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"Public Health Preparedness and Our Global Security"

Public Health and Law in the 21st Century
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Thanks very much, Gene Matthews, for your kind introduction. Gene and many of you attending this conference have been pioneers in using the law to improve public health. The CDC has been the recipient of much of this legal advice and has in turn been a blessing to our citizens and to the world with your remarkable fight against infectious diseases both at home and abroad. Today we will discuss new challenges to our security, our health and our laws.

I am no longer in government, but I remain engaged in public policy. For many years, I have believed that keeping weapons of mass destruction out of the hands of those who would not hesitate to use them to kill millions is our number one national security challenge. That is why I introduced the Nunn-Lugar legislation in 1991 and worked for its passage and its implementation with Senator Lugar and others. That is why I introduced the Nunn-Lugar-Domenici legislation in 1996 and worked for its passage and implementation with Senator Lugar and Senator Domenici and others. That is why I am now dedicating more than 50 percent of my time to work on preventing catastrophic terrorism with a foundation called the Nuclear Threat Initiative -- known as NTI -- which is inspired and generously funded by Ted Turner.

I am no expert in public health, but I know enough about the security threats we face to recognize that public health must become an indispensable pillar of our national security framework.

In the event of a biological weapons attack, millions of lives may depend on how quickly we can diagnose the effects, report the findings, disseminate information to the health care community, and bring forth a fast and effective response -- at both the local and federal level. This means that public health and medical professionals must be part of our national security team. The good news from the biological terrorism front is not news to this audience but it is news to most in government. In our global society, most things we now must do because of the threat of biological terrorism should already have been done to prevent and to respond to infectious diseases, which now take the lives of millions of people per year.

I believe that as we develop a national strategy to respond to these challenges, we must think through the broader context of both the immediate symptoms and the underlying causes.

The Center for Strategic and International Studies, whose Board I chair, tells us we are in the midst of what they call "Seven Revolutions." The "Seven Revolutions" is a challenge to leaders -- a challenge to think seriously about events that are over-the-horizon and a challenge to

formulate the near term policies that take into account the longer-range consequences. Let me describe a few of these world-shaking developments as background for our discussion today:

- A REVOLUTION IN POPULATION: The world population, which is currently at 6.18 billion, will grow by almost 2 billion by 2025. By then eighty percent of the world's population will be in developing countries -- in other words, in countries that are least capable of supporting further population growth. This population growth will also present the challenge of hyper-urbanization. By 2025, the portion of the world's population living in urban areas will increase sharply -- to nearly 60 percent -- dominated by unemployed young people. Already, up to one-half of the populations in the largest cities in the developing world are living in unplanned squatter colonies -- highly susceptible to disease and disaster. Paradoxically the developed world population is contracting; at least 39 countries across the world -- such as Germany, Japan, and Italy -- are expected to be substantially smaller than they are today. Populations in these developed countries are also getting old -- very old, which presents serious challenges to our healthcare system as well as our fiscal policy.

- A REVOLUTION IN RESOURCES: This population growth will also have revolutionary effects on our resource allocation and distribution, including water, energy, food and the environment. The most serious resource scarcity in 2025, CSIS believes, will be water. Populations are growing quickly in a number of geographical areas incapable of providing water to support increased populations. This has profound geopolitical implications. On the food front, despite dire predictions, starvation has declined drastically since the end of the Second World War. The issue now is whether increases in productivity can keep up with rises in population. Biotechnology is a wild card; in light of diminishing land and water resources, stunning technology advances may be possible but shifts in public attitudes may be necessary to avert severe dislocations.

- A REVOLUTION IN TECHNOLOGY: CSIS also believes that there will be several major and simultaneous drivers of revolutionary technological change during the next 25 years, including computation, genomics, nanotechnology, and of course, the information explosion and knowledge diffusion. Today we have technological tools of great power that can be used to clean up our waste dumps; protect our fragile environment; improve our health and longevity; feed, clothe and house our people; and spread our knowledge to every area of America and the world. These same technological tools can be used by the "bad guys" to disrupt our society, terrify our citizens and kill millions.

- A REVOLUTION IN INFORMATION: Advances in technology have expanded information flows, spanned geographies as never before, reduced time lags in communication and opened unprecedented opportunities but also considerable dangers. In the past, economists have pointed to three "factors of production": land, labor, and capital. In the information economy, all of these will be important -- but runner-ups to the new primary factor -- knowledge.

- A REVOLUTION IN TIME AND DISTANCE: Advances in technology have not only increased the scope, speed, and efficiency of business operations worldwide, but they

have also brought down the costs of distance by gradually eliminating the burdens of communication, geography, transportation, language and even time. The result has been a staggering increase in the cross-border flow of goods and services, which has large economic benefits but also security challenges. The benefits of increased integration apply to developed and developing countries alike. The United Nations Development Program maintains that developing countries have achieved in 30 years what the industrialized nations took 100 years to accomplish. Yet, the obstacles to continued economic development are tremendous. A staggering 2.8 billion people live on less than $2 a day; 1.2 billion live on less than $1 a day. The evidence suggests that these income gaps are widening -- not closing.

- A REVOLUTION IN WARS AND CONFLICT: Patterns of conflict are changing in an era when nation states no longer have a monopoly over super violence. Modern militaries must rebuild their capacities to adapt to new threats and handle a wide range of threats. History will remember September 11, 2002 as the date the world recognized the arrival of asymmetric warfare. The insidious attacks on September 11th represent a quantum leap in the scale of modern terrorism, and brought to our nation and the world the realization that groups and organizations, with the determination to cause great destruction, are willing to use weapons of mass effect -- including nuclear, radiological, biological and chemical weapons.

These dominant trends have powerful implications for our lives and future. Unfortunately, trends develop quickly, but institutions move slowly. Neither the United States nor the world is in a position now to meet the threats or capitalize on the opportunities now coming with the changes in our world. We have now awakened and are moving, but we are not *preparing* for them, at least not as fast as we must.

Amidst all the changes, three key challenges converge to pose a major security challenge to our nation and indeed to the world:

First, the persistent and growing gap between the developed and the developing world -- the haves and the have-nots -- continues to inflict humiliation, breed resentment and spark conflict in many parts of the world. The uneven integration of developing countries into the global economy, imbalances in population growth between rich and poor nations, severe environmental degradation, inadequate public health systems and a shortage of jobs and educational opportunities in the developing world all form a part of this disparity. There is some debate over whether the disparities are growing, shrinking or stable, but there can be no denying that in our globalized world, these disparities are easier to see and harder to accept -- and, therefore, breed greater resentment.

Second, a number of seemingly intractable conflicts continue to fester around the globe, inciting public outrage, a shared sense of grievance, and even sympathy and support for terrorists in some quarters. Most notable among these are the Israeli-Palestinian conflict and the dispute between India and Pakistan over Kashmir. Both these ongoing conflicts have global effect and create deep grievances which terrorists are eager to exploit.

Third, nuclear, biological, and chemical weapons, materials, and know-how are becoming more widely available to both rogue states and terrorists. People have called this the democratization of weapons of mass destruction. Ordinarily, we think of democratization as a good thing. Democratization in the political sense means giving more people the power to vote. Democratization in the area of nuclear, biological and chemical weapons, however, means giving more people the power to find them, build them, and use them for destruction.

When we combine the growing availability of nuclear, biological and chemical weapons, with the growing anger and hatred it would take to use them, we have a much higher probability of catastrophic terrorism -- with effects that would make the attacks of September 11th look like a warning shot.

HOW DO WE RESPOND?

These dangers did not begin on September 11th, indeed because of our response, they may have receded, but the perception and apprehension of our citizens has grown enormously since September 11th, and weekly warnings add to this anxiety.

We must view September 11th as not just a warning shot, but a wake up call helping us realize that the terrorists' capacity for killing is limited only by the power of their weapons, and spurring us to take the right steps to defend ourselves, our country, and our future. The greatest danger in the world today is the threat from nuclear, biological, and chemical weapons. The likeliest use of these weapons is in terrorist hands. We must do all we can to keep the world's most dangerous materials and weapons out of the hands of the world's most dangerous people.

We are in a new arms race between terrorist efforts to acquire nuclear, biological and chemical weapons and our efforts to stop them. To win the race, the United States needs a strategy to secure these weapons and materials immediately on a global basis. This must be our government's highest priority. So far, it's not. There is a huge gap between the threat and our response. We must close the gap -- and soon.

On the good news side, today we have an opportunity to make an enormous difference in reducing these threats based on our new relationship with Russia and the warm Bush-Putin friendship. At the Nuclear Threat Initiative, we have identified several urgent actions that should command our focus and shape our priorities.

We believe the President and our Congress must:

1) **Lead, along with Russia, a global coalition to secure, consolidate and reduce stockpiles of weapons of mass destruction and their essential ingredients everywhere.** Unprotected nuclear, biological or chemical materials and weapons anywhere are a threat to people everywhere. Unfortunately, there are no global standards to prevent theft -- security varies widely from one country to the next -- and America's security is only as strong as the link at the weakest, least-protected site. That means our security depends on each country safeguarding all of their dangerous materials, including

biological, chemical and nuclear material used in medicine, research or other legitimate private endeavors.

2) **We must complete rapid security upgrades for all nuclear weapons and materials in the former Soviet Union within two years and finish comprehensive upgrades within four years.** It takes less than 20 pounds of plutonium and less than 10 pounds of highly enriched uranium to make a nuclear weapon. There are over a thousand tons of plutonium and highly enriched uranium spread across the former Soviet Union -- much of it dangerously insecure. Despite ongoing work by the U.S. and Russian governments to secure it, at the current pace this material won't meet minimal security standards for at least 8-10 years unless we make it a top priority.
3) **We must insist on accurate accounting and adequate safeguards for U.S. and Russian tactical nuclear weapons**, **including reciprocal monitoring**. Tactical or battleground nuclear weapons have never been covered in arms control agreements. We can only guess at the numbers in each other's inventories. Yet these are the weapons most attractive to terrorists, more valuable than nuclear materials and more portable than strategic weapons. Without an accurate inventory, it is impossible to know if one is missing.
4) **We must strengthen efforts to prevent and respond to bioterrorism through an integrated public health, medical care and research agenda.** This agenda should address critical gaps in the public health infrastructure for infectious disease prevention and control; prepare medical providers and hospitals to recognize and respond to biological terrorism; develop new tools for diagnosis, treatment and prevention of potential disease threats; and explore new strategies for reducing inappropriate access to dangerous biological materials.

This threat of bioterrorism is, in my view, the threat we're least prepared to handle today. Last summer I was given the dubious honor of playing the part of the President in the exercise "Dark Winter," which simulated a smallpox attack against the country. In 24 years on the Senate Armed Services Committee, I've seen scenarios, war games 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. To those of us who participated -- the Dark Winter exercise taught us two unforgettable facts: one: public health is a national security issue, and two: we were not, and are *still* not, prepared to prevent or respond to a biological attack on the United States.

During this exercise, as members of our simulated National Security Council came to realize, our country:

- **Had not** ranked fighting biological terrorism or infectious diseases as high national priorities.
- **Had not** prepared governmental officials to cope with this new type of security crisis.
- **Had not** invested enough in the planning and exercises 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 were in place -- and
- **Had not** produced sufficient vaccine to protect Americans from the disease.

Much has been done since last fall (and I congratulate the Bush Administration and the Congress for moving out quickly), but there is a great deal more that needs to be done. The exercise underscored the critical importance of government communicating -- being accessible, providing credible information, and being honest about what our government knows and what it doesn't know.

My personal education continued after the Dark Winter exercise in the summer of 2001. Weeks before September 11th I wrote an opinion article describing the danger of an attack and the urgent need for more public attention, and offered the piece to a major U.S. publication. They told us there really wasn't much interest in this subject and turned it down. In October, anthrax letters were mailed to the Capitol Building. Most of the lessons learned in this tragic war game became tragic reality a few months later with the anthrax attacks.

PUBLIC HEALTH PREPAREDNESS

Finally attention is engaged and a large amount of money has been appropriated. We now have an opportunity to take a series of strong measures to prevent and also prepare for a bioterror attack. Leadership must come from government, but the private sector must play a key role. Specifically:

- **We must** have members of the public health, medical, and scientific communities as members of the national security team. The Administration's top Public Health officials should not have to ask directions to the White House Situation Room if there is a biological attack.
- **We must** strengthen our surveillance systems, and extend them worldwide -- which again requires a global alliance.
- **We must** integrate medical/life sciences capabilities into our intelligence community.
- **We must** provide our public health laboratories with the equipment and training they need to identify agents and diseases.
- **We must** take advantage of the strides being made to improve communications so we can quickly share information.
- **We must** continue making research a priority, and develop new vaccines, new therapeutic drugs, and new rapid diagnostic tests.
- **We must** increase surge capacity in our health care systems in general, and our hospitals specifically, which means careful planning in advance.
- **We must** keep the recent focus on building our national pharmaceutical stockpile, including rapid production capability for drugs and vaccines, with the highest standards of security to stockpile storage and dispersal sites. We must not fall victim to a twin attack that releases a bio-agent and simultaneously destroys our drugs and vaccines.
- **We must** develop a clear plan for working with the media to provide timely and accurate information to help save lives and prevent panic. We must practice this and other plans before emergencies.

- **We must** modernize our legal framework so that we are prepared to address issues such as epidemic control measures and the appropriate balance with civil liberties. As this audience well knows, these laws vary from state to state and many are antiquated. We need to make sure that they are up-to-date and consistent with our current social values, our priorities and the threats. We need to reacquaint public officials in all areas of response with the specific authorities these laws provide, and how they can implement them.
- Finally, **we must** encourage members of the scientific community, as well as the private sector, to confront the sinister side of modern biological research and development, and design a system of self-policing, best security practices, and safety peer reviews that assures that our technological advancements designed to improve life are not turned into mechanisms for mass murder.

PREVENTION FIRST, PREPARATION ALWAYS

This responsibility of blocking the misuse of dangerous biological materials is a special responsibility of the research community, and is based on a principle fundamental to the whole public health enterprise -- prevention. This audience knows that, notwithstanding all the brilliant medical interventions that treat and cure disease, nothing is better or cheaper than prevention. The same is true with terrorism. No method of consequence management, no matter how brilliant, is preferable to prevention. We must focus our efforts on preventing a terrorist strike from happening in the first place. This means keeping dangerous materials out of the hands of the world's most dangerous people -- which will require a worldwide effort by both governments and the private sector. Even if these efforts are not completely successful and a biological attack occurs, the focus of our preparation should still be on prevention -- 1) by early diagnosis; 2) by quick response, and 3) by preventing its spread -- preventing it from taking one more life than it absolutely must.

Finally, I would make one last point. You all know how difficult it is to find funding for new health initiatives. When budgets get tight, public health is often left behind. The threat of biological terrorism offers our government an unsought but unique opportunity to multiply the impact of its funds. Funds for disease surveillance, building the pharmaceutical stockpile, and improving the capacity of our public health care system will benefit the United States in responding to a biological weapons attack, but will also help improve our responses to naturally occurring disease outbreaks both at home and abroad.

We have a rare chance to defend our nation and improve public health for America and the world with the same dollars. We must take advantage of this opportunity and get others to join. This is a global threat and it will require a global response, but we must begin here.

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