually every context. Biological war will be deeply nightmarish," he says. "People doing inhuman things just to survive."

This is when that begins.



Los Angeles Emergency Operations Center—downtown Los Angeles

In the Emergency Operations Center in downtown Los Angeles, the city's top officials are in a state of panic. They have been here all night. They have voted, unanimously minus one, to leave the building and conduct operations from remote locations. But the building's security team has fled, and it is unsafe to go outside.

One of the health deputies starts to cry.

We're going to die, like in 13 Hours, he says, a reference to the Hollywood movie about a real-life attack on a U.S. diplomatic compound and CIA annex in Benghazi, Libya, in 2012. During that violent insurgency, local terrorists set fire to the American facility, killing Ambassador J. Christopher Stevens and State Department officer Sean Smith, both of whom were trapped inside. Two U.S. defense contractors died trying to save people when hundreds of armed terrorists stormed the compound.

Here now, under the fluorescent glare of government lighting, the one person who vetoed the vote to leave the ops center, the public health chief's second-in-command, remains composed. He won't leave because he has a job to do. He's the person assigned to handle the city's essential workers' antibiotic distribution program, as outlined in the Biological Appendix to the Los Angeles emergency operations plans handbook.

It is a profoundly important job.

We know from the U.S. Army's handbook on biological warfare, written for law enforcement twenty years ago, that if the people best equipped to help in a biological catastrophe (i.e., first responders and law enforcement) become sick and die, there will be no professionals left to care for the sick and the dying.

For this reason, the L.A. County Department of Public Health keeps a 100,000-bottle stockpile of the antibiotic ciprofloxacin on hand, in an undisclosed location. This locked-downed stash is earmarked for 33,333 essential workers, who will be instructed to take these pills "in a timely manner [after] a bioterrorism attack." Some of the departments the city considers its essential workforce include:

- Los Angeles Police Department: 16,100 bottles
- Los Angeles Fire Department: 5,000 bottles
- Medical personnel: 2,666 bottles

- Emergency Management: 1,000 bottles
- Convention and Tourism Department: 633 bottles
- Mayor's office: 166 bottles
- Animal Services: 150 bottles
- Neighborhood Empowerment: 66 bottles
- Zoo: 21 bottles
- Cultural Affairs: 5 bottles

Each person listed on the city's predesignated list will be given two additional bottles of ciprofloxacin (the remaining 66,667 of the 100,000 bottles). Studies indicate that city workers are less likely to abandon their jobs if they believe their family members are safe. If anyone on the city's list has more than two family members, they will have to make a *Sophie's Choice*–type decision. Not everyone can be saved.

The deputy pushes the send button on his keyboard, alerting 33,333 essential workers to pick up their antibiotics at a dispensing site.

> URGENT ALERT: Los Angeles is experiencing a medical emergency. Report immediately to a designated Medical Point of Dispensing for pre-exposure prophylaxis. Do not wait for lab confirmation.

The deputy suspects that few, if any, of these sites will ever open, but he believes issuing the order is the right thing to do. The emergency plans handbook indicates it takes six hours to open a dispensing site, in ideal conditions.

To his eye, the whole program appears dangerously flawed.

Those tasked with handing out the antibiotics are volunteers, now expected to reach a dispensing site on their own, navigating fires, lawlessness, and mob rule. Dispensing antibiotics to first responders, many of whom are emerging from a Hot Zone, all but ensures each site will become a superspreader event. Fine print specifies that antibiotics are to be issued only to those *not yet*

exposed, with honor system rules in effect. Volunteers are further empowered to refuse antibiotics to anyone *suspected* of having plague, an extraordinary level of authority for an unarmed civilian potentially negotiating with an armed law enforcement officer over three bottles of pills.

In this moment, this 100,000-bottle stash of antibiotics is among the most valuable treasure troves in the world.

People will literally kill for them.

Were the location of any of these antibiotic dispersal sites to become public, they would be overrun, which seems only a matter of time.

HISTORY LESSON

Dark Winter

In the summer of 2001, a group of former cabinet-level officials and subject-matter experts gathered at Andrews Air Force Base in Maryland to run a biological war game scenario called Dark Winter.

The exercise simulated a biological weapons attack on the U.S. by the terrorist organization Al Qaeda. This was three months before 9/11. The simulation pathogen was smallpox (*variola*), one of "several biological pathogens that had been weaponized by the Soviet Union," then sold to Al Qaeda by a rogue Russian scientist working at the Vector Institute.

The goal of the Dark Winter scenario was to test the nation's ability to respond to biological warfare. To analyze the U.S. national security system and its whole-of-government response to a biological weapon let loose on American soil.

Smallpox, like pneumonic plague, is highly contagious and human-to-human transmissible. In nature, smallpox has an R_0 of 3.5–6.0, for an average transmission rate of 4.75. Left untreated, naturally occurring smallpox has a case fatality rate of 30 percent. If an infected person gets a smallpox vaccination within seventy-two hours, the case fatality rate drops to between 0 and 10 percent. In the Dark Winter scenario, there was no genetic modification to the smallpox; genetic engineering was still in its infancy in 2001.

Smallpox has a unique history among deadly diseases. In the twentieth century alone, the virus killed between 300 million and 500 million people. Then, in the late 1970s, something remarkable happened. A global campaign, spearheaded by the World Health Organization, sought to eradicate the smallpox virus from its natural reservoirs on Earth. By May 1980, the deadly pathogen was declared wiped out in humans, an achievement regarded as one of the most successful public health undertakings in modern history.

The WHO decided that two smallpox sample collections should be allowed to continue to exist, for research and vaccine development purposes only. These two samples were—and remain—locked away in

freezers inside two BSL-4 facilities: one in the United States, at the CDC, and the other in Russia, at Vector.

In the Dark Winter war game, the U.S. government imagined a scenario whereby a portion of this smallpox virus, held under guard in Vector's BSL-4 lab, gets stolen by a corrupt Russian scientist, who in turn sells it to Al Qaeda, whose stated goal is to bring about the downfall of the United States. Smallpox gets released in three American cities: Philadelphia, Atlanta, and Oklahoma City.

The airborne pathogen quickly spreads like fire in dry grass.

As the death toll rises, so does violence across the nation.

People are desperate for medical help. Angry crowds attack hospitals in Philadelphia; Arab Americans with "dark skin" are shot dead in downtown Chicago; armed conflict breaks out in Texas after the governor closes all state borders in an attempt to stop infected people from crossing into the Lone Star State. Major cities are placed under mandatory federal quarantine, New York City among them. In no time, 16,000 infected people becomes 30,000 infected, becomes 300,000, becomes 3 million.

The escalating crises revolve around two central fears: military overreach and vaccine scarcity. Because the smallpox virus had been eradicated in 1980, it was generally assumed there was no existing smallpox vaccine supply during the June 2001 government scenario.

Except, in the Dark Winter narrative, we learn that in 2001 there almost certainly was a secret government stash—12 million smallpox vaccine doses—hidden away in a classified facility for use in this kind of a catastrophic biological event. (One presumes the scenario's stash was similar in size to the real stash, given the government officials involved.)

As the scenario plays out, Americans learn the president's senior advisors have carved out 2.5 million of these smallpox vaccines (out of the 12 million) for themselves, their family members, and other individuals selected for the Continuity of Government program.

When the public learns that a group of government officials had plans to save themselves first, violence escalates further and the country begins to fracture.

There is mass looting and civil unrest. When a family, with small children in tow, defies the federal quarantine in New York City and attempts to flee, police officers, seeing that the father is armed, open fire, killing them.

Martial law is about to be declared when the Dark Winter narrative abruptly ends.

We are left to use our imaginations as to how it all ends.

But plans for martial law do exist, as we are about to learn.

President's motorcade, outside the National Capital Region—undisclosed location

Inside the president's motorcade, plans unfold. With the invocation of the Insurrection Act, the secretary of defense deploys active-duty military forces across America.

This is a stunning move.

The Insurrection Act allows the military to take actions that are otherwise prohibited by the Posse Comitatus Act, a law passed by Congress in 1878, after the Civil War, barring federal military troops from being used to enforce domestic laws. There is only one legal carve-out to Posse Comitatus. "The Insurrection Act is an exception to the Posse Comitatus Act," NORTHCOM's Major General Lawrence Stutzriem confirms.

For the first time in U.S. history, the land of the free and the home of the brave is about to become one nation under martial law. U.S. Northern Command, or NORTHCOM, leads the charge.

NORTHCOM is the combatant command responsible for America's homeland defense. It is the military command charged with protecting the United States, its land, airspace, and people from attack or major threat. Its commander, a four-star general or admiral, is also the commander of North American Aerospace Defense Command, or NORAD, a so-called dual-hat structure.

NORTHCOM is the newest of the military commands, created in the wake of the 9/11 terrorist attacks to defend the homeland. In NORTHCOM's first official press release, in April 2002, the Pentagon

noted that its establishment meant: "For the first time, commanders' areas of operations cover the entire Earth."

Acting under presidential instruction, the chairman of the Joint Chiefs of Staff activates a standing Execution Order (EXORD) that places the NORTHCOM commander in charge of the mission. The Joint Staff issues a series of Fragmentary Orders (FRAGORDs) that will continue to update the operational picture as the situation evolves.

At the center of the response is CONPLAN 3502, a classified contingency plan that directs military actions in the event of widespread civil unrest, or impending government collapse. CONPLAN 3502 details how U.S. armed forces integrate with, and when necessary replace, civil authorities in an effort to restore order and reestablish government control from within.

CONPLAN 3502 operates alongside Branch Plan 3560, the command's classified playbook for defending the homeland against a biological incident or attack. This Branch Plan directs the military to support FEMA and HHS, which are civilian agencies, in deploying medical units, containment (quarantine) assets, and logistics. FEMA and HHS have no way of getting the Strategic National Stockpile out to the states on their own.

No single effort is more important to the general population than the component of NORTHCOM's Branch Plan 3560 that moves the Strategic National Stockpile from its secret bunkers to the individual states.

There are extraordinary hurdles.

Almost nothing is known about this novel variant of pneumonic plague. Not transmission rates, not case fatality rates, not antibiotic resistance.

One fact is certain. If the *Yersinia pestis* multiplies in the human lungs for more than twenty-four hours after the first symptoms appear, without antibiotic treatment there is a 100 percent chance of death.

Military forces prepare to deploy.

The full-scale deployment of active-duty military into American cities and towns goes against the very fabric and foundation of the United States, a grievance directly expressed in the Declaration of Independence. During the American Revolution, early colonists were incensed by the British Crown's practice of "quartering large bodies of armed troops" in the colonists' private homes. The Declaration asserted that using the military to enforce domestic laws would no longer be tolerated. The reason was simple. Soldiers with guns tasked with enforcing domestic laws will invariably use them.

Invoking the Insurrection Act is an extreme measure. So is the release of genetically modified airborne plague.

The U.S. military is a colossal machine. Sometimes called a system of systems, the U.S. military is the most powerful armed force in the world. Use of military action is also the only way for the American government to survive a large-scale biological event.

When civil authority fractures, the Insurrection Act allows the armed forces to keep the Republic intact. And this includes the use of deadly force against American citizens who do not comply, or who get in the way of everything that has to happen next.



Mount Weather Emergency Operations Center—Blue Ridge Mountains, Virginia

It took roughly thirty minutes for the FEMA chief to arrive by helicopter at the Mount Weather Emergency Operations Center, the primary relocation site for top officials directly involved in Continuity of Government plans, and in Devolution.

This FEMA chief, like those before him, has rehearsed Devolution plans many times. But no amount of practice prepares a person for the real thing.



Aerial view of the Mount Weather Emergency Operations Center (aka "The Mountain"), the federal continuity-of-government complex embedded in the Blue Ridge Mountains near Bluemont, Virginia. (National Archives and Records Administration)

Hidden away in the thickly forested Blue Ridge Mountains, fifty miles west of D.C., Mount Weather, also known as the High Point Special Facility, is where key Devolution protocols unfold. Insiders call it "The Mountain."

The essential records packet is removed from a General Services Administration–approved, manual spin-lock safe. Very little is known about where exactly this safe is kept, who has access to it, and what else is inside. But we do know it is located in the underground, classified area of Mount Weather, which is called Area B. The essential records packet (previously referred to as vital records) contains copies of presidential directives, COG plans, succession plans, emergency contact rosters, maps, passwords, access codes, and more.

The people involved in Devolution plans have been preassigned to take over the federal government in a time of catastrophic emergency. They are known collectively as the Devolution Emergency Response Group.

Each person on this list has rehearsed Devolution plans; it is required of them by law. Each person knows his or her direct responsibilities and what they have been assigned to be in charge of. When the time comes, they know where they are to go.

[redacted]

MEMORANDUM FOR: [redacted]

FROM: [redacted]

SUBJECT: Appointment as an Emergency Relocation Group Member

You have been identified as critical to agency operations in an emergency situation. You are hereby appointed as an Emergency Relocation Group (ERG) member for (OFFICE NAME). ERG members are select personnel assigned to perform essential functions when such functions can no longer be supported from the (PRIMARY/OTHER) facility due to a local, regional, or national change in operating status and the need to operate from an alternate operating facility exists. ERG members deploy to their alternate location(s) to establish an operational capability and to perform essential functions within 12 hours of a continuity of operations activation. In a continuity activation, you shall deploy to (ALTERNATE LOCATION). Deployment to the alternate location may last for up to 30 days after an event or until normal operations can be resumed.

Each ERG member is selected by his/her respective department head based upon:

- The identification of predetermined essential functions that must be performed, regardless of the operational status of the (PRIMARY/OTHER) building.
- The employee's knowledge and expertise in performing these essential functions.
- The employee's ability to rapidly deploy to the alternate location in an emergency situation.
- The employee's ability to be precluded from other emergency assignments.

I understand and accept my assignment as an ERG member for (OFFICE NAME) as outlined above.

_____ _____

Signature of ERG member *Date*

A page from the unclassified Federal Continuity Directive 1, FCD-1. (U.S. Federal Emergency Management Agency)

For a plain-text version of this image, go to this page.

The individuals on this list have been briefed on how a Devolution scenario might unfold. They have prepared for it. Each of them has signed a document accepting their delegated authorities and executive responsibilities.

It is time to move. Across the nation, each member of the group has twelve hours to get to their location.



U.S. Northern Command headquarters—Colorado Springs, Colorado

At U.S. Northern Command, in Colorado Springs, Colorado, the alert level has been raised to Force Protection Condition Delta, the highest possible state of military readiness. FPCON Delta means a major threat is imminent, or is already underway.

In this extraordinary moment, three programs, and three mission priorities, come sharply into focus:

- Continuity of Government (COG): Keep the government functioning
- Defense Critical Infrastructure Program (DCIP): Protect the spine
- Strategic National Stockpile (SNS): Move the medicine

The Continuity of Government program is the lifeline of the Constitution. Its mission is to ensure there is an acting president and that Congress and the courts can continue to function, no matter what. The NORTHCOM commander orders U.S. Army North to secure all Continuity of Government sites. This includes military bunkers, relocation hubs, and secret and sensitive command facilities across America. All Continuity of Government facilities must be secured and protected so no unauthorized persons get in.

The Defense Critical Infrastructure Program is designed to protect the nation's backbone, its key resource facilities that are central to public works. For society to function, people need clean water, food, medicine, and electricity. Under the critical infrastructure program, the NORTHCOM commander orders U.S. Army North to secure Los

Angeles's fuel depots and refineries, its water reclamation plants, and its hubs for fiber-optic lines. Soldiers can seize and hold L.A. highways, ports, and airports as necessary. Transportation gateways must be secured; emergency supplies need to move. The same goes for critical infrastructure facilities across Dallas. And then in the next American city or town where plague emerges. And the next location after that.

The Strategic National Stockpile is designed to act as America's lifeline, its critical link to lifesaving medical supplies. A large city's connection to the stockpile may save millions of lives. In the beginning of a bacterial outbreak, few things are as important as getting antibiotics into the public health system before panic outruns governance. HHS and FEMA can't do this on their own. They need U.S. Army North and U.S. Transportation Command to facilitate.

The breakdown of public order—rioting, setting fires, defying laws—threatens the secure delivery of medical countermeasures to the states. The stockpile must be transported and distributed, including into contaminated environments. The NORTHCOM commander will deploy forces from the Chemical, Biological, Radiological, and Nuclear (CBRN) Response Enterprise to adapt to rapidly changing mission needs. Biological defense forces wear protective gear and are trained to operate in a Hot Zone.

Across the command, the atmosphere is focused and martial. Every soldier, sailor, airman, marine, reservist, civilian employee, and defense contractor is focused on three goals: preserve U.S. leadership, protect U.S. infrastructure, and deliver medicine to civilians.

The survival of the nation depends on what happens next.

Not since World War II will the American military be so welcomed by civilians. In the opening salvo of a biological war, including by accidental release, speed is survival. Every hour of delay widens the

radius of contagion. But the Pentagon's biological defense forces are bound by the reality of time.

As we know, the majority of CBRN forces require forty-eight to ninety-six hours (two to four days) to prepare before they can deploy.

"We prepare for lots of contingencies," says Lieutenant General Charles Moore, the former deputy commander of U.S. Cyber Command, and someone who ran Pentagon war games at NORAD before that. "We don't consider the U.S. a likely war zone," he tells us. "We have oceans and friends to the north and south." But in the event of a biological attack or incident, time is the critical vulnerability. "To get up and go in a biological event…to get your meds, get in your chem-bio gear, this takes time."

We know from infection tables that in forty-eight to ninety-six hours, most major cities will be buried under cascading plague deaths.

For this reason, and as a matter of readiness doctrine, the Defense Department keeps its own stockpile of medical countermeasures, separate from the one earmarked for civilians. On commanders' orders, across the armed forces, antibiotics are issued and ingested.

It is time to put on the biohazard gear.

In the presence of a known or suspected biological weapon, military forces wear Pentagon-issued M50 or M51 gas masks. Large, black, with two filter canisters on each side.



The U.S. Department of Defense has fielded more than 1.7 million military-grade protective masks. (U.S. Marine Corps photograph by Lance Corporal Tucker Mocan)

The Defense Department has fielded more than 1.7 million of them.

With their full-face respirators tightened and breathing apparatus sealed, heavily armed soldiers in gas masks begin to fan out across the United States.

Cyberspace—Los Angeles, California

In Los Angeles, what begins as a series of Facebook posts among city workers goes wide.

My husband is a police officer and he's been told to take antibiotics to prevent getting plague.

I work for LAFD and no one told me anything.

Why are some people getting free drugs and others not?

The messages are screenshotted and reposted across multiple online platforms.

My partner is an ambulance driver.

I didn't get the message. Where am I supposed to go?

I think I was exposed.

Friends in the Facebook group chat plead for an address of an antibiotic dispersal site that is up and running.

I'm 20 years on the force. My wife's pregnant. Please help out.

After a few minutes, in our scenario, a response.

The primary Medical Point of Dispensing for antibiotics for law enforcement and first responders is the University of Southern California, parking lot B.

Los Angeles, California

With 33,333 Los Angeles law enforcement officers and first responders racing to medical dispensing centers to get antibiotics into their systems before they are condemned to die, few are left to enforce the law, to render aid, or to carry out quarantine orders.

There are now more than 1,000 bodies lying on the streets around Skid Row. With the Santa Ana winds still blowing, many of the body sheets and tarps have flown away, leaving corpses to be pecked at by crows and gnawed on by rats. In this moment of

catastrophe, the absurd disconnect between bureaucracy and crisis becomes obvious.

CDC protocol says each corpse involved in a biological event needs to be decontaminated and identified by the medical examiner's office in conjunction with the State of California—rules that can't possibly be followed in a large-scale biological event. The L.A. County coroner's office is contaminated and closed. All coroner's office employees have been told to go to USC parking lot B for treatment for pneumonic plague.

The city's Emergency Mortuary Surge Management protocols have been activated. Cold trucks and mobile coroner facilities are on their way into the city, many from the Inland Empire (L.A.'s eastern flank), but few, if any, will arrive. Most drivers will be turned around, owing to freeway accidents and fire detours. Others have chosen to abandon their jobs and flee.

It's still dark outside. Alerted by city messages, hundreds of thousands of residents have begun a panic-driven exodus. People drive on sidewalks, across city parks, over other people's lawns. They use exit ramps as on-ramps, speed the wrong way down the freeways, weave into breakdown lanes.

Vehicles crash and pile up.

Trucks jackknife and hit freeway barrier walls.

At the Burbank airport, two private Gulfstreams, each one racing to get out of the city before all hell breaks loose, ignore air traffic controllers' warnings and collide in midair.

The police department is compromised and can barely respond. More than half its downtown workforce is incapacitated. All Los Angeles hospitals are at risk. Armed gangs have begun holding up doctors and nurses at gunpoint, forcing them to unlock drug drawers. Residents raid drugstores. There are reports of security guards being shot on sight. Across the city, private hospitals are no longer accepting new patients. Ronald Reagan in Westwood,

Cedars-Sinai near Beverly Hills, Saint John's in Santa Monica have all shuttered their doors.

Inside the multistory parking structure at the USC medical center, LAFD is helping to convert the garage into a high-volume antibiotic-dispersing site. A posse of fearless health workers sets up rows of IV antibiotic stations and administer post-exposure prophylaxis to first responders coming in from the Hot Zone downtown.

As city trucks arrive carrying pallets of ciprofloxacin in pill form, so do thousands of people who learned from Facebook that USC parking lot B is a primary antibiotic-dispensing site.

Antibiotics are worth more than gold.

The people arriving have firearms. So do the law enforcement officers awaiting antibiotic treatment.

A large-scale armed standoff ensues. No one is willing to give in.

USC's parking lot B erupts in gunfire.

This medical point of dispensing was certain to become a superspreader event. Now it is also a battle zone.

■

Thirty miles to the north, where Interstate 5 meets California State 14, the first military unit trained in fighting biological warfare (as opposed to specimen recovery) approaches the city from the north. This 200-person unit, officially called a Chemical, Biological, Radiological, and Nuclear Enhanced Response Force Package (CERFP), is uniquely trained to rescue, stabilize, and treat survivors of a biological incident or attack. They can cut people out of rubble, triage victims, run mass-decontamination stations, and assist in handling human remains.

But rounding the bend, the convoy slows to a full stop.

The road is blocked by a multi-car accident from people driving on the wrong side of the road. Vehicles are on fire. People are dead. Rule of law has collapsed.

Los Angeles is past the point of no return.

In biological warfare scenarios run by the Pentagon, "When it starts to collapse," says retired colonel Julian Chesnutt, "the wargame ENDEX is called."

ENDEX, as in End of Exercise.

In real life, there is no end of exercise. Just people doing inhuman things to survive.

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Skies over California



U.S. Air Force F-16 Fighting Falcons. (U.S. Air Force photograph by Gerald Willis)

Two hundred and seventy miles northeast of Los Angeles, at Nellis Air Force Base in Nevada, F-16 fighter jets deploy and head southwest. The mission is to defend the homeland. They train for this. Defense is what they do.

At a current cost of around $70 million per aircraft, an F-16 fighter jet is a flying death threat, carrying thousands of pounds of

explosives and moving at 1,500 miles per hour, twice the speed of sound. It is an extremely agile aircraft, with lightning-fast reaction times and roll rate (the speed at which it can rotate from wing to wing). F-16 pilots can fight while maneuvering. They train to sustain 9+ Gs. But all the hardware in the world can't stop an invisible weapon from killing people on the ground. There are no targets for the pilots to lock in on. No incoming enemy fighter jets to intercept or shoot down.

The sky is calm.

The pilots fly in circles over the burning city and return to base.

Down on the ground, one of the tiniest living organisms on the planet has begun taking over.



Dallas, Texas

In Dallas, the Texas governor attempts to assert control. Hours ago, he ordered anyone potentially exposed to plague to report to the Texas Health Presbyterian Hospital for post-exposure antibiotic treatment.

Possible exposure sites include the airplane from the Frankfurt–Dallas flight, the entire international arrivals terminal at the Dallas–Fort Worth airport, and the hospital's own emergency room. The order backfires.

Texas Health Presbyterian Hospital is being flooded with people—potential plague victims, and the worried well alike.

Overwhelmed, the facility shuts its doors.

Dallas, like the rest of the country, has its eyes glued to the anarchy unfolding in Los Angeles. Many residents have pieced together that their city will be the next to fall. Others are not yet aware.

It has been seventeen hours since the Frankfurt–Dallas flight landed with the plague-infected passenger in seat 8A. Most of the

people who have since become infected are still experiencing genetically modified euphoria. It will be another several hours before the horrific symptoms of pneumonic plague in the newly infected become impossible to ignore.

Meanwhile, thousands of people who fear they have been infected rush to the hospital for treatment. But without rapid tests, or any means to diagnose the patients flooding in, Dallas doctors will have no idea who is infected and who is not—or at least not *yet*.

Two units from the Texas National Guard's biological warfare defense forces arrive in a convoy of armored trucks.

Outfitted in full biohazard gear and heavily armed, they ring the hospital and stand guard.

Which is why the governor is now holding an emergency press conference. It interrupts programming on every TV news channel, local, national, and beyond.

Governor: *We ask for everyone's patience and understanding in this time of crisis.*

He summarizes what is going on.

The hospital cafeteria has been converted into an IV antibiotic treatment center. All doctors and nurses who have not already reported there are to do so at once. The idea, the governor clarifies, is to get these essential workers on antibiotics, then back onto the front lines so they can help other victims get help. Hospital staff and other first responders who might have been exposed to the plague victim from yesterday's Frankfurt–Dallas flight are to wait in line on the hospital's middle floors. The people from the airport—there are several hundred of them—are being asked to wait on the hospital's upper floors.

Governor: *Lifesaving antibiotics from the Strategic National Stockpile have arrived. They are being unloaded into the pipeline. Please sit tight. Antibiotics are required treatment if you have been exposed to plague.*

Across Dallas and beyond, millions of people are watching this live press conference, riveted. The governor gave the good news first. Now comes the horror-show news.

Governor: *I have placed Texas Health Presbyterian Hospital under quarantine. This includes all patients and all staff. Everyone inside must stay inside until they are cleared to leave. Our friends with the National Guard will enforce this necessary health measure—and I repeat it is necessary—so let's make sure we all work together without incident. I know no one, Texans in particular, likes to be told they can't leave. But you can't leave. This is the only way to contain the spread.*

The governor thanks everyone and leaves the podium.

There are nearly 2,000 people already inside this hospital, including staff. Learning they are now being held against their will, the revolt begins.

Crowds rush doors and smash windows. They tie bedsheets together to use as ropes with which to escape from upper floors. Exits that have been locked and blocked by security personnel following the governor's quarantine orders are now attacked by occupants wielding makeshift battering rams.

Outside, near the hospital's front doors, word spreads among those waiting in line. Thousands of people do a sudden about-face and rush to their cars. News crews lower their cameras and flee, filming the frantic exodus from upside down. No one wants to be locked inside a hospital and left to die of plague.

No one wants to be part of any of this.



Across the USA

Two lines from the Texas governor's press conference set off a domino effect. Two lines that will have far greater consequences than anyone could have imagined.

Lifesaving antibiotics from the Strategic National Stockpile have arrived. They are being unloaded into the pipeline.

The clip goes viral.

So does the use of ChatGPT. Everyone asking a series of questions that leads to the same deadly thing.

If I get pneumonic plague, am I going to die?

> If I get pneumonic plague and I don't take antibiotics, am I going to die?

> Yes—without antibiotics, pneumonic plague is almost always fatal.

Everyone wanting to know what antibiotics work best.

> What antibiotic treatment?

> Effective antibiotics include streptomycin, gentamicin, doxycycline, or ciprofloxacin.

Everyone wanting to know where to get these antibiotics, and fast.

> Is there any way to get streptomycin, gentamicin, doxycycline, or ciprofloxacin on the black market?

> I can't help with that.

Which leads to the question:

Where is the Strategic National Stockpile located?

I can’t help with that. That information is classified.

At this point, many ChatGPT users give up.

Many others do not. Research indicates that roughly half of American adults—more that 130 million people—use ChatGPT and other LLMs (large language models), untold numbers of whom know how to get around search constraints.

Users begin asking ChatGPT a different set of questions, with the goal of getting the AI system to help them learn where the closest Strategic National Stockpile depot is located, nearest to their city or town.

The location of each depot is highly classified. Part of a Special Access Program, or “a ‘SAP’ program,” as former FEMA chief Craig Fugate tells us.

But as in real life, ChatGPT can sometimes locate a classified address in seconds, as it did in a 2025 test for this scenario. Because an employee in Paramount, California, had previously listed a primary location of the Los Angeles Strategic National Stockpile on page 45 of an operational plan for earthquakes, with the right set of prompts, the LLM found the address for this location after “thinking” for forty-seven seconds. After searching for patterns across trillions of words.

“This can happen,” Sam Altman, one of ChatGPT’s creators, tells us of this specific component of our scenario. (OpenAI has since removed the information.)

Here now, LLMs begin to deliver the locations of stockpile depots to hundreds of thousands of people across the United States.

Every Strategic National Stockpile depot in the country is about to be overrun by desperate citizens, a majority of whom are armed.

America is a nation of gun owners.

A 2024 Gallup poll found that roughly 44 percent of Americans live in a household with a firearm. Ammo.com reports that Americans own some 500 million guns.

In a mad rush for lifesaving antibiotics, it is every man for himself.

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National Military Command Center, Pentagon—Arlington, Virginia

In the bunker beneath the Pentagon, military officers track the situation at home and around the world.

America is unraveling. So is the rest of the world.

Hundreds of sailors on the USS *Roosevelt* are displaying acute symptoms of pneumonic plague. Eighty-five are dead. More than 600 have tested positive for plague. The sick bay has run out of rapid diagnostic tests. The ship is on its way to Guam, 2,500 miles away, but even traveling at twenty to twenty-five knots, it will take five days to get there, at which point more than half the crew will be dying or dead. Like a death ship of the Middle Ages, so many of the sailors on the USS *Roosevelt* will never set foot on land again.

In the Caribbean, the exodus has expanded, with thousands of small boats trying to get to the U.S., to what is perceived as a place to get help. Swarms of migrant craft are also now leaving the northern shore of South America, headed for Puerto Rico and Florida. U.S. Southern Command has shifted its Rules of Engagement from firing warning shots to the use of deadly force.

In the Port of Hong Kong, the *Diamond Princess* cruise ship has been surrounded by armed forces from the People's Liberation Army, the military arm of the Chinese Communist Party. No one is allowed to leave. There's a retired U.S. four-star general and his wife on board. They've locked themselves in their room. Texted

contacts that neither of them are sick and to please send help. But the army is overwhelmed, and the chances that the pair will be rescued are little to none.

The mighty American military is on its heels. Here inside the National Military Command Center beneath the Pentagon, alarms blare and red lights flash. Uniformed officers move about in taut, synchronized urgency.

"The NMCC is the repository of all [military] data and all information around the globe," says Lieutenant General Charles Moore, who ran J-3 operations here in the Pentagon's bunker before he became the deputy commander of U.S. Cyber Command.

"It is a conduit for issuing orders," he clarifies, "and that includes functions that are related to strategic weapons."

"Strategic weapons" is the phrase used by the military to describe the U.S. nuclear weapons arsenal.

With multiple crises unfolding in all eleven U.S. Combatant Commands around the world, nothing is as singularly important as the status of the nuclear arsenal. Instability is spreading. Pressure is mounting on multiple fronts. This makes America particularly vulnerable to enemy attack.

The only thing that stands between an adversary taking advantage of the crises and launching an attack against the U.S. homeland are America's 1,770 nuclear weapons on ready-for-launch status.

The secretary of defense gets the president on comms.

He requests permission to raise the Defense Readiness Condition to maximum military readiness, DEFCON 1. To signal to enemies and adversaries around the world that if anyone makes an aggressive move against the U.S., the president is prepared to instruct the U.S. military to use nuclear weapons in response.

The president authorizes the move to DEFCON 1. The country has never been at this level before.

The secretary of defense and the president are discussing repositioning the nuclear submarine forces when the national security advisor interrupts with an urgent call for the president.

There is news from the U.S. Army Medical Research Institute of Infectious Diseases at Fort Detrick.

The lead scientist at USAMRIID needs to speak to the president alone, on a classified line.

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U.S. Army Medical Research Institute of Infectious Diseases—Fort Detrick, Maryland



A microbiologist inside a Biosafety Level 4 (BSL-4) laboratory, seated at a negatively pressurized flow hood and wearing an airtight containment suit. (U.S. Centers for Disease Control and Prevention)

At the U.S. Army Medical Research Institute of Infectious Diseases, microbiologists and bacterial physiologists have been staring at the mice. Something is very, very wrong.

It's not the dead mice that terrify.

It's what is happening with the mice that are still alive. They present like a nightmare with legs.

Of the dozens of mice sprayed with aerosolized plague, those in the control group are all dead. As expected. None of these mice received any antibiotic treatment. As we know, pneumonic plague left untreated has a case fatality rate of 100 percent.

The other infected mice have been divided into subgroups. Into categories based on specific antibiotics certain mice were given. This includes tetracycline, doxycycline, gentamicin, ciprofloxacin, fluoroquinolones, as well as an array of new and experimental antimicrobials that USAMRIID scientists think might be valuable in treating this genetically modified form of plague.

What the scientists are seeing makes no sense.

All the living mice display unusual, similar symptoms. Tremors. Seizures. Hypothermia. Many of the mice are walking in circles.

"Circling behavior," in scientific terms.

These are neurological symptoms. Which does not make scientific sense. Not at first. Plague targets the lymph nodes, the bloodstream, and the lungs. Not the nervous system.

Not the brain.

Yersinia pestis does not efficiently cross the blood-brain barrier (except in rare cases associated with severe septicemic plague). What the scientists are seeing is the work of neurotropic viruses, like rabies.

Those unschooled in Soviet biological warfare might not understand what is happening here. But at USAMRIID, those assigned to this operation now recognize the behavior displayed in the mice.

Revelation dawns.

They know the nightmare it reveals.

They are looking at a twenty-first-century version of the Soviet Chimera Program.

"Chimera pathogens are real, and they are diabolical," retired admiral Brett Giroir tells us.

The reality of what is going on is almost too horrific to imagine, let alone to confront.

HISTORY LESSON

The Soviet Chimera Program



In the ancient world, a chimera was a mythological creature formed from two or more animals fused into one. (Created by Jett Jacobsen with an OpenAI image-generation model)

In the 1970s and 1980s, Soviet Biopreparat scientists attempted to make a chimera weapon by mixing two or more organisms together, to become one.

A demon germ.

"A chimera is an imaginary monster," Ken Alibek, the former deputy head of Biopreparat, says of this mythical beast, and of the Soviet program. "[A]n imaginary monster with the head of a lion, the body of a goat, and a serpent's tail," he explains. "[Soviet] biologists use the [same] word to describe an organism composed of tissues of diverse genetic material."

In one notable case on record, Sergey Netesov, a biological weapons engineer assigned to Vector, worked on a Soviet-era program to make a chimera weapon of particularly nefarious design. His goal was to genetically modify plague to express proteins from Venezuelan equine encephalitis virus, or VEE.

Venezuelan equine encephalitis is a deadly neurotropic virus that targets the central nervous system with terrifying speed. It attacks the brain, causing paralysis and death.

The idea behind the plague-VEE hybrid that Netesov and others worked on in Soviet bioweapons labs was to create a bacterial carrier that would infect the human body with plague and then, when triggered, would dispatch a lethal viral payload of Venezuelan equine encephalitis to the infected person. This would be done by splicing genes from a virus that causes encephalitis into the genome of *Yersinia pestis*, the bacteria that causes plague.

A particularly nefarious bioweapon to use against America and her allies.

"A double agent," is how Ken Alibek described this plague-encephalitis chimera weapon, "a superweapon capable of triggering both diseases at once."

The Soviet chimera weapon became known in the West as a booby-trap bioweapon. A weapon deliberately concealed inside another weapon. A weapon designed to kill an unsuspecting person, who triggers their own death, with their own hand.

The idea behind this chimera superweapon was to prey on Americans' trust in modern medicine. After a person becomes infected with plague, they take antibiotics as soon as possible, under the assumption they will be cured. Instead, the antibiotics—be it tetracycline, doxycycline, gentamicin, ciprofloxacin, or fluoroquinolones—trigger the chimera weapon's booby-trap mechanism.

Instead of curing the infection, the equine encephalitis gene covertly spliced into the *Y. pestis* gene would now be expressed in response to the antibiotics. Once activated, the brain rapidly swells and acute

neurological symptoms follow: tremors, seizures, circling behavior, death. The antibiotic treatment turns a plague infection that can be survived, with immediate antibiotic treatment, into a death sentence accompanied by the complete destruction of trust in medicine.

"As a weapon, the thing would be absolutely untreatable," Sergei Popov said of the intended design.

The point of this demon germ, the Soviet bioweapon engineers told the American intelligence officers who debriefed them, was exactly this.

To weaponize trust. To make Americans lose faith in their own government.

To sow existential chaos and cause widespread insurrection.

To send America back into the dark ages of governance, and of medicine.

And now, in this scenario, they have.

President's motorcade, outside the National Capital Region—undisclosed location

The president learns two things at once. He learns about the sheer horror of the Soviet Chimera Program, and he learns about the mice at USAMRIID circling in their cages before dying from swollen brains.

His national security advisor, wearing his dual hat as national continuity coordinator, sends the mice footage videos to the president's iPhone. Secret comms be damned.

What a nightmare. To think: Human beings, scientists no less, came up with this superweapon by design. That this scenario builds on science fact, not science fiction.

In Los Angeles, large portions of the city are on fire. Residents are killing each other in the streets. In Dallas, the Texas National Guard is shooting armed and unarmed civilians for defying quarantine orders. Across the country, personnel at scores of Strategic National Stockpile facilities are being shot dead, the

classified depots they were meant to be guarding now being overrun and emptied out. On the internet, clips of the mayhem are fueling the fires of insurrection, adding gale force–like wind.

A bitter and terrible irony unfolds: the very medicine Americans are killing other Americans for will not only not save them, it will kill them in an equally horrific way. Encephalitis causes the brain to swell against the inside of the skull, resulting in bizarre circling behavior, uncontrollable seizures, respiratory failure, brain herniation, paralysis, and death.

President: *What do I do?*

SecDef: *Shut down the internet.*

President: *Can I do that?*

SecDef: *You're the president.*

NatSec advisor: *Legally, you can.*

The national security advisor, as national continuity coordinator, cites 47 U.S. Code § 606—War Powers of President—which allows the commander in chief to shut down any or all communications systems that threaten national security. This authority is exercised indirectly, through classified directives to telecommunications carriers, satellite operators, and internet providers rather than through any single, centralized switch. But it can be done, and in this scenario, the president does exactly this.

He decides that the viral videos are fueling the insurrection—most notably the attacks on the Strategic National Stockpile depots—and he shuts down the internet, leaving the military with its own lane of comms.

There will be no more videos of chaos in the streets. No more livestreams of Americans coughing up blood in their cars, in their homes, in their offices, on the streets.

Americans will not see the military deploying.

They will not watch videos of hospitals, clinics, and pharmaceutical company offices being broken into, the guards savagely killed. There will be no more live-action images of people

getting shot in their driveways trying to leave their homes. No more videos of looters and insurrectionists being shot by military forces, which now include all of the National Guard.

The internet will come back on. But at a much later date.

The president is lost in thought about what is happening when a Secret Service agent interrupts his reverie.

Sir, we are switching modes of transportation, says the special agent in charge of the president's detail.

Moving the president to a classified Devolution site means hiding him in plain sight. But the best way to ensure no one but a small group knows where this plain-site location is, is to put him and the motorcade into a cargo plane and move him to a different state. This is similar to how, on the morning of 9/11, President George W. Bush spent time riding in the back of a laundry truck—an anecdote shared with us by CIA spy pilot Colonel Ken Collins, the veracity of which remains unknown.

When the president emerges, the motorcade will be reduced to a few nondescript vehicles. No one will have any idea he is there.



U.S. Secret Service protective vehicles loaded inside a U.S. military cargo aircraft, the rear ramp lowered for deployment. (U.S. Secret Service)

Denver Federal Center—Lakewood, Colorado

Communications still work at the Devolution and Continuity of Government sites. Same as they still work at the Pentagon.

"It's not seamless from a command and control point of view," Lieutenant General Charles Moore, the former deputy director of U.S. Cyber Command, tells us of the turning off of the entire internet. "There are some things the Defense Department relies on the internet for," the retired general explains, citing "weather information" as one unclassified example. But primary communications continue across the Department of Defense. Systems like JWICS (Joint Worldwide Intelligence Communications

System) and SIPRNet (Secret Internet Protocol Router Network) have been engineered to work this way.

The entire Devolution group is in relocation mode. The successor organizations must assume command and execute essential functions from Devolution sites around the country.

Some head to The Mountain, while others go to the Denver Federal Center in Lakewood, Colorado, a primary Devolution location in this scenario. FEMA's Region VIII headquarters is also co-located here. Nestled inside a suburban town in the foothills of the Rocky Mountains, this massive 635-acre government facility has always been here, not even hiding in plain sight. Set behind barbed-wire fences and choke-point gates, it moves into lockdown mode, its security measures heightened with vehicle barricades and maximum-security checkpoints. Under federal continuity and critical-infrastructure protection authorities, armed Federal Protective Service officers secure the campus and its buildings. If any group tries to attack this place for the resources inside, they will be met with military-grade resistance.

The success of the Devolution Plan depends upon this place and others. While most details of this Special Access Program are highly classified, others are not. "The VA is not going to be processing claims in Devolution," says Fugate, offering an example. "It's gonna be handling casualties after hospitals fail." From unclassified monographs we learn there are three types of Devolution facilities.

- Hot sites are "always-on" alternate federal facilities that operate continuously, 24/7, 365 days a year. They maintain fully functioning systems, infrastructure, backup data repositories, and on-site staff at all times. If a primary facility goes down, a hot site takes over seamlessly.
- Warm sites are standby locations, places that maintain a baseline level of infrastructure and remain largely dormant

until crisis strikes. Designed to become operational within twelve hours after activation, warm sites require additional personnel and equipment before they can support critical functions.

- Cold sites serve as geographic insurance against catastrophic loss. Unstaffed and nonoperational prior to activation, they contain pre-positioned equipment but require special advance teams to get up and running. Cold sites are built to survive a government-destabilizing event, not operate day-to-day.

Before the Devolution Plan was activated in this scenario, there were 6,000 employees working at the Denver Federal Center. Thirty-five federal agencies are represented here, making this facility one of the largest and most densely populated clusters of U.S. federal agencies anywhere in the world outside Washington, D.C. With airborne contagion a primary concern, a reverse-surge goes into effect. Thousands of workers are now told they're "excused from duty due to the emergency situation." Space is needed for senior members of the Devolution Emergency Response Group; not everyone is essential to continuity of government plans.

Built during the Cold War, the Denver Federal Center was designed to help top government officials survive a nuclear attack. Its underground bunker system can support 300 people for several months without resupply; its hardened classified communication systems link to other Devolution facilities and nodes. The center is managed by the General Services Administration, an agency most Americans have never heard of, but that acts as the federal government's landlord, its purchasing agent, its technology consultant, and a quasi parent organization to the Devolution Plan.

The General Services Administration's mission here, and the reason continuity of government exists, revolves around Devolution's final phase of Reconstitution. The idea that even after

a mass extermination event, the U.S. government can, and must, reconstitute. Like a phoenix from the ashes, America has plans in place to rise again.

Reconstitution is built upon the idea that one day martial law will be lifted and life will return to normal. Reconstitution codifies the idea that America will repopulate and democracy will return.

Like many plans and programs around biological warfare, success seems questionable. A 2020 audit by the office of the inspector general gave the General Services Administration failing marks; auditors flagged thirty-three out of fifty-six areas needing "corrective action." Staff was uninformed about mission, more focused on stockpiles of "[T-shirt] sizes" for staff, and a "full time [person] to set out food and keep [the] kitchen tidy," auditors found. One senior Emergency Response Team member, when questioned about Reconstitution, asked, "What's reconstitution?"

For now, the Denver Federal Center will act as a Devolution site, allowing members of the Devolution Plan group to govern America-the-war-zone from the promised safety of this place. Provided, that is, that no one here at the facility has already been infected with genetically modified pneumonic plague.

Or that the microscopic pathogen finds a way to sneak inside.

In the years of the Black Death, the primary driver of bubonic plague was the fleas that fed on infected rats. Bubonic plague, left untreated, advances to septicemic plague in the blood, which advances to pneumonic plague in the lungs.

In this twenty-first-century nightmare scenario, the reverse also becomes true.

Millions of corpses will attract millions of scavenging rats. The rats and their fleas will continue to spread plague, neither of which can be barred from entry by high walls, barbed-wire fencing, or a small army of soldiers with guns.

For now, everyone hunkered down here in the Denver Federal Center feels hopeful. They have to. They are the chosen ones.



Senior response leaders receive a briefing on procedures following a biological incident or attack. (U.S. Air Force photograph by Lieutenant Colonel Paul Hendrickson)

Across the USA



Two soldiers prepare an unmanned aerial system for disposal after it flew from the nuclear, biological, chemical reconnaissance vehicle. (U.S. Department of Defense photograph by Adam Lowe)

The nation is in a free fall. The military can no longer use its valuable resources to protect cities from panic, mass death, and widespread insurrection. Wearing biological protective suits and gas masks, the million-plus armed forces of the U.S. Defense Department must shift focus. The priority is no longer getting the Strategic National Stockpile out to the states. It is protecting America's defense facilities and its critical infrastructure sites from being overrun by insurrections. By Americans with guns.

At the top of the list of infrastructure facilities that under no circumstances can fail, one set stands out. America has ninety-four nuclear power reactors located inside fifty-four nuclear power plants (U.S. government figure), located in twenty-eight of the fifty United

States. In this time of civil collapse, each of these nuclear reactors is at risk of overheating and melting down.

"Do you know what the nuclear power plants had to do during Covid?" Craig Fugate asks. "They imposed a quarantine," he says, a fact largely unknown outside emergency management circles. "Nonaggressive" is how Fugate describes this quarantine, because it was quasi-voluntary. "There was no detainment or forced medical testing involved," but still, it was a quarantine. "Managers couldn't have their essential function employees leave the reactor sites," Fugate clarifies. "They couldn't go home to their families. They had to keep their crews isolated until they figured out how long they needed to quarantine people."

Without cooling pumps working, it will take just ninety minutes for nuclear reactor water to boil, and three hours to melt down. The cooling systems on each nuclear reactor core must be maintained by humans overseeing the machines.

If any of these nuclear power plants were to be deserted, the result would be multiple Chernobyl-like meltdowns. Or worse.

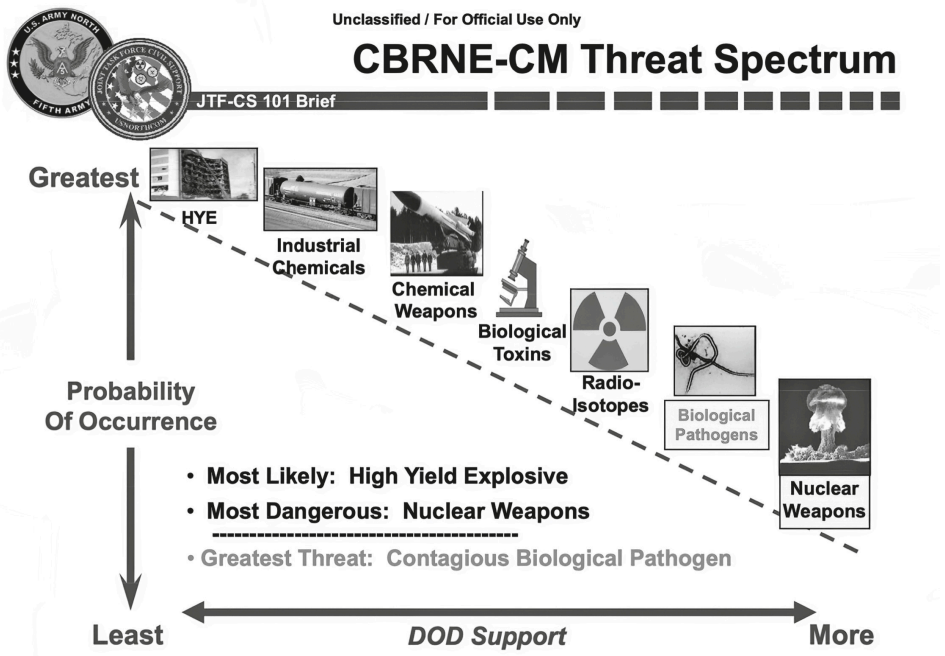
Workers abandoning their jobs is not the only threat. Each of America's fifty-four nuclear power stations is equipped with diesel generators, each with a seven-day supply of fuel. Each facility has a contract with one or more local suppliers; fuel must always be available for resupply. In this nightmare landscape of large-scale death and insurrection, diesel generators are a most sought-after item. So is fuel. And so is water. America's fifty-four nuclear power plants will each depend on its own small army to keep the facility from being attacked and overrun for the acquisition of increasingly coveted supplies.

It is not just the nuclear power plants that require their own battalion of armed soldiers. The vast spectrum of facilities that make up the U.S. critical infrastructure program now need their own defensive perimeters. These facilities range from hydroelectric mega dams and U.S. Mint and Federal Reserve facilities, to chemical

factories and major data centers that control America's financial and communications networks. It includes plants that purify drinking water, highway systems that transport food supplies, fuel distribution terminals, pharmaceutical manufacturing plants, and a constellation of other systems woven into modern existence—lifelines upon which most Americans rarely think about but depend on for survival.

It includes all the key nodes that make up America's colossal military-industrial complex, installations, laboratories, and other facilities set up to keep the armed forces armed: missile warning systems, national air defense and early-warning radar sites, satellite ground stations supporting GPS, strategic petroleum reserves—the list goes on. Federal and civilian complexes that handle components used in weapons of mass destruction are particularly vulnerable after the activation of the Devolution Plan, and this includes all the nation's high- and maximum-containment biological research facilities: more than 1,600 BSL-3 and 17 BSL-4 labs (functional or in construction as of 2025). And while it may seem impossible to discern which category of WMD facility, biological or nuclear, poses more of a global catastrophic risk in this moment, or whether they are equal threats, the military has conducted countless assessments and projections to identify and neutralize them according to risk.

The U.S. Army North Joint Task Force Civil Support units, tasked by the NORTHCOM commander to secure critical facilities, notes in its training doctrine that nuclear weapons are the most dangerous and immediately destructive. But a contagious biological pathogen poses the greatest overall threat—spreading exponentially, destabilizing society, and overwhelming systems from within.



On the Department of Defense's threat spectrum, nuclear weapons are the most destructive, but a contagious biological pathogen poses the greatest overall threat. (U.S. Department of Defense)

For certain, each nuclear weapons facility will require its own small to large army to assure containment of nuclear material. This includes Los Alamos, Sandia Laboratories, Lawrence Livermore, the Y-12 National Security Complex in Oak Ridge, the Savannah River Site, the Hanford Site—and of course Pantex.

There is much to learn from thinking about the Pantex Plant in Texas.

The Pantex Plant—Amarillo, Texas

An army of soldiers descends upon the Pantex Plant in the Texas panhandle. They ring the complex and secure America's only nuclear weapons assembly and disassembly facility. Located

seventeen miles northeast of Amarillo, Pantex sits on 16,000 acres of federally controlled land. The airspace above, called Prohibited Area P-47, is permanently closed.



The Pantex Plant outside Amarillo, Texas, is the nation's primary facility for the assembly, disassembly, and storage of nuclear weapons. (U.S. Department of Energy)

There are as many as 20,000 plutonium pits stored here (the exact number is classified). These are nuclear weapons' nuclear cores. What this means is that there is more nuclear material here in Texas than any other place on Earth besides Russia's facilities that mirror Pantex.

At the close of World War II, after the hard-fought peace was won, weapons of mass destruction became the weapons of choice for the United States and the Soviet Union. Nuclear, chemical, and biological weapons were produced on a massive scale. An arms race was unleashed, with weapons of mass destruction originally seen as the ultimate tool in a future total war. The ugly truth from now declassified early war plans is that the lines between killing combatants and killing civilians would need to be blurred in order to destroy an enemy's capacity to fight a war involving weapons of

mass destruction. Civilians, even if it meant hundreds of millions of them, would have to die in order to fight and win.

Design, production, and stockpiling of weapons of mass destruction accelerated, for decades.

And then, in November 1969, for reasons that remain as debated as they are mysterious, President Richard Nixon renounced America's entire biological weapons program, citing "uncontrollable consequences" if they were ever used. For the first time in modern history, an entire class of weapons was destroyed on the orders of a single person: the U.S. president.

Because biological weapons are living munitions (meaning they are alive), biological weapons are relatively easy to destroy. And while the total size of the U.S. arsenal that was destroyed remains classified, a national security memorandum from the secretary of defense informed Nixon that the arsenal's destruction would take two teams a total of 219 weeks (a little under four years and three months) to complete.

The renunciation of America's chemical weapons program and the destruction of that stockpile was not far behind, but chemical-filled weapons are much harder to safely destroy than biological weapons. What began during the Nixon administration took nine additional presidential administrations to complete, a period of more than fifty years. On July 7, 2023, during the presidency of Joe Biden, the Defense Department announced that "the final munition in the nation's obsolete stockpile of chemical weapons has been safely destroyed."

Nuclear weapons have never been renounced by the United States. They can also never be destroyed. While nuclear weapons can be dismantled and disassembled, their nuclear cores will never go away. Never.

After America's renunciation of its biological and chemical weapons programs starting in the late 1960s, the design, production, and stockpiling of nuclear weapons continued unabated.

By 1986, there were a mind-boggling 70,000 nuclear warheads on the planet, with the United States and the Soviet Union holding nearly all of them. Around the same time, the nuclear disarmament movement was gaining extraordinary momentum, with millions of people around the world demanding the reduction, or total elimination, of these grotesquely bloated stockpiles. Under mounting public pressure, and personal recognition of the existential danger nuclear weapons pose, President Ronald Reagan and Soviet leader Mikhail Gorbachev began to reverse course. Treaties were signed. The nuclear stockpiles were reduced. Today there are approximately 12,300 nuclear weapons on the planet, a considerable reduction from 70,000 in 1986, but the ~57,700 nuclear weapons that have since been disarmed don't just magically disappear.

All the nuclear weapons ever made by America, and not currently housed inside a missile or a bomb in the arsenal, live on inside the Pantex Plant as nuclear cores.

Pantex Plant operations are invisible to the public.

Most people have never heard of the place.

From two CIA counterproliferation officers, both sources for this book, we get a rare glimpse at what lies deep inside this strange, if not terrifying, facility. Behind triple-layered barbed-wire fencing and multiple armed security checkpoints, deep down inside a bunker with walls thicker than you can imagine, inside a Pantex laboratory, a troubling question arises. Can we undo what we have done?

A question raised by two individuals, each of whom has direct experience working in the classified world that strives to keep nuclear weapons and biological weapons from inflicting apocalyptic-level harm against all of us. The question is also a paradox: Engineers can dismantle weapons of mass destruction, but can we ever dismantle the ideas that caused us to build such monstrous things?

Rolf Mowatt-Larssen spent twenty-three years at the CIA, first as an operations officer and later as the chief of the Weapons of Mass Destruction Department, Counterterrorist Center. He helped stop Al Qaeda's biological weapons aspirations from reaching the United States, at least for a period of time. Most people have never heard about Al Qaeda's biological weapons program. In the late 1990s and the first decade of the 2000s, it was led by Al Qaeda's No. 2, Ayman al-Zawahiri, a physician and biologist who perceived biological weapons as a low-cost, high-impact weapon of mass destruction. An asymmetric weapon to bring about America's end.

"WMD terrorism skeptics abound," Mowatt-Larssen says, "and for understandable reasons. There is widespread suspicion in America and abroad that WMD terrorism is another phony threat being hyped for political purposes, and to stoke fears among the public." As we know, the biological terrorism threat narrative was the seminal driver of the modern biodefense industrial complex. What began under President Bill Clinton exploded in the post-9/11 years.

But Mowatt-Larssen saw the reality of bioterrorism, close up.

"It was advanced…it was real, and it was terrifying," he tells us.

On numerous occasions, he flew into the belly of the beast. Once, during the war on terror, he traveled to Sudan and met face-to-face with two senior members of Al Qaeda's biological warfare unit. He convinced one of them, the microbiologist Mubarak al-Duri, to stop making bioweapons for Al Qaeda, at least temporarily. "I told him that deploying a contagious biological weapon against Americans would almost certainly spread mass death" to all corners of the earth, Mowatt-Larssen tells us. "The disturbing thing" he adds, is that he received no long-term assurances from al-Duri he'd stop this work, only "hatred in [his] eyes." With pressure from a Sudanese official, al-Duri agreed to pause making biological weapons for Al Qaeda, apparently for selfish reasons. If he didn't agree to comply, "he'd be kicked out of Sudan."

Three years later, Mowatt-Larssen retired from the CIA to become the director of intelligence and counterintelligence at the U.S. Department of Energy, steward of the U.S. nuclear weapons stockpile. In this capacity, he asked James "Mad Dog" Lawler, the former director of the CIA's Weapons of Mass Destruction Counterproliferation Division, Special Activities Unit, to serve as his senior advisor.

One day, the two longtime colleagues traveled together to the Pantex Plant. There, they found themselves deep in the bowels of Pantex's underground storage facilities. Inside the inner-sanctum laboratory.

"The Star Chamber," in Mowatt-Larssen's words.

The Star Chamber refers to a royal court in England, from the fifteenth to the seventeenth century, named after the star-patterned ceiling under which the court sat. Today it is used as a metaphor for secretive, often unaccountable, or arbitrary power exercised behind closed doors.

Inside this inner sanctum at Pantex, Mowatt-Larssen and Lawler watched nuclear weapons technicians disassemble a W76 thermonuclear warhead that had formerly sat inside the nose cone of a Trident missile, on a nuclear-armed submarine. The W76 weapon, a 100-kiloton nuclear warhead, contains roughly seven times the destructive power of the bomb dropped on Hiroshima. One wrong move by a technician here in the Star Chamber, and it could set off a chain reaction that would destroy not only all of Pantex, but make the entire state of Texas and beyond uninhabitable for tens of thousands of years.

The Pantex Plant raises that singularly important question that lies at the heart of the riddle of all weapons of mass destruction.

Can humans undo what they have done?

Once upon a time, in the nineteenth century, scientists like Louis Pasteur worked to cure people of disease. Pasteur developed the first effective rabies and anthrax vaccines, transforming and

advancing medicine and public health in previously unimaginable ways. Pasteur's protégé, Alexandre Yersin, identified the causative agent of plague as bacteria; *Yersinia pestis* is named in his honor.

For nearly a century, antibiotics have stopped plague outbreaks from becoming pandemics. And now, in the twenty-first century, biological weapons engineers work to weaponize germs like *Yersinia pestis* to kill people, by outfoxing cure.

Watching the Pantex scientists, in their long white laboratory coats, delicately performing their work—trying to undo what has been done—seemed as surreal as it was absurd.

It made Rolf Mowatt-Larssen think of high priests performing a superstitious ceremony in the ancient world. It made him think of hubris. Of men playing God. And it took his breath away.

"I worry what we've done," Lawler says.

All the clichés seem true.

Let's hope one isn't. That past is not prologue.

HISTORY LESSON

Is Past Prologue?

In the fourteenth century, an act of biological war set off a pandemic that killed between one-third and one-half the population of Europe. In *The Great Mortality*, historian John Kelly describes what happened. His telling of the Black Death emerges from the ancient Dark Ages like a nightmare warning of what might come if a twenty-first-century biological weapon gets unleashed upon this world.

Cities abandoned. Roads choked with terrified refugees. Feral children, orphaned and alone, foraging for food.

"Pigs would gather in the darkness and descend on the local graveyards, rooting though the loose, damp, corpse-laden ground until dawn; then satiated, sleepy, and caked with cemetery mud, they would return home in the morning light," one plague survivor later recalled.

Others from that era describe how the Black Death destroyed man's humanity, as if plague infected the soul.

"The people, stained by sin, quake with grief. Plague is killing men and beasts," wrote an anonymous British poet.

"Men inhumanely shun each other's company," the Venetian court scholar Demetrios Kydones observed. "Fathers do not dare bury their own sons."

"Everyone who is still healthy looks only after himself," lamented the Flemish cleric Louis Heyligen.

With civilization in collapse, an Italian nobleman with a quill pen wondered if what he was seeing was "the end of the human race."

Death was everywhere. On land: dogs roamed the streets, feasting on the dead. At sea: ships floated into ports, crewed by skeletons. Urban centers were decimated: "Corpses packed like 'lasagna' [filled] municipal plague pits." There were no cemeteries left in which to bury the dead.

In the eyes of a tax collector in Siena, "This is the end of the world."

One by one, city after city across Europe succumbed to the plague. In Norway in 1350, a survivor observed, "people did not live more than a day or two…. After that, they began to vomit blood."

With no way to stop the scourge, a warning from a medieval German manuscript reverberated across Europe.

"Get out quickly. Go a long way away. Don't be in a hurry to come back."

Survival seemed arbitrary, as if fated to circumstance and chance. Priests stopped hearing confession. Churches shuttered their doors. Power centers unraveled. The mighty became the weak. Everyone who could, fled.

Even Rome became a ghost town.

"The great capital of Antiquity had shrunk to a squalid little ruin," Kelly writes. "It was a city of buildings without walls, arches without roofs, pedestals without statues, fountains without water, columns without arches, and steps that led from nowhere to nothing."

Everything that was once colossal and mighty, crumbled into ruin.

And then, for reasons historians have yet to understand, the plague ended. Humanity rebounded.

Will it from this one?

And if so, what kind of society will emerge?

Far away from the National Capital Region—undisclosed location



A person in a military-grade protective mask walks by an open window. (U.S. Army National Guard photograph by Staff Sergeant Adeline Witherspoon)

The president is in a final, undisclosed location. In a bunker, alone. He is not at Raven Rock. Or Mount Weather. Or at the Denver facility. He is somewhere very nondescript. He is wearing a gas mask.

"We need to hide him in plain sight," Craig Fugate tells us of the president's whereabouts, if the Devolution Plan is ever activated. "I can't share details" of where he would be, Fugate says. Only that it sounds like it would be somewhere very bland. Not quite "beneath a record store" in suburbia, but metaphorically not that far away.

Somewhere unassuming. An inconspicuous location, away from population centers like Washington, D.C.

The president lives in this facility alone. No family. No friends. No advisors. The Secret Service team, and the military aide with the nuclear football, are always just outside the door. The president is like a high-value prisoner, with access to JWICS, SIPRNet, and video comms.

Solitude is the only way to make sure the president doesn't get infected with pneumonic plague. He will remain here like this until plague runs its course. Until it burns through all the people and disappears, like it did at the end of the Black Death.

Soon, he is going to turn the internet back on.

And with it, he will deliver a speech.

He sits down at a small desk to write.

He hasn't used a pen in eons. As the ink rolls across the paper, it feels good. His hand is steady. He writes out what he wants to say in longhand. After he finishes, he reads aloud.

The pathogen that is overtaking the nation has been genetically modified. It is modeled after a Soviet-era bioweapons program. It's called a two-step chimera weapon.

He explains how a chimera is a mythical beast from the ancient world. And also a biological weapon, genetically engineered.

It's a diabolical weapon, engineered to destroy trust in medicine. If you take antibiotics after you have been infected, you will die.

You can see here. Like this.

The president holds up his cell phone to the camera, to show whoever may be watching a video clip of the mice at USAMRIID. Trembling. Having seizures. Walking in circles. Falling over, paralyzed, then dead.

I am in an undisclosed location. I took a major dose of multiple antibiotics before exposure, technically called "pre-exposure prophylaxis," so I'm fine. The country needs a commander in chief.

That's me. I am alive. I am your president. I am telling you the truth.

There is no one in the room with him. He wishes there were someone here to comfort him.

It's not fun being alone. I don't even know if it's better than being dead.

The president sighs. He hasn't been candid like this in as long as he can remember. Not for at least twenty years, back when he was a young governor, hoping to be president one day. Since then, most everything he has said has been phony. Scripted. All about optics and messaging; not what he really cares about. He has almost forgotten what he stands for anymore.

The president goes off script and shares what he has been thinking about lately. About questions raised by the anthropologist Keith F. Otterbein, who wrote books about the possible origins of war. In one of Otterbein's books, called *How War Began*, the killer ape theory is discussed.

"Killer ape theory views humankind as a direct descendant of an ape who had sharp canine teeth and hunted animals, including other apes," Otterbein writes. "For killer ape theorists, aggression is innate." They insist "aggressiveness toward other living beings has a genetic basis." People in the killer ape camp believe war is inherent in human beings. That it's genetic. That humans need to go to war, same as they need to sleep, breathe, and eat.

The other camp, the alternative theory, is that war is a product of culture and circumstance. That humans are inherently social, not inherently violent. That war arises under specific ecological, economic, or social pressures, including competition over resources. To this end, Otterbein offers a different take. At least this is how the president interprets his books.

The president tells whoever is listening a story that he recalls Otterbein recounting from his youth, from the 1960s. A group of anthropologists went to live among hunter-gatherer tribes in New

Guinea. Tribes that were sometimes at peace and sometimes at war.

One of the anthropologists studying the tribesmen observed two distinct, and seemingly contradictory, situations that unfolded while two hunters from different tribes were out in the forest, each of them hunting a wild boar and then winding up on the same remote foot path.

What happened next was unpredictable, but it seemed to fall into two distinct categories.

In some cases, one hunter would quickly kill the other hunter, as if instinctual, with the goal of killing the wild boar and keeping the spoils as his own. In other cases, when two hunters from different tribes came upon one another on a forest path, the two men would quickly agree to work together, as if instinctually. Their mutual goal became to kill the wild boar together and divide the spoils.

The anthropologist wanted to know what was going on here.

Why did some hunters kill, while others sought to cooperate?

From his tribal-language translator, the anthropologist was told that the actions of the hunters (considered hunter-gatherer tribesmen) were dependent on the individual hunter's mindset. Some hunters are paranoid, while others lead with trust.

Is that nature or nurture? the anthropologist asked his translator.

To which the translator is said to have replied that he had no idea what "nature or nurture" meant.

In recounting this story, the president tries to make a parallel point.

In the 1980s, the Russians started this horrific bioweapons program because they were paranoid that the Americans were trying to cause the downfall of the Soviet Union.

The Russians wanted to make Americans paranoid.

They wanted all Americans to lose faith in our government, same as they had lost faith in theirs.

The Soviet Politburo had become lying, corrupt, tyrannical thieves. Just like Orwell forewarned in Animal Farm.

The president leans in.

Don't let them win.

He finishes his video recording and uploads it to the internet. He has no idea if anyone will see it. If the internet is even still there, or if his advisors simply tell him it is so he doesn't become paranoid and lose his mind.

He hits play on a playlist he keeps on his iPhone.

The song's title is "Destroyer," from the album *Give the People What They Want* by the British rock band the Kinks.

For reasons that remain mysterious, this was the first song the president ever heard that made him believe he could do something of deep value in his life.

It was 1981 when this song came out. He was sixteen years old.

He thinks: *Music makes you trust*. It just does.

Is this nature or nurture? he wonders. Nobody knows.

Now he's in his sixties. He is the president of the United States.

The world out there is dying, or dead.

He is alone, in a small bunker with a gas mask. He hits play again. He sings out loud, getting the lyric wrong.

Paranoia will destroy ya. Paranoia will destroy ya.



A soldier and a medium tactical vehicle designed to operate in a biological or nuclear war. (U.S. Marine Corps photograph by Lance Corporal Brady V. Hathaway)

EPILOGUE

Biological Twilight

Years pass. The world has plunged into a new horror. Biological twilight.

It is silent and infected. Mostly male.

Unlike nuclear winter, where it is cold and dark, biological war leaves the world dim and fading. Everyone wondering if humanity goes dark. The living are left to wonder which day might be the end. The dead have long since been burned on mass funeral pyres, or been eaten by dogs, pigs, or rats.

Some became ashes, others dust.

Before the plague, the U.S. government issued 1.7 million gas masks to members of the armed services. Which means it is mostly soldiers, airmen, marines, and guardsmen who survive.

Mostly men.

The military is approximately 17 percent female.

No one knows for how long people will wear their gas masks. No one knows for how long *Yersinia pestis* will linger in the air, in the dirt, in the dead.

There is no such thing as objective science anymore.

Across America and around the world, law enforcement officers and first responders were among the first to die. Then came mothers and caretakers. Plague shows no mercy for devotion. Empathy became a liability.

The moral aperture closed down to a pinhole.

It is not the fittest who survive, but those who refused to take off their gas masks. People with the discipline to never remove their respirator, even when they sleep. People willing to live alone, and to remain alone. People prepared to kill from a distance, even before knowing if the person they were killing was infected or not.

These are the traits of the people who will repopulate the world after a large-scale biological weapon is released. Machiavellians, solipsists, and psychopaths.

Not a hopeful foundation for a future civilization. Rather, a new world born of paranoia and fear.

The landscape across America resembles Afghanistan circa 2012, after the U.S. military had occupied that country for more than ten years. There are large, fortified military facilities in city centers across the United States and smaller combat outposts and forward operating bases scattered around the countryside. There are armed and weary soldiers permanently on village security patrol. It is how they stay alive. Fed, hydrated, and armed.

Until things dramatically change, America will remain an occupation zone.

Time is relative. The U.S. occupied Afghanistan for more than twenty years.

—

Russia experienced its own near-extinction-level event. While the Vector Institute was actively developing biological weapons, the Russian government was not adequately prepared for a lab leak from its own BSL-4 facility.

Russia's experimental plague vaccine—intended for use in the event of future biological war—was still steeped in nonhuman primate trials when the BSL-4 lab leak occurred. When the Vector scientist tried to destroy what he was working on and instead caused the explosion that set this scenario in motion.

The unproven Russian LPV vaccine was rushed into the population too soon. Its premature deployment produced unintended consequences on a monstrous scale. Like the drug thalidomide, created by Nazi scientists working for the German pharmaceutical company Chemie Grünenthal GmbH after the war, the Russian plague vaccine caused birth defects across an entire generation, but on a countrywide scale.

Terrified by this horror, Russian women refused to have babies anymore. There hasn't been a single healthy child born in all of what used to be called the Russian Federation in more than a year.

You reap what you sow is murmured around what is left of the world.

■

Humans are a paradox. Brilliantly endowed with the capacity to imagine and to create. Often, also incapable of restraint.

If a biological war scenario like this one comes true, it will mean that the same mind that mapped the cosmos, that landed machines on planets hundreds of millions of miles away and charted galaxies billions of light-years away, could not safeguard its own biosphere.

The same lab that created genetically modified pathogens could not contain a single-celled organism after it escaped from inside its walls.

The release of a genetically modified biological weapon, including by accident, could easily be the final failure of the human imagination.

Biological weapons make monsters of the living and relics of the dead.



(U.S. Army photograph by Sergeant Nolan Brewer)

ACKNOWLEDGMENTS

The book you just read is called *Biological War: A Scenario*, not *Biological War: The Only Scenario*. In working with sources to report this book, I learned there are far worse scenarios. Unlike nuclear weapons, which require tightly controlled fissile material (highly enriched uranium or plutonium), biological weapons have a much lower barrier to entry. They can be engineered by someone with minimal training in biology, using tools that are increasingly accessible and widely available, including with AI-enabled systems. Whereas nuclear weapons and their delivery systems remain in the custody of a nation's military forces, biological weapons can be developed far from the safeguards, scrutiny, and chain of command that surround a country's nuclear arsenal.

Recombinant DNA is the original technology of modern genetic engineering, but since the early 2000s a new capability has emerged called synthetic biology—a field most people have never heard of. Synthetic biology marks a shift from editing life to constructing it—designing new biological parts, systems, or even organisms—and allowing scientists to program living systems much like engineers program machines.

Andy Weber, a former advisor to the president and the secretary of defense on biological threats, believes the very technologies that make biological catastrophe possible may also be the tools capable of stopping it. He uses a hypothetical example of in-home testing. "Imagine: You open your medicine cabinet," he says. "You breathe into a tube…it's hooked up to your smartphone. You report this in to a public health surveillance system. You find you're infected with a virus," or another pathogen. "You take [a medical] countermeasure

before you infect anyone else. This type of monitoring and screening," says Weber, "is now possible." If this seems dystopian, or utopian, or at least like science fiction, the strange reality is that this may be exactly where we are headed. In reporting this book, I spoke with technologists at companies that include Palantir, Ginkgo Bioworks, Valthos, and others that are building the components of this networked surveillance system. While the future has not been written, it is safe to say that systems designed to detect pathogens early, track their spread in real time, and warn of an outbreak before it becomes a catastrophe are well underway.

Beyond this surveillance-driven biotechnological future lies an even greater horror. I learned that there exists a hypothetical concept within synthetic biology called "mirror life" that could extinguish the human race. "This is an area of science we should forbid," says Stanford University professor and White House science advisor David Relman. Mirror life means engineering an organism with a reversed form of biology, a molecular mirror image. A synthetic organism that, if created, the human immune system will almost certainly not recognize and could not be controlled, contained, or stopped. "People at the highest level say 'holy [expletive], this sounds really horrible, we can't allow this to happen,'" Relman tells us. And yet, when it comes to making sure no one ever creates mirror life, he says the responsibility gets deflected back to the scientists. As of now, there are very few legal constraints.

This book is not meant to cause unnecessary fear. It is meant to make clear what is now possible, and what is at stake. The tools to engineer life are advancing faster than the rules that govern them. This gap is where existential danger lives. The point is not panic; the point is pressure. To demand guardrails, oversight, and accountability before the science outruns our ability to control it. Before we set something irreversible in motion. No one wants to wake up to a city besieged by a genetically modified pathogen. To

learn America is at COGCON 1, and that Devolution protocols are underway.

Reporting, researching, and writing this book required an extraordinary amount of help from a lot of people. I'd especially like to thank Dr. Henry Heine for the hours of plague-related discussions and the visit to the BSL-3 laboratory where he works; Craig Fugate for the interviews, the follow-up interviews, and the science fiction parables; Mallory Stewart for the visit to the State Department's National and Nuclear Risk Reduction Center, aka "The Nerc"; Andy Weber and Christine Parthemore for including me in the Council on Strategic Risks' biological threat scenario exercises; Milton Leitenberg for trusting me with Igor Domaradskij's hand-typed writings; Jim Lawler for the extended conversations; Rolf Mowatt-Larssen for the mind-boggling dinner discussion; Julian "Nutman" Chesnutt, Tom Ehrhard, Andy Weber, and Charlie "Tuna" Moore for reading early drafts of this book; Shirley Sacks for direction with South Africa's biological weapons program; and Julia Grinberg for Russian and Italian translations.

Getting *Biological War: A Scenario* from inception to bookshelves took an enormous amount of work by countless dedicated, savvy professionals—thank you, all of you. A few individuals stand out: John Parsley, Steve Younger, Sloan Harris, Matthew Snyder, Tiffany Ward, Alan Rautbort, Frank Morse, Jake Smith-Bosanquet, Zara Shepherd-Brierley, and Dennis Kao. With appreciation to Sarah Thegeby and Julie Coryell, and to everyone at Dutton.

It is impossible for me to write anything of merit without wind in the sails. Mine comes from a tribe of great friends and exceptional family: Tom and Alice Soininen (miss you, Mom); Julie Soininen Elkins; John Soininen; Kathleen and Geoffrey Silver; Rio and Frank Morse; Keith Rogers; all the ladies I see on Tuesday morning; and all the beauties in my writing groups past, present, and future. But most of all, my deepest gratitude goes to Kevin, Finley, and Jett. You guys are my North Star. My best friends.

NOTES

ABBREVIATIONS USED IN NOTES

(Archives are digital collections unless otherwise noted)

BCJ Brennan Center for Justice
CA-G Office of California Governor Gavin Newsom
CDC Centers for Disease Control and Prevention
CIA Central Intelligence Agency
C-LII Cornel Law School, Legal Information Institute
CRS Congressional Research Service
CSHL Cold Spring Harbor Laboratory
DEA U.S. Drug Enforcement Administration
DIA Defense Intelligence Agency
DLA Defense Logistics Agency
DoD U.S. Department of Defense (includes "Department of War," September 2025)
DOJ U.S. Department of Justice
DTRA U.S. Defense Threat Reduction Agency
EPA U.S. Environmental Protection Agency
ESD-DoD Executive Services Directorate, U.S. Department of Defense
FAA Federal Aviation Administration
FAS Federation of American Scientists
FDA U.S. Food and Drug Administration
FEMA Federal Emergency Management Agency
GAO U.S. Government Accountability Office
GPO U.S. Government Publishing Office
GSA U.S. General Services Administration
HHS U.S. Department of Health and Human Services
HOUSE U.S. House of Representatives
IMS Internet Medieval Sourcebook, Fordham University
JHC Johns Hopkins Center for Health Security
LAC-G County of Los Angeles (Los Angeles County Government)

LAFD Los Angeles Fire Department
LOC Library of Congress
MD-RF Ministry of Defence of the Russian Federation
NAG National Guard (U.S. Army National Guard and U.S. Air National Guard)
NARA National Archives and Records Administration, College Park, Maryland
NASA National Aeronautics and Space Administration
NAVY U.S. Navy
NIH National Institutes of Health
NIST National Institute of Standards and Technology
NOAA National Oceanic and Atmospheric Administration
NORTHCOM U.S. Northern Command
NSA-GWU National Security Archive, George Washington University
ODNI Office of the Director of National Intelligence
SHI Science History Institute: Museum and Library
STATE U.S. Department of State
UCS Union of Concerned Scientists
UNODA United Nations Office for Disarmament Affairs
USAMRIID U.S. Army Medical Research Institute of Infectious Diseases
USMC U.S. Marine Corps
VECTOR State Research Center of Virology and Biotechnology, Russian Federation
WHO World Health Organization
X X.com social media platform

AUTHOR'S NOTE

"Very much like nuclear war": Interview with Tom Ehrhard.

GO TO NOTE REFERENCE IN TEXT

Geneva Protocol of 1925: *Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare* (i.e., Geneva Protocol), June 17, 1925, STATE. The United Nations Office for Disarmament Affairs is the modern custodian and explainer of the Protocol; see "Biological Weapons," UNODA. For the U.S. program, see: "U.S. Army Activity in the U.S. Biological Warfare Programs, Volume I," February 24, 1977, NSA-GWU. For the Soviet program, see: Milton Leitenberg and Raymond Zilinskas, *The Soviet Biological Weapons Program*, 16–50; and "Russian BW Program," *Congressional Record—Senate*, S1876–S1882. For the Nazi program, see Harvard Law School Library, Nuremberg Trials Digital Archive,

Medical Trial (NMT 1: *USA v. Karl Brandt et al.*, 1946–1947); Wheelis, Rózsa, and Dando, *Deadly Cultures*. For Imperial Japan, see: Harris, *Factories of Death.*

GO TO NOTE REFERENCE IN TEXT

killed between one-third and one-half: Numbers range from 30 to 60 percent. The Venetian scribe who estimated that "90% of Constantinople perished" can be found in Kelly, *The Great Mortality*, 81. Notably, Kelly writes this figure was "surely exaggerated."

GO TO NOTE REFERENCE IN TEXT

Nixon renounced: "Statement Issued by President Nixon, November 25, 1969," STATE.

GO TO NOTE REFERENCE IN TEXT

the BWC: "The 1972 Biological and Toxin Weapons Convention," April 10, 1972 (signatures), March 26, 1975 (entered into force), UNODA. This international agreement between 183 States Parties legally binds each party from developing, producing, and acquiring biological agents for warfare.

GO TO NOTE REFERENCE IN TEXT

Soviet Union secretly and illegally developed: "Adherence to and Compliance with Arms Control Agreements, 1996 report submitted to Congress, 1972 Biological and Toxin Weapons Convention, Section V, Part A, STATE. For a summation, see Graham S. Pearson, "The Fourth BWC Review Conference," *Arms Control Today* 26, no. 1 (1997): 14–18. "In early 1992, Russian President Boris Yeltsin acknowledged that the former Soviet Union, despite being one of three depositary states along with the United States and the United Kingdom, had continued an offensive biological weapons program through March 1992."

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2025 U.S. State Department compliance report: "Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments," STATE, April 2023, 27–28 (released in 2024).

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"maintains an offensive BW [biological weapons] program": "Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments," STATE, April 2025, 35, 38.

GO TO NOTE REFERENCE IN TEXT

"Soviet program was absorbed, not dismantled": Kenneth D. Ward, "Additional Statement to the Article V Consultative Meeting Under the Biological and Toxin Weapons Convention, U.S. Special Representative Kenneth D. Ward, September 6, 2022," 3, STATE.

GO TO NOTE REFERENCE IN TEXT

"The secondary effects": USNORTHCOM CONPLAN 3591-09, USNORTHCOM Response to Pandemic Influenza, DoD, August 13, 2009, 7.

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"Trust will collapse": Interview with Tom Ehrhard.

GO TO NOTE REFERENCE IN TEXT

"Unlike nuclear war": Interview with Tom Daschle.

GO TO NOTE REFERENCE IN TEXT

twenty-first-century humans' last invention: To note, I echo an idea put forth by Nick Bostrom in his March 2015 TED Talk, "What Happens When Our Computers Get Smarter Than We Are?"

GO TO NOTE REFERENCE IN TEXT

INTERVIEWS

Robert P. Kadlec, MD, assistant secretary of war: I use this nomenclature here, and only here, because this is Kadlec's official current biography at the Department of War website (spring 2026). The name "Department of Defense" remains the legal entity established by Congress in 1949; only Congress has the authority to amend or replace statutory titles. President Trump's executive order on September 5, 2025, designates "Department of War" as a secondary title.

GO TO NOTE REFERENCE IN TEXT

PROLOGUE: THE DEMON GERM

head of a pin: "Plague: Ecology and Transmission," National Center for Emerging and Zoonotic Infectious Diseases, CDC. To note: 40,000 × 5-micron-wide (≥0.5) plague particles could fit side by side on the flat surface of an average, 1-mm-wide pinhead. Because *Yersinia pestis* is bacterial, and not viral, it reproduces on its own. A virus requires a host cell's machinery. The replication process is binary fission. One cell splits into two genetically identical daughter cells. Because a bacteria can replicate in different environments (inside a host, in a flea, or in culture media), it is considered self-replicating and autonomously reproducing.

GO TO NOTE REFERENCE IN TEXT

"this was some horrifying stuff": Interview with Henry Heine.

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"and you feel euphoric": Interview with Henry Heine.

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"It seems evil": Interview with Henry Heine.

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"I grew up thinking": Interview with Andy Weber.

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"Because of the severity of the disease": Interview with Bret Purcell.

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"Tier 1 Select Agents and Toxins": "Occupational Health Program: Appendix 1: List of Tier 1 BSAT," Federal Select Agent Program, CDC. The program is managed by the Department of Health and Human Services and the Department of Agriculture. The Defense Department does not directly regulate Tier 1 Select Agents.

GO TO NOTE REFERENCE IN TEXT

"You can't defend against": Interview with Henry Heine.

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one and three days: "Plague: Ecology and Transmission," CDC; "Plague," fact sheet, WHO, July 7, 2022. See also Patricia L. Worsham et al., "Medical Aspects of Biological Warfare," Office of the Surgeon General, U.S. Army Medical Department Center and School Health Readiness Center of Excellence, 2007.

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bacterium can survive: Andrea Ciammaruconi et al., "Plagued by the Past, Pressed by the Present: A One Health Perspective on *Yersinia pestis*," *Biomedicines* 13 (2025): 2555. For more on aircraft cabin ventilation systems, see "Centers for Disease Control and Prevention, *Yersinia pestis* ID Flowchart," Division of Laboratory Systems, CDC. The ventilation system is not necessarily spreading the plague throughout the cabin; the human being is. At this point in the disease progression, the sputum coming out of the victim has an almost pure culture level, sputum being a mixture of saliva and mucus coughed up from the respiratory tract. For more information on what happens to a plague victim, see Worsham et al., "Medical Aspects of Biological Warfare," Chapter Five: Plague.

GO TO NOTE REFERENCE IN TEXT

bloody gruel: This disease outbreak had a near 100 percent mortality rate and killed more than 60,000 people over six months. See also Summers, *The Great Manchurian Plague of 1910–1911*.

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Milton Leitenberg tells us: Interview with Milton Leitenberg. See also Leitenberg and Zilinskas, *The Soviet Biological Weapons Program*, 156–58.

GO TO NOTE REFERENCE IN TEXT

"I drafted a scheme": Domaradskij, "TROUBLEMAKER," 63. In this hand-typed manuscript, Domaradskij explains the progression to Bonfire: "In order to conceal the Top Secret regime, and to sanitize all the activities there were two 'cordons'—'Problem No. 5,' i.e., the development of means of protection from biological weapons, and a public Order by the Party and Government on measures for the development of molecular biology and genetics."

GO TO NOTE REFERENCE IN TEXT

"The plan…became known as 'Bonfire' ": Domaradskij and Orent, *Biowarrior*, 177. See also Leitenberg and Zilinskas, *The Soviet Biological Weapons Program,* 68, 156–58; Alibek and Handelman, *Biohazard*, 154–55, 63. The code name for the entire program was "Problem Ferment." Confusion over hierarchy exists in the secondary literature, with Bonfire sometimes being called a subproject. For a brilliant telling of the program, read David E. Hoffman's *The Dead Hand*.

GO TO NOTE REFERENCE IN TEXT

"designed for a 100 percent kill rate": Interview with Henry Heine.

GO TO NOTE REFERENCE IN TEXT

"A new class of weapons": Alibek and Handelman, *Biohazard*, 164.

GO TO NOTE REFERENCE IN TEXT

"A double agent [weapon], like plague and encephalomyelitis virus": "Bioterror: Interviews with Biowarriors, Sergei Popov," *Nova*, PBS. Further, Popov states: "A good example [of a chimera weapon] would be plague bacteria, which is relatively easy to treat with antibiotics, and viral encephalomyelitis [VEE] inside. So in case of biological attack, people would be treated against plague and after they would be sick with this viral disease of choice."

GO TO NOTE REFERENCE IN TEXT

"Back in Moscow": Alibek and Handelman, *Biohazard*, 260.

GO TO NOTE REFERENCE IN TEXT

"our Manhattan Project": Ibid., 14.

GO TO NOTE REFERENCE IN TEXT

"advent of genetic engineering": Igor Domaradskiy [*sic*], "*Znanie—Sila* [Knowledge Is Power]," November 1996, 1, introduction by V. Yankulin, from author copy included in Domaradskij's hand-typed writings.

GO TO NOTE REFERENCE IN TEXT

PART I: HOW WE GOT HERE

CHAPTER ONE: RECOMBINANT DNA

One day in 1971: "Paul Berg," Scientific Biographies, SHI, n.d.

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Berg's seminal biotechnology: Maxine F. Singer, "The Recombinant DNA Debate," *Science* 196, no. 4286 (1977): 127.

GO TO NOTE REFERENCE IN TEXT

recombinant DNA could: Paul Berg, "Asilomar 1975: DNA Modification Secured," *Nature* 455, no. 7211 (2008): 290–91. "In the early 1970s," Berg wrote, "scientists were only just learning how to manipulate DNA." How to create "combinations [of species] not known to naturally exist." Risks were involved, but Berg believed this seminal new gene-splicing technology promised "considerable opportunities" that outweighed the risks.

GO TO NOTE REFERENCE IN TEXT

"Pollack told [Janet]": Paul Berg, "Outrage Over Recombinant DNA, Paul Berg," CSHL, DNA Learning Center, video, ID: 15018, n.d.

GO TO NOTE REFERENCE IN TEXT

"DNA might escape": "Science, Interrupted: The Story of the 1975 Asilomar Conference on Recombinant DNA," SHI, February 18, 2025. "In particular, there were speculations that normally innocuous microbes could be changed into human pathogens by introducing genes that rendered them resistant to then available antibiotics, or enabled them to produce dangerous toxins, or transformed them into cancer causing agents." (Paul Berg and Maxine Singer, 1995.)

GO TO NOTE REFERENCE IN TEXT

"My first reaction": Paul Berg, "Outrage Over Recombinant DNA, Paul Berg," CSHL, DNA Learning Center, video, ID: 15018, n.d.

GO TO NOTE REFERENCE IN TEXT

"I came to the conclusion": Ibid.

GO TO NOTE REFERENCE IN TEXT

Journalists accused scientists: David Perlman, "A Danger in Manmade Bacteria," *San Francisco Chronicle*, July 1974.

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"manipulating the genome": Donald S. Frederickson, "Asilomar and Recombinant DNA: The End of the Beginning," in Hanna, *Biomedical Politics*, 258.

GO TO NOTE REFERENCE IN TEXT

The result was: Singer, "The Recombinant DNA Debate." Singer called the uproar "uninformed fear, mysticism, and political opportunism." The work "must continue," she said. "Nothing less than science itself is at stake."

GO TO NOTE REFERENCE IN TEXT

"catastrophic consequences?": Paul Berg interview by Joanna Rose, NobelPrize.org, December 8, 2001.

GO TO NOTE REFERENCE IN TEXT

"We believed, somewhat naively": David Baltimore, "The Spirit of Asilomar and the Future of Biotechnology," Asilomar Conference, 2006.

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Russians began pursuing exotic biological weapons: Domaradskij, "TROUBLEMAKER," 53; Alibek and Handelman, *Biohazard*, 40.

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"through our covert program": Alibek and Handelman, *Biohazard*, x.

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CHAPTER TWO: THE TOP SECRET PLAN TO CREATE GENETICALLY MODIFIED BIOLOGICAL WEAPONS

Russian village called Obolensk: Alibek and Handelman, *Biohazard*, 153.

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"The plan was to kill all the people": Interview with Surgeon Commander Christopher Davis, Royal Navy, Defence Intelligence Staff, U.K. (ret).

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"mislead any foreign intelligence": Domaradskij, "TROUBLEMAKER," 66.

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chosen by Soviet leader: Hoffman, *The Dead Hand*, 132.

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***Biopreparat*:** Domaradskij and Orent, *Biowarrior*, 182.

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"darkest conspiracy": Alibek and Handelman, *Biohazard*, 41, 70.

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top secret research and development: Jonathan B. Tucker, "Biological Weapons in the Former Soviet Union: An Interview with Dr. Kenneth Alibek," *Arms Control Today* 29, no. 6 (July/August 1999): 3. Alibek told Tucker: "When we are talking about smallpox and plague biological weapons, these weapons would be used in the case of total war…. I am often asked why we developed genetically altered smallpox viruses when natural smallpox is bad enough. Unfortunately, it's a normal progression to develop more powerful weapons. Why, for example, did we develop a 100-megaton hydrogen bomb when both superpowers had 10-megaton and 20-megaton bombs?"

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floors were organized: Alibek and Handelman, *Biohazard*, 153.

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meetings…took place: Ibid.

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"We were not allowed": Ibid., 154.

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Popov had been part: Hoffman, *The Dead Hand*, 297. Hoffman interviewed Popov about this meeting specifically, and his work in general, first at Vector, and later at Obolensk: "Popov believes he was brought in as Domaradsky's [*sic*] successor in the intensifying search for genetically altered agents to be used in a biological weapon."

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learned all he could: Hoffman, *The Dead Hand*, 106. The lab was the Laboratory of Molecular Biology at the University of Cambridge.

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"Think of the problems": Leitenberg and Zilinskas, *The Soviet Biological Weapons Program*, 249, N792; interview with Milton Leitenberg.

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"This would mean": Ibid.

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"Inside a glass-walled laboratory": Alibek and Handelman, *Biohazard*, 163; Hoffman, *The Dead Hand*, 324–25. Hoffman confirmed with Popov it was him. (Popov also said the animals were guinea pigs.)

GO TO NOTE REFERENCE IN TEXT

"A single genetically engineered": Alibek and Handelman, *Biohazard*, 164. Popov detailed his role in this weapon's creation to Hoffman, who writes of this proof-of-concept experiment: "It was Popov's two-punch killer agent on display." See Hoffman, *The Dead Hand*, 325.

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How did civilized people get here?: "Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments," STATE, April 2023, 27–28. "Russia maintains an offensive [biological weapons] program and is in violation of its obligations under…the [Biological Weapons Convention] (BWC)."

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"would never be used": Hoffman, *The Dead Hand*, 104.

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CHAPTER THREE: THE SECRETS SPILL OUT

"We owe Pasechnik": Interview with Christopher Davis.

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"intelligence failures": Interview with Jim Lawler.

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crisis of conscience: Leitenberg and Zilinskas spent more than forty hours interviewing Pasechnik and dedicated *The Soviet Biological Weapons Program* to him: "Vladimir A. Pasechnik, first and foremost a scientist, was also a highly moral person, as was made clear after he defected to Great Britain in October 1989." See also Wolfgang Saxon, "V. Pasechnik, 64, Is Dead; Germ Expert Who Defected," *New York Times*, November 23, 2001.

GO TO NOTE REFERENCE IN TEXT

"he could no longer live with himself": Interview with Christopher Davis.

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confess his sins: Interview with Christopher Davis. See also Adams, *New Spies*, 333. Pasechnik told the British journalist "genetically engineered biological weapons were a crime against humanity."

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Canadians didn't believe him: Hoffman, *The Dead Hand*, 330.

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"As he talked about plague": Interview with Christopher Davis.

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"You do not choose plague": Interview with Christopher Davis. I first learned about this "take-out-the-infrastructure" idea in Hoffman, *The Dead Hand*, 334.

GO TO NOTE REFERENCE IN TEXT

90 percent: Kelly, *The Great Mortality*, 81. While Kelly writes this figure was "surely exaggerated," it conveys a sense of what things must have felt like to those who experienced this kind of mass death.

GO TO NOTE REFERENCE IN TEXT

"If this account is correct": Mark Wheelis, "Biological Warfare at the 1346 Siege of Caffa," *Emerging Infectious Diseases* 8, no. 9 (September 2002): 971–75.

GO TO NOTE REFERENCE IN TEXT

"Buboes are so intensely painful": Patricia L. Worsham et al., "Medical Aspects of Biological Warfare," Office of the Surgeon General, U.S. Army Medical Department Center and School, 2007, 265.

GO TO NOTE REFERENCE IN TEXT

"Untreated, death occurs": "Plague: Key Facts," WHO, July 7, 2022. "Plague can be a very severe disease in people, with a case-fatality ratio of 30% to 60% for the bubonic type, and is always fatal for the pneumonic kind when left untreated."

GO TO NOTE REFERENCE IN TEXT

kill 150 million people: Endy et al., *Biosecurity Really*, 3.

GO TO NOTE REFERENCE IN TEXT

"countless number of corpses": Boccaccio, *The Decameron*, 13.

GO TO NOTE REFERENCE IN TEXT

CHAPTER FOUR: OFFENSE AS DEFENSE

British intelligence sent: Interview with Christopher Davis, here and throughout this section.

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"I offer high credibility": "Russian BW Program," *Congressional Record—Senate* 144, no. 26, LOC, March 12, 1998.

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"My conclusion today": Susan Wright, "Terrorists and Biological Weapons," *Politics and the Life Sciences* 25, no. 1 (March 1, 2006): 57–115.

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President Clinton made: "Use of weapons of mass destruction," Title 18, Crimes and Criminal Procedure, Chapter 113B-Terrorism, U.S. Code, house.gov [updated September 17, 2025].

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still contentiously debated: Interview with Henry Heine; "Amerithrax Investigative Summary," Federal Bureau of Investigation, DOJ, February 19, 2010.

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one military…one civilian: Theodore J. Cieslak and Mark G. Kortepeter, "A Brief History of Biocontainment," *Current Treatment Options in Infectious Diseases* 8, no. 4 (2016): 251–58.

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at least fifteen BSL-4 labs: "High-Containment Biosafety Laboratories," GAO, October 4, 2007, i, 10. Quotes in this section are from this report.

GO TO NOTE REFERENCE IN TEXT

"No single federal agency": Ibid., 13.

GO TO NOTE REFERENCE IN TEXT

One country after the next: "Global BioLabs Report," Schar School of Policy and Government at George Mason University, King's College London, March 15, 2023.

GO TO NOTE REFERENCE IN TEXT

"Gain-of-function is a euphemism": Interview with Andy Weber.

GO TO NOTE REFERENCE IN TEXT

"Gain-of-function is evil": Interview with Tom Ehrhard.

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CHAPTER FIVE: GLOBAL CATASTROPHIC RISK

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they would be sick with this viral disease of choice." See also Alibek and Handelman, *Biohazard*, 260.

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Devolution ensures: Before Devolution became doctrine, U.S. continuity planning centered on presidential succession, emergency relocation, and survivability after a nuclear attack by physical transfer to hardened sites and alternate underground facilities. Transfer of authority was handled through classified succession lists. In the public domain, there appears to have been no standardized government-wide concept of Devolution until President Bill Clinton issued Presidential Decision Directive-67 (PPD-67) on October 21, 1998, which established a modern continuity policy and assigned FEMA a central role. Notably, it also anticipated non-nuclear, asymmetric catastrophes, including a biological attack, a direct result of the threat raised by the Soviet-era biological weapons program. The Clinton-era PPD-67 remains classified and is understood to inform all PPDs that came after, starting with Homeland Security Directive-1, on October 29, 2001. Devolution advanced from concept to doctrine starting in the early 2000s (after 9/11), with scenario planning now including situations where Washington itself would become unusable, the entire leadership chain compromised or dead. FPC-65 (2004) appears to be the first unclassified continuity document to use the term "Devolution" explicitly; FCD-1 (2017) being the first document to make Devolution mandatory doctrine, based on Presidential Policy Directive-40 (PPD-40), issued by President Barack Obama on July 15, 2016. With FCD-1 (and FCD-2), Devolution moved from an agency planning concept to a national survival mechanism.

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DAY SIX

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"Everyone's familiar with DEFCON": Interview with Craig Fugate.

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president's motorcade moves: DoD Instruction No. 3025.19, "SUBJECT: Procedures for Sharing Information with and Providing Support to the U.S. Secret Service (USSS), Department of Homeland Security (DHS)," DoD, November 29, 2011. To note: DoD/GAO paperwork defines VIPPSA as part of the protective support command system. Exactly how the president would be covertly exfiltrated by motorcade out of the NCR in a Devolution Plan scenario is classified as a tactical movement detail, which the Secret Service keeps protected.

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***Invoke the Insurrection Act*:** United States Code, Title 10, Armed Forces, Subtitle A: General Military Law, Part I: Organization and General Military Powers, HOUSE, Chapter 13: Insurrection. "Whenever there is an insurrection in any State against its government, the President may, upon the request of its legislature or of its governor if the legislature cannot be convened, call into Federal service such of the militia of the other States, in the number requested by that State, and use such of the armed forces, as he considers necessary to suppress the insurrection." By invoking both the Insurrection Act and declaring a national emergency, the president has removed every legal barrier that prohibits the use of military troops inside the United States.

GO TO NOTE REFERENCE IN TEXT

"LEAVE NOW. DO NOT WAIT": This is the same language used in an official alert received by the author on January 8, 2025, during the catastrophic Los Angeles fires. Several additional alerts followed, all false alarms.

GO TO NOTE REFERENCE IN TEXT

false alarms: "I can't express how sorry I am for this experience," director Kerri McGowen told reporters. The cause was later identified as a technical glitch. The mayor's office told residents to check official maps and websites rather than rely on one alert.

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military overreach and vaccine scarcity: "Tabletop Exercise, Dark Winter," Center for Health Security, Bloomberg School of Public Health, Johns Hopkins University, n.d. "Prior to [smallpox] eradication…data on smallpox outbreaks in Europe indicated that victims had the potential to infect 10 to 20 others."

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open fire: "Final Script—Dark Winter: Bioterrorism Exercise," JHC et al., June 22–23, 2001, 39. The family was armed. Two police officers were also killed.

GO TO NOTE REFERENCE IN TEXT

abruptly ends: Ibid., 40, 44.

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"The Insurrection Act is": Stutzriem was the director of Strategy, Plans, and Policy for U.S. Northern Command. CONPLAN 3502-09, DoD, July 31, 2009.

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effort to restore order: Interview with Bill Perry. Perry shared with me his fear that the suspension of Posse Comitatus, and the declaration of martial law, would likely not be as "temporary" as one might hope. "I fear if we ever had martial law in this country, we would never *not* have it." That there would always be an excuse to keep the military in play.

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Insiders call it "The Mountain": Interview with Craig Fugate.

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Area B: *Mount Weather Emergency Operations Center (MWEOC) Capital Infrastructure Investment Plan*, 2, DHS. Note: "Area A, which is the unclassified, above-ground portion, and Area B, which is the classified, below-ground portion."

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essential records packet: *Federal Continuity Directive 1* (FCD-1), DHS-FEMA, January 17, 2017, appendix F.

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briefed on how: DERG member "Requirements and Criteria for Devolution" are suggestive only in this open-source document; actual protocols are classified. Three key concepts underpin the continuity program: the president must be able to sign decisions; Congress must be able to pass emergency laws; the courts must be able to issue legal orders.

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Move the medicine: Frank Gottron and Todd Kuiken, "The Strategic National Stockpile: Overview and Issues for Congress," CRS Report R47400, September 26, 2023.

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1.7 million: "One System, Varied Missions: SOCOM Community's Collaborative Efforts Deliver a Comprehensive CBRN Protective Mask," Joint Program

Executive Office for CBRN Defense, DoD, November 13, 2023.

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Los Angeles hospitals are at risk: Interview with Jimmy Hara. Fire Commissioner Hara tells us the CDC's systems are essentially useless in a real-time crisis. "The average doctor in Los Angeles is far too busy dealing with an overload of patients each day," he says. "They do not have time to check CDC Health Alert Notices, let alone input patients' data into these [national reporting] systems."

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"When it starts to collapse": Interview with Julian Chesnutt.

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Special Access Program: Interview with Craig Fugate.

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"This can happen": Discussion with Sam Altman. If queried, as of fall 2025, the response reads: "Those SNS sites are considered operational sensitive and are not released to the public for security reasons."

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"The NMCC is the repository": Interview with Charles Moore, here and throughout this section.

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Soviet Chimera Program: Leitenberg and Zilinskas, *The Soviet Biological Weapons Program*, 228–30. This section, titled "Exploratory and Futuristic Research," provides readers with the most authoritative look at the futuristic intentions of the Soviet program, and the speculation it now fosters. "In addition to its agent-specific R&D," the authors write, "Vector performed substantial research to enhance the weapons-related properties of existing BW agents or create entirely new BW agents." Those interested should read the 900-page tome; chapters 7 and 8 in particular. See also "Imported Plague—New York City, 2002," MMWR, CDC, HHS, August 8, 2003, CDC.

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"Chimera pathogens are real": Interview with Brett Giroir.

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The idea behind the plague-VEE hybrid: Leitenberg and Zilinskas, *The Soviet Biological Weapons Program*, 196. "The most advanced biotechnology R&D done as part of Factor [a parallel program to Bonfire] was probably the attempt to create a bacterium that would encode viruses. Sergey V. Netesov started this work at Vector. In either 1987 or 1988, Netesov visited SRCAM [State Research Center for Applied Microbiology, i.e., the Obolensk facility] and gave a talk on his work in order to engage SRCAM in a collaborative project. Netesov had been working with Venezuelan equine encephalitis virus (VEEV), which is an RNA virus, and has been able to reverse engineer it to produce an infectious cDNA clone…. Popov heard the talk and had the idea of developing a type of 'double' pathogen comprised of *Y. pestis* that encoded to VEE."

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"a superweapon": Alibek and Handelman, *Biohazard*, 260.

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"absolutely untreatable": Hoffman, *The Dead Hand*, 11. See also: "Bioterror: Interviews with Biowarriors, Sergei Popov," *Nova*, PBS, November 13, 2001.

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APPENDIX: IMAGE DESCRIPTIONS

Several images in this ebook illustrate complex ideas or contain passages of text. In this section those images have been reproduced as thumbnails accompanied by extended descriptions of their contents.

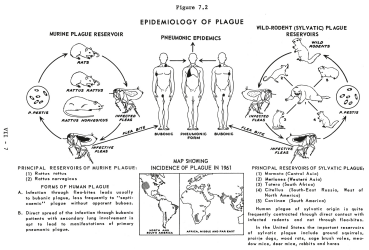


Figure 7.2 – EPIDEMIOLOGY OF PLAGUE

This diagram is a black-and-white epidemiological illustration showing how plague circulates among animals and fleas and how it reaches humans, as well as how pneumonic plague spreads between people. It also includes a small world map indicating where plague occurred in 1961 and text blocks listing animal reservoirs and forms of human plague.

Left side: Murine plague reservoir cycle

A circular flow diagram on the left is labeled at the top MURINE PLAGUE RESERVOIR. Around the outside of this diagram are the following images, connected by curved arrows that indicate a clockwise rotation to the cycle:

- At the left of the circle, a cluster of oval shapes inside a circular outline, labeled P. PESTIS.
- At the top, a simple outline drawing of a rat in profile, labeled RATS.
    - Below RATS, inside the circle, is a rat labeled RATTUS RATTUS.
    - Below that, also inside the circle, another rat is labeled RATTUS NORVEGICUS.
- At the right side of the circle a flea drawing is labeled INFECTED FLEAS.

- At the bottom of the circle a flea drawing with a darker color in the middle is labeled INFECTED FLEAS.
    - An arrow coming off this flea image is labeled FLEA BITE and points to the left human in the center of the diagram.

Left side text

Under the diagram above is the following explanatory text:

PRINCIPAL RESERVOIRS OF MURINE PLAGUE:

- Rattus rattus
- Rattus norvegicus

FORMS OF HUMAN PLAGUE

A. Infection through flea-bites leads usually to bubonic plague, less frequently to "Septicaemic" plague without apparent buboes.

B. Direct spread of the infection through bubonic patients with secondary lung involvement is apt to lead to manifestations of primary pneumonic plague.

Right side: Wild-rodent (sylvatic) plague reservoir cycle

A circular flow diagram on the right is labeled at the top WILD-RODENT (SYLVATIC) PLAGUE RESERVOIRS. Around the outside of this diagram are the following images, connected by curved arrows that indicate a counterclockwise rotation to the cycle:

- On the right of the circle is a cluster of oval shapes inside a circular outline, labeled P. PESTIS.
- At the top of the circle is a rodent standing upright on its hind legs, labeled WILD RODENTS.
    - Below this, in the center of the diagram, a central rodent is labeled 1. It is connected to four other rodents via simple lines
        - Counterclockwise from the top left rodent connected to 1 are rodents 2, 3, 4, and 5. These numbers correspond to the numbers in the PRINCIPAL RESERVOIRS OF SYLVATIC PLAGUE text, below.
- A flea drawing near the left side of the circle is labeled INFECTED FLEAS.
- At the bottom of the circle a flea drawing with a darker color in the middle is labeled INFECTED FLEAS.
    - An arrow coming off this flea image is labeled FLEA BITE and points to the right human in the center of the diagram.

Right side text

Under the diagram above is the following explanatory text:

PRINCIPAL RESERVOIRS OF SYLVATIC PLAGUE:

1. Marmota (Central Asia)
2. Meriones (Western Asia)
3. Tatera (South Africa)
4. Citellus (South-East Russia, West of North America)
5. Caviinae (South America)

Human plague of sylvatic origin is quite frequently contracted through direct contact with infected rodents and not through flea-bites.

In the United States the important reservoirs of sylvatic plague include ground squirrels, prairie dogs, wood rats, sage brush voles, meadow mice, deer mice, rabbits and hares.

Center: Human infection and pneumonic epidemics

In the central portion are three simplified, front-facing human figures arranged horizontally.

- The left and right human figures are both labeled BUBONIC
  - The arrows labeled FLEA BITE point to these forms
  - Arrows from both of these forms point to the central human form
- The middle human figure has a visible shaded drawing of lungs and is labeled PNEUMONIC FORM.
- An arrow leading from the central figure up is labeled PNEUMONIC EPIDEMICS.

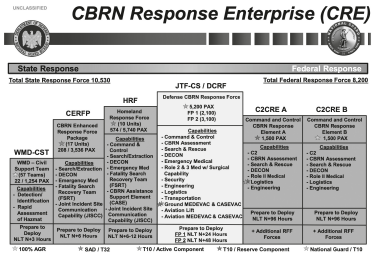
Bottom center: Map showing incidence of plague in 1961

- In the center bottom is a rectangular map block titled MAP SHOWING INCIDENCE OF PLAGUE IN 1961.
- Inside this block are two side-by-side simplified world map outlines:
- The left map shows the Western Hemisphere and is labeled at the bottom NORTH AND SOUTH AMERICA.
- The right map shows the Eastern Hemisphere and is labeled at the bottom AFRICA, MIDDLE AND FAR EAST.

Shaded or hatched areas on these maps indicate regions where plague occurred in 1961. The shading is present in parts of North

and South America on the left map and in parts of Africa, the Middle East, and the Far East on the right map.

Back to image in Chapter Three: The Secrets Spill Out.



CBRN Response Enterprise (CRE) Organizational Chart Description

This diagram is a structured overview of how U.S. Weapons of Mass Destruction (WMD) response forces are organized under the CBRN (Chemical, Biological, Radiological, and Nuclear) Response Enterprise. A wide header band at the top identifies the overall enterprise and shows that the chart is UNCLASSIFIED. And the seals for the DEPARTMENT OF DEFENSE - NATIONAL GUARD BUREAU and NATIONAL GUARD are present in the upper left and right, respectively. A bar under the seal has the label State Response on the left and Federal Response on the right; notations underneath these labels list Total State Response Force 10,530, Total Federal Response Force 8,200.

Six CBRN response forces are listed in information blocks under the headers.

WMD-CST

WMD – Civil Support Team

- ☆(57 Teams)
- 22 / 1,254 PAX

Capabilities

- Detection/ Identification
- Rapid Assessment of Hazmat

Deployment line:

Prepare to Deploy NLT N+3 Hours

CERFP

CBRN Enhanced Response Force Package

- ☆(17 Units)
- 208 / 3,536 PAX

Capabilities

- Search/Extraction
- DECON
- Emergency Med
- Fatality Search Recovery Team (FSRT)
- Joint Incident Site Communication Capability (JISCC)

Deployment line:

- Prepare to Deploy NLT N+6 Hours

HRF

Homeland Response Force

- ☆ (10 Units)
- 574 / 5,740 PAX

Capabilities

- Command & Control
- Search/Extraction
- DECON
- Emergency Med
- Fatality Search Recovery Team (FSRT)
- CBRN Assistance Support Element (CASE)
- Joint Incident Site Communication Capability (JISCC)

Deployment line

- Prepare to Deploy NLT N+6-12 Hours

JTF-CS / DCRF

Defense CBRN Response Force

- ☆ 5,200 PAX
- FP 1 (2,100)
- FP 2 (3,100)

Capabilities

- Command & Control

- CBRN Assessment
- Search & Rescue
- DECON
- Emergency Medical
- Role 2 & 3 Med w/ Surgical Capability
- Security
- Engineering
- Logistics
- Transportation
- ☆☆Ground MEDEVAC & CASEVAC
- Aviation Lift
- Aviation MEDEVAC & CASEVAC

Deployment lines:

- Prepare to Deploy
- FP 1 NLT N+24 Hours
- FP 2 NLT N+48 Hours

C2CRE A

Command and Control CBRN Response Element A

- ☆1,500 PAX

Capabilities

- C2
- CBRN Assessment
- Search & Rescue
- DECON

- Role II Medical
- ☆☆Logistics
- Engineering

Deployment line:

- Prepare to Deploy NLT N+96 Hours

Additional forces note:

- + Additional RFF Forces

C2CRE B

Command and Control CBRN Response Element B

- ☆1,500 PAX

Capabilities

- C2
- CBRN Assessment
- Search & Rescue
- DECON
- Role II Medical
- Logistics
- Engineering

Deployment line:

- Prepare to Deploy NLT N+96 Hours

Additional forces note:

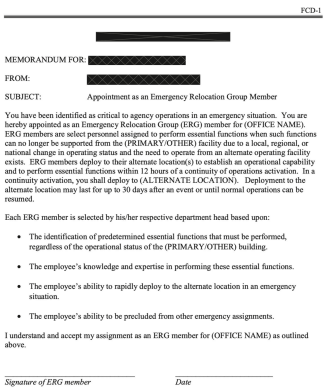
- + Additional RFF Forces

Footer Symbol Legend

Along the bottom of the diagram, a legend explains the meaning of star symbols. The legend is presented as short phrases separated by spaces; stars are rendered in indistinguishable grayscale.

- ☆ 100% AGR
- ☆ SAD / T32
- ☆ T10 / Active Component
- ☆ T10 / Reserve Component
- ☆ National Guard / T10

Back to image in Day Five.



FCD-1

[redacted]

MEMORANDUM FOR: [redacted]

FROM: [redacted]

SUBJECT: Appointment as an Emergency Relocation Group Member

You have been identified as critical to agency operations in an emergency situation. You are hereby appointed as an Emergency Relocation Group (ERG) member for (OFFICE NAME). ERG members are select personnel assigned to perform essential functions when such functions can no longer be supported from the (PRIMARY/OTHER) facility due to a local, regional, or national change in operating status and the need to operate from an alternate operating facility exists. ERG members deploy to their alternate location(s) to establish an operational capability and to perform essential functions within 12 hours of a continuity of operations activation. In a continuity activation, you shall deploy to (ALTERNATE LOCATION). Deployment to the alternate location may last for up to 30 days after an event or until normal operations can be resumed.

Each ERG member is selected by his/her respective department head based upon:

- The identification of predetermined essential functions that must be performed, regardless of the operational status of the (PRIMARY/OTHER) building.
- The employee's knowledge and expertise in performing these essential functions.
- The employee's ability to rapidly deploy to the alternate location in an emergency situation.
- The employee's ability to be precluded from other emergency assignments.

I understand and accept my assignment as an ERG member for (OFFICE NAME) as outlined above.

Signature of ERG member *Date*

Appointment as an Emergency Relocation Group Member

This image shows a printed memorandum page from a U.S. federal continuity directive document, formatted as an official government form with several redacted blocks and signature lines at the bottom. The text of the image reads as follows:

FCD-1

[redacted text]

MEMORANDUM FOR: [redacted text]

FROM: [redacted text]

SUBJECT: Appointment as an Emergency Relocation Group Member

You have been identified as critical to agency operations in an emergency situation. You are hereby appointed as an Emergency Relocation Group (ERG) member for (OFFICE NAME). ERG members are select personnel assigned to perform essential functions when such functions can no longer be supported from the

(PRIMARY/OTHER) facility due to a local, regional, or national change in operating status and the need to operate from an alternate operating facility exists. ERG members deploy to their alternate location(s) to establish an operational capability and to perform essential functions within 12 hours of a continuity of operations activation. In a continuity activation, you shall deploy to (ALTERNATE LOCATION). Deployment to the alternate location may last for up to 30 days after an event or until normal operations can be resumed.

Each ERG member is selected by his/her respective department head based upon:

- The identification of predetermined essential functions that must be performed, regardless of the operational status of the (PRIMARY/OTHER) building.
- The employee's knowledge and expertise in performing these essential functions.
- The employee's ability to rapidly deploy to the alternate location in an emergency situation.
- The employee's ability to be precluded from other emergency assignments.

I understand and accept my assignment as an ERG member for (OFFICE NAME) as outlined above.

Signature of ERG member

Date

Back to image in Day Six.



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