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**Senate Foreign Relations Committee**  
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Chairman Biden and members of the Committee, it is a privilege and honor for me to come back to the United States Senate where I spent so much of my life. I thank you for dedicating the first of these hearings to the threats of bioterrorism and the spread of infectious diseases. Biological terrorism is one of our greatest national security threats, and one that cannot be addressed by Department of Defense standard operating procedures. The specter of a biological weapons attack – and the parallel peacetime threat of a naturally occurring infectious disease outbreak – are unique, and they deserve the time and focus you are devoting to them today.

Mr. Chairman and members of the Committee, as you may know, this past June at Andrews Air Force Base, I was a participant in the exercise *Dark Winter* – which simulated a biological weapons attack on the United States. It's a lucky thing for the United States that this was just a test and not a real emergency. But, Mr. Chairman and members of the Committee, our lack of preparation is a real emergency.

During my 24 years on the Senate Armed Services Committee, I saw scenarios and satellite photos and Pentagon plans for most any category of threat you can imagine. But a biological weapons attack on the United States fits no existing category of security threats. Psychologist Abraham Maslow once wrote: "When all you have is a hammer, everything starts to look like a nail." This is not a nail; it's different from other security threats; and to fight it, we need a different set of tools than the ones we've been using.

Our exercise involved an intentional release of smallpox. Experts today believe that a single case of smallpox anywhere in the world would constitute a global medical emergency. As Members of this committee know, a wave of smallpox was touched off in Yugoslavia in 1972 by a single infected individual. The epidemic was stopped in its fourth wave by quarantines, aggressive police and military measures, and 18 million emergency vaccinations to protect a population of 21 million that was already highly vaccinated.

Mr. Chairman, we have effectively only 12 million doses of vaccine in America to protect a highly vulnerable population of 275 million that is essentially not vaccinated. The Yugoslavia crisis mushroomed from one case; our Dark Winter exercise began with 20 confirmed cases in Oklahoma City, 30 suspected cases spread out in Oklahoma, Georgia, and Pennsylvania, and countless more cases of individuals who were infected but didn't know it. We did not know the time, place or size of the release, so we had no way of judging the magnitude of the crisis. All we knew was that we had a big problem and a small range of responses. One certainty was that it would get worse before it would get better. Our medical experts told us that we had only two strategies for effective

smallpox containment: (1) isolating those who are sick, and (2) vaccinating those who have been exposed. Isolation is difficult when you're not sure who has it; vaccination cannot stop the spread if you don't have enough of it.

### **Dark Winter Overview**

*Dark Winter* simulated a series of National Security Council (NSC) meetings dealing with a terrorist attack involving the covert release of smallpox in three American cities. The exercise was conducted by the Center for Strategic and International Studies, the Johns Hopkins Center for Civilian Biodefense Studies, and the ANSER Institute for Homeland Defense, under the leadership of John Hamre, Tara O'Toole and Randy Larsen, respectively. Many of the participants in *Dark Winter* had served previous Presidents in cabinet or sub-cabinet positions. Most knew how the NSC worked, and they were all individuals with considerable expertise and perspective in the security, law enforcement and health fields.

I will not take the Committee's time with a complete replay of the events, but will share with you the highlights.

In the opening minutes of *Dark Winter*, we learned from the Secretary of Health and Human Services that cases of smallpox had just been diagnosed by the Centers for Disease Control. Given the infectious nature of the disease, we were facing the start of a smallpox epidemic – an event with devastating, if not catastrophic, potential.

Like all of you, I received a smallpox vaccination when I was a child, but I had forgotten the horror of the disease. In the 20<sup>th</sup> century, more than 300 million people died from smallpox – more than those killed in all wars of the century combined. Thanks to a massive and highly collaborative international campaign, smallpox as a naturally occurring disease was eradicated. But once eradicated, the consequences of a smallpox outbreak has become more dangerous with each passing year as new generations of unvaccinated citizens are born and the potency of the previous vaccinations diminishes with time. Unfortunately, we know that smallpox was made into a weapon by the Soviet Union; we do not know if any other nations or groups have successfully pursued a similar goal, and this should be a matter of keen intelligence forces.

Over a 24-hour period at Andrews Air Force Base, our NSC “war gamers” dealt with three weeks of simulated shock, stress and horror. I was given the role of President of the United States, and Jim Woolsey was the Director of the Central Intelligence Agency.

We learned that on December 9, 2002, some dozen patients reported to the Oklahoma City Hospital with a strange illness confirmed quickly by the CDC to be smallpox. While we only knew about the Oklahoma cases the first day, we later learned the scope of the initial infections and the sites of three simultaneous attacks in shopping centers in Oklahoma, Georgia and Pennsylvania. The initial infection quickly spread to five states and 3,000 victims although most infected individuals had not displayed symptoms or gone to the hospital in the first few days so we did not know who they were or where they were.

We quickly learned that we had only two tools available to deal with a smallpox attack – vaccination and isolation, and we had only enough vaccine for one out of every 23 Americans.

I denied the Secretary of Defense’s demand that all 2.3 million of U.S. military personnel be immediately vaccinated wherever they were in the world. Instead, we administered vaccine to U.S. military, including the National Guard, and security and medical service personnel who were on the front lines locally and also those who were in areas of the world where a smallpox attack was more likely to occur. Our initial decision was to use our limited vaccine supply to protect health care workers, local police and fire officials, National Guard on the scene and local, state and federal officials in the line of fire. We also devised a strategy to try and put a firewall around the infections that were being reported, but that strategy was largely ineffective because of the rapid spread of the disease and our limited supply of vaccine.

So, on the first night of decision-making, we designed a vaccination strategy, and we ordered accelerated production of new stock. We asked the Secretary of State to try to find surplus stock from other countries. I will skip the agonizing details and get to the conclusions.

On Day Six of the crisis, we had very little vaccine left. We quickly faced the only alternative – forced isolation with large numbers of exposed citizens whose locations and identities remained guesswork. We were down to the really tough questions. Do we force whole communities and cities to stay in their homes? How? With force? Do we physically prevent citizens in high-risk areas from fleeing their communities when they themselves may already be infected? Who provides food and care for those in forced isolation, particularly when we can no longer provide vaccine to essential providers?

One Day Twelve, when our war game ended and my brief tenure as President concluded, we were beginning the next stage of the epidemic – those who caught smallpox from the original 3,000 people who were infected in the initial terrorist attack. Our health experts told us that every two to three weeks the number of cases would increase ten-fold. To give you a glimpse of how the exercise ended, here are a few highlights from a simulated CNN broadcast:

“On Day Twelve of the worst public health crisis in America’s history, demonstrations for more vaccine in hard-hit communities disintegrated into riots and looting around the nation. Interstate commerce has stopped in several regions of the nation. A suspension of trading on America’s stock exchanges takes effect tomorrow. International commerce with the U.S. has virtually ceased.

The Centers for Disease Control reports that efforts to stem the smallpox epidemic have depleted America’s inventory of smallpox vaccine. While the CDC may be out of vaccine, at least 45 Internet websites are offering what they

claim are safe, effective vaccines from previously forgotten stocks. These claims have not – repeat not – been independently verified, and authorities urge caution.

At least 25 more states and 10 foreign countries are reporting smallpox infections. At the United Nations, China has sponsored a resolution to censure the U.S., blaming America for reintroducing smallpox to the world. It is demanding that the U.S. supply the world with vaccine.”

In summary, Mr. Chairman, I determined from our war game that public health has become a national security issue, but that we are unprepared. We were out of vaccine. We were discussing martial law. Interstate commerce was eroding rapidly. The members of our simulated NSC, as well as state and local officials, were desperate. We came to realize too late that our country:

- **Had not** produced sufficient vaccine.
- **Had not** prepared top officials to cope with this new type of security crisis.
- **Had not** invested adequately in the planning and exercises absolutely necessary for coordinated response.
- **Had not** ensured that the public health infrastructure was adequate, with built in surge capacity.
- **Had not** educated the American people, or developed strategies to constructively engage the media in educating the public, about what was happening and what to do.
- **Had not** practiced what few plans there were in place.
- **Had not** ranked biological terrorism or infectious diseases as high national priorities.

### **Dilemmas and Insights**

Most participants in our exercise would have been much more in their element if we had been dealing with a terrorist bombing. The effects of a bomb are bounded in time and place. After the explosion, the nation’s leadership knows the geography and the extent of the damage. You know where to start, and how much it will take to respond and rebuild. Smallpox, on the other hand, is a silent, ongoing, invisible attack. It is highly contagious, and spreads in a flash – each smallpox victim can infect ten to twenty others. It incubates for two weeks before physically appearing – it comes in waves.

The most insidious effect of a biological weapons attack is that it can turn Americans against Americans. Once smallpox is released, it is not the terrorists anymore who are the threat; our neighbors and family members can become the threat. If they’ve been exposed, they can kill you by talking to you. The scene could match the horror of the Biblical description in Zechariah (8:10): “Neither was there any peace to him that went out or came in ... for I set all men every one against his neighbour.”

A biological weapons attack cuts across categories and mocks old strategies. For more than two thousand years the most important rule of war has been to know your enemy.

In military language, this means that when you face a battlefield scenario, you draw up an order of battle – you estimate the number of enemy tanks and planes and troops, their intelligence and logistics capabilities, and other resources. A biological weapon, however, is an invisible killer. An attack may go unrecognized for days, only becoming evident after large numbers of people become sick. In the case of a contagious disease, our own people would become the enemy’s weapons as they transmit the disease to others, creating ever-widening circles of exposure.

Even after you know there has been an attack, there still are few reliable numbers – because you don’t know who initially released it, how much more they have, or where they are. And the usual responses to an attack are impossible: “Engage the enemy; open fire; stop their advance; bring out the wounded.” You can hardly know who is wounded.

For the participants, this exercise was filled with many such horrible dilemmas and unpleasant insights.

Number one: We have a fragmented and under-funded public health system – at the local, state, and federal levels -- that does not allow us to effectively detect and track disease outbreaks in real time.

Two: Lab facilities needed to diagnose the disease are inadequately supported and laboring with outdated technology.

Three: There is insufficient partnership and communication across federal agencies and among local, state, and federal governments.

Four: The only way to deal with smallpox is with isolation and vaccination, but we don’t have enough vaccines, and we don’t have enough dedicated facilities, resources, or information for effective isolation.

Five: A biological weapons attack will be a local event with national implications, and that guarantees tension between local, state and national interests. In our exercise, Governor Keating of Oklahoma asked for vaccine for every one of his citizens – as he had to in the interests of his state. The President said no, as he had to in the interests of the nation. Naturally, this demands a high degree of advanced planning and coordination, because of the diverging interests, and because key players and partners are answerable to different leaders.

Six: Most hospitals run at or near full capacity all the time: a surge in patients from smallpox, combined with the inevitable infections of hospital personnel, and the flight of some fearful health care professionals, would create a catastrophic overload.

Seven: There will be a dearth of information on this kind of event. My staff and cabinet could not tell me ten percent of what I wanted to know: “How many cases are there right now? How many more cases can we expect? Will there be more attacks? When and where did the first infections take place? Who released it? What’s the worst- case

scenario? Is our vaccine supply secure and safe for use? Will other countries loan us emergency vaccine to keep the disease from spreading all over the world?

And there are many tradeoffs. One of the biggest: We have 12 million vaccines; that's enough for one out of every 23 Americans. How do we decide whom to vaccinate?

Do we take power from the Governors and federalize the National Guard? Do we seize hotels and convert them into hospitals? Do we close borders and block all travel? What level of force do we use to keep someone sick with smallpox in isolation? Do we keep people known or thought to be exposed quarantined in their homes? Do we guarantee 2.3 million doses of vaccine to the military; or do we first cover all health care providers? Do we take strong measures that protect health, but could undermine public support or destroy the economy?

Finally: How do you talk to the public in a way that is candid, yet prevents panic – knowing that panic itself can be a weapon of mass destruction? My staff had two responses: “We don't know” and “You're late for your press conference.”

I told people in the exercise: “I would never go before the press with this little information,” and Governor Keating – who knows about dealing with disaster, said: “You have no choice.” And I went, even though I did not have answers for the public's most urgent questions: “How do you plan to protect our families?” “How rapidly and how far will it spread?” And “Why isn't there enough vaccine?”

Naturally, there are some skeptics anytime you describe a dire threat to the United States. I want to tell the Committee: I am convinced the threat of a biological weapons attack on the United States is as urgent as it is real. As Secretary Rumsfeld said in his confirmation hearings: “I would rank bioterrorism quite high in terms of threats ... It does not take a genius to create agents that are enormously powerful, and they can be done in mobile facilities, in small facilities.” An experiment some years ago showed that a scientist whose specialty was in another field was able to weaponize anthrax on his first attempt for less than \$250,000.

Hundreds of labs and repositories around the world sell biological agents for legitimate research – and the same substances used in legitimate research can be turned into weapons research. In addition, the massive biological weapons program of the former Soviet Union remains a threat, at least to the extent that materials and know-how could flow to hostile forces. At its peak, the program employed 70,000 scientists and technicians and made twenty tons of smallpox. One Russian official was quoted some years ago in *The New Yorker* saying: “There were plenty of opportunities for staff members to walk away with an ampule.” There still are.

According to a very prominent press report, former Soviet biological weapons scientists have been aggressively – and in some cases successfully – recruited by Iran. And Ambassador Rolf Ekeus, who headed the United Nations special commission that investigated Iraq's arsenal after the Gulf War, and who we are lucky to have on the Board

of Directors of NTI, had testified before Congress that in 1991 Iraq had 300 biological bombs.

So the ability of people to acquire or create biological weapons should be clear beyond any doubt. And no one should doubt how lethal biological weapons could be. In 1979, a small amount of anthrax escaped from a Soviet biological weapons lab in Sverdlovsk. Seventy-seven cases of human anthrax occurred in the city surrounding the lab. Sixty-six died, and new cases were appearing as late as 47 days after the leak. All this resulted from only a tiny amount of anthrax being released – on the order of ounces. It doesn't take much imagination to envision the catastrophe that would result if someone deliberately released a much larger quantity.

It is important not to overstate this threat. But it is not an overstatement to say it is real, it is dangerous, and if it occurred today, it would catch us unprepared.

Michael Osterholm and John Schwartz, in their book Living Terrors, told about the experience of one doctor who knew his state was one of the best-trained areas of the country for a biological weapons attack. One day he conducted some unscientific research. He discovered that the total city stockpile for dealing with an anthrax attack would not cover even 600 patients. He found that a doctor trained in biological weapons failed to diagnose anthrax when the classic symptoms were described; a doctor in the radiology department failed to recognize inhalation anthrax when shown an X-ray; and a voice mail message describing a bioterrorism concern went unreturned by the state health department for three days.

### Next Steps

In fairness, we are making progress. The Clinton Administration deserves credit for recognizing that a biological weapons attack is different from warfare or other terrorist threats and for targeting funds to address it. That initiative includes strengthening the public health infrastructure, creating a pharmaceutical stockpile for civilian use, a contract to develop and produce a new smallpox vaccine, research to develop new and improved diagnostics, drugs and vaccines, programs to train first responders (police and fire departments as well as public health and medical professionals) across the United States, and investments in new technologies to help detect biological agents.

Under the Bush Administration, these efforts are continuing and in some cases, funding is increasing. It is also heartening that Secretary Thompson has named a senior advisor on bioterrorism who previously directed the program on bioterrorism at the Centers for Disease Control and Prevention. These are positive steps. Still, we have to do more – and quickly.

Before detailing the issues that I believe deserve the greatest attention, we should keep in mind that the results of biological attacks would vary according to the specific agent used. Technology and training for early recognition of the type of pathogen are essential. This exercise gave us valuable lessons about a possible smallpox attack. The circumstances would be very different in the case of an anthrax attack, for example. In

the event of an attack using anthrax, vaccination and isolation would be irrelevant, but antibiotics would need to be administered on the scene immediately.

For the participants, the *Dark Winter* exercise instilled in all of us that there is much work to be done:

**Number one:** Clearly, measures that will deter or prevent bioterrorism are the most cost effective means to counter threats to public health and social order. We need to prevent the proliferation of biological weapons, in part by strengthening intelligence gathering against such threats, but also by providing peaceful research options to scientists in the former Soviet Union. Efforts to fight proliferation require a global approach, including finding a way to strengthen and enforce the Biological Weapons Convention.

**Two:** We need to focus more attention, concern and resources on the specific threat of bioterrorism – understanding that it is different from other threats we face. Biological weapons must be countered with new protocols for securing dangerous pathogens, with increased vigilance and surveillance, as well as with increased supplies of medicines and vaccines and significantly increased training.

**Three:** We need to recognize the central role of public health and medicine in this effort and engage these professionals fully as partners on the national security team. We must act on the understanding that public health is an important pillar in our national security framework. In the event of a biological weapons attack – millions of lives will depend on how quickly doctors diagnose the illness, communicate their findings, and bring forth a fast and effective response at the local and federal level. This means, clearly, that public health and medical professionals must be part of the national security team. Planning for an event like this is not the exclusive purview of the Department of Defense, the National Security Council, the CIA and the Department of Energy. The Department of Health and Human Services (CDC, FDA, NIH, etc.) must also be included.

This may seem obvious enough. But several years ago, when Administration officials were meeting to discuss supplemental funding legislation for defense against biological weapons – the presiding official from the Office of Management and Budget greeted the officials from the NSC, and FBI and CIA and DoD, then saw the Assistant Secretary from Health and Human Services at the table, did a double-take and said: “What are you doing here?” Health officials should not need to be given directions to the White House Situation Room in an emergency.

**Four:** We need to identify and put into practice the mechanisms by which all levels of government will interact and work together. It is critical that we understand our differing roles, responsibilities, capabilities, and authorities, and plan on how we will work together before an act of terrorism occurs.

**Five:** We need to reexamine and modernize the legal framework for epidemic control measures and the appropriate balance with civil liberties -- the laws that would apply if we were to find ourselves managing the crisis that would come with a biological weapons



attack. These laws vary from state to state and many are antiquated. We need to make sure that they are up-to-date, consistent with our current social values and priorities, and we need to reacquaint high-level officials in all areas of response with the specific authorities these laws provide, and how they can implement them.

**Six:** There should be a clear plan for providing the news media with timely and accurate information to help save lives and prevent panic.

**Seven:** We need to increase the core capacities of our public health system to detect, track and contain epidemics, by providing resources for effective surveillance systems, diagnostic laboratory facilities, and communication links to other elements of the response effort.

**Eight:** The national pharmaceutical stockpile should be built to capacity, including extra production capability for drugs and vaccines, with heightened security at the various dispersal sites. We must not fall victim to a twin attack that releases a bio-agent and simultaneously destroys our drugs and vaccines.

**Nine:** We need to develop plans for a surge of patients in the nation's hospitals to make the best use of existing resources in the event of an emergency. This will require careful advance planning, including how to utilize ancillary facilities such as gymnasiums or armories, since most hospitals are operating at or near capacity right now.

**Ten:** We need to increase funding for biomedical research to develop new vaccines, new therapeutic drugs, and new rapid diagnostic tests for bioweapon agents.

**Eleven:** We need to encourage the scientific community to confront the sinister potential of modern biological research, and help them devise systems and practices that ensure the safe, secure storage of, and access to, dangerous pathogens.

**Twelve:** Officials at the highest levels of the federal, state, and local government need to participate in exercises like *Dark Winter* to understand the importance of advance preparation. Plans must be exercised, evaluated, and understood by decision-makers if they are to prove useful in a time of crisis.

I know how difficult it is to find funding for new initiatives, and public health is often left behind. We need to think about supporting public health activities in the same way we think about our national defense. Congress and the public should understand that expanding disease surveillance, creating additional lab capacity and enhancing vaccine production capabilities will benefit the United States not only in responding to a biological weapons attack, but also by improving our responses to natural disease outbreaks. We have a chance to defend the nation against its adversaries and improve the public health system with the same steps.

## **The Nuclear Threat Initiative – A New Foundation**

Mr. Chairman and members of the Committee, encouraging and helping our government to deter, prevent, and defend against biological terrorism is a central part of our mission at the Nuclear Threat Initiative (NTI) – the organization founded by Ted Turner and guided by an experienced board that Ted and I co-chair. We are dedicated to reducing the global threat from biological, nuclear, and chemical weapons by increasing public awareness, encouraging dialogue, catalyzing action, and promoting new thinking about these dangers in this country and abroad.

We fully recognize that only our government can provide the leadership and resources to achieve our security and health priorities. But within that context, NTI is:

- Seeking ways to reduce the threat from biological weapons and their consequences.
- Exploring ways to increase education, awareness and communication among public health experts, medical professionals, and scientists, as well as among policy makers and elected officials – to make sure more and more people understand the nature and scope of the biological weapons threat.
- Considering ways to improve infectious disease surveillance around the globe – including rapid and effective detection, investigation, and response. This is a fundamental defense against any infectious disease threat, whether it occurs naturally or is released deliberately.
- Stimulating and supporting the scientific community in its efforts to limit inappropriate access to dangerous pathogens and to establish standards that will help prevent the development and spread of biological agents as weapons.
- And finally, NTI is searching for ways to help our government and the Russian government to facilitate the conversion of Russian bioweapons facilities and know-how to peaceful purposes, to secure biomaterials for legitimate use or destruction, and to improve security of dangerous pathogens worldwide.

## **Concluding Remarks**

Mr. Chairman, enemies don't normally attack us where we are strong; they target us where we are weak. Enemies of the United States are not eager to engage us militarily; they saw what happened in Desert Storm. They will attack us where they believe we are vulnerable. Today, we are vulnerable to biological terrorism and those who perpetuate such an act are not likely to be quickly identified or leave a return address. It is critical that we prepare with all possible speed, because if an attack occurs, and succeeds, there will be others. Preparing is deterring.

Our first priority must be prevention. Whether the enemy achieves its objectives in an attack depends, to a large extent, on how the American people respond. Panic is as great a danger as disease. Some will respond like saints – doing whatever they can, exhibiting brave and selfless patriotism – to meet the needs of family and community. Others will

respond with panic, perhaps even using violence to obtain vaccines or drugs, or try to protect themselves or their loved ones from exposure. The distance between these two is broad. How most of our citizens will respond will depend largely on what they hear from the President and their elected leaders, and how they see our government respond. This means we must be prepared.

When America faced possible financial panic in March of 1933, President Roosevelt did three things immediately upon taking office: he ordered the banks to close temporarily, he proposed emergency banking legislation, and he explained his plan to the public in the first of his regular national radio broadcasts.

If he had not talked reassuringly to the American people, his plan might not have worked. But if he had talked, and had no plan, his talk would not have been reassuring. In the event of a biological weapons attack, no President, no matter how great his natural gifts, will be able to reassure the public and prevent panic unless we are better prepared than we are right now.

If we are well prepared – with the ability to detect the disease quickly, report it swiftly, and implement the appropriate infection control measures, including the provision of necessary drugs or vaccines for all those who came in contact with it – then the President of the United States will address the American people with knowledge, with courage, and with confidence, and the people will respond in kind. Whether this or a future President will exert this essential leadership will depend in large part on how we all address this issue now.

I commend the Committee for tackling such a difficult but important matter. Our country's protection and safety depend on your leadership. Thank you.