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THE SARS THREAT: IS THE NATION'S PUBLIC HEALTH NETWORK PREPARED FOR A POSSIBLE EPIDEMIC?

HEARING

BEFORE THE

COMMITTEE ON GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

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CONTENTS

	Page
Hearing held on April 9, 2003	1
Statement of:	
Heinrich, Janet, Director, Public Health Issues, U.S. General Accounting Office; Dr. Margaret Hamburg, vice president, Biological Programs, the Nuclear Threat Initiative; and Dr. David Goodfriend, director, Loudoun County Health Department	64
Thompson, Tommy G., Secretary, Department of Health and Human Services, accompanied by General Phil Russell (retired), Commander, U.S.M.; and Steve Ostroff, Centers for Disease Control	12
Letters, statements, etc., submitted for the record by:	
Clay, Hon. Wm. Lacy, a Representative in Congress from the State of Missouri, prepared statement of	57
Davis, Chairman Tom, a Representative in Congress from the State of Virginia, prepared statement of	3
Goodfriend, Dr. David, director, Loudoun County Health Department, prepared statement of	95
Hamburg, Dr. Margaret, vice president, Biological Programs, the Nuclear Threat Initiative, prepared statement of	85
Heinrich, Janet, Director, Public Health Issues, U.S. General Accounting Office, prepared statement of	66
Maloney, Hon. Carolyn B., a Representative in Congress from the State of New York:	
Article from the New England Journal of Medicine	40
Prepared statement of	44
Shays, Hon. Christopher, a Representative in Congress from the State of Connecticut, prepared statement of	10
Thompson, Tommy G., Secretary, Department of Health and Human Services, prepared statement of	16
Towns, Hon. Edolphus, a Representative in Congress from the State of New York, prepared statement of	127
Waxman, Hon. Henry A., a Representative in Congress from the State of California, prepared statement of	7

THE SARS THREAT: IS THE NATION'S PUBLIC HEALTH NETWORK PREPARED FOR A POSSIBLE EPIDEMIC?

WEDNESDAY, APRIL 9, 2003

HOUSE OF REPRESENTATIVES,
COMMITTEE ON GOVERNMENT REFORM,
Washington, DC.

The committee met, pursuant to notice, at 10:45 a.m., in room 2157, Rayburn House Office Building, Hon. Tom Davis of Virginia (chairman of the committee) presiding.

Present: Representatives Tom Davis of Virginia, Shays, Burton, Mrs. Davis of Virginia, Putnam, Duncan, Sullivan, Murphy, Janklow, Blackburn, Waxman, Towns, Maloney, Cummings, Clay, Watson, Lynch, Sanchez, Ruppersberger, and Norton.

Staff present: Peter Sirh, staff director; Melissa Wojciak, deputy staff director; Keith Ausbrook, chief counsel; Ellen Brown, legislative director and senior policy counsel; Jennifer Safavian, chief counsel for oversight and investigations; John Hunter, counsel; David Martin, director of communications; Scott Kopple, deputy director of communications; Teresa Austin, chief clerk; Joshua E. Gillespie, deputy clerk; Susie Schulte, legislative assistant; Corinne Zaccagnini, chief information officer; Brien Beattie, staff assistant; Phil Schiliro, minority staff director; Phil Barnett, minority chief counsel; Sarah Despres, minority counsel; Karen Lightfoot, minority senior policy advisor/communications director; Josh Sharfstein, minority professional staff member; Cecelia Morton, minority office manager; Earley Green, minority chief clerk; and Christopher Davis, minority staff assistant.

Chairman TOM DAVIS. A quorum being present, the Committee on Government Reform will come to order.

I want to welcome everybody to today's oversight hearing on our public health system's response capabilities at the Federal, State, and local level to manage an emerging infectious disease.

The global outbreak of Severe Acute Respiratory Syndrome [SARS], provides a valid test to the Nation's preparedness to handle any public health threat whether it's caused by naturally occurring infectious outbreak or bioterrorist attack.

The Public Health Security and Bioterrorism Preparedness and Response Act provided substantial new funding for States, localities, and hospitals to boost preparedness to respond to highly contagious disease.

The SARS threat is the first challenge to our Nation's health network capabilities. It provides us with a chance to evaluate existing

procedures and safeguards. SARS has brought fear and confusion to everyone's lives, particularly international travelers, airline crews and health care workers.

Currently there is no known cure and the disease is easily communicable. In a precautionary effort to prevent further spread of the disease, President Bush signed an Executive order on Friday, April 4, authorizing the use of quarantine if necessary. The President's unprecedented actions prove how serious the threat of SARS epidemic is to our country.

SARS is believed to have originated in China in the fall of 2002. It has since spread to 17 countries. As of today there have been over 2,600 SARS cases reported worldwide, with 98 deaths.

In the United States the number of cases continues to rise. Today this country has approximately 148 suspected cases in 30 different States, with the highest concentrations in New York and California. Fortunately, no deaths have been reported. We've actually seen two suspected cases of SARS nearby in northern Virginia. I'm pleased that we'll hear testimony from the director of the Loudoun County Health Department, who is responsible for the treatment of a SARS patient in early February.

It is important for our Nation's public health infrastructure to recognize what lessons can be learned from the SARS threat.

I have a fairly lengthy statement that I'd ask unanimous consent go in the record, and we have a great selection of witnesses to provide testimony this morning. Secretary Thompson is going to provide the very latest information on this virus and will discuss efforts being taken at the Federal level to respond to SARS. He'll also describe preparedness coordination efforts with State and local authorities.

Joining us on our second panel will be Janet Heinrich, Director of Public Health Issues for GAO. She'll discuss the GAO report released this week. The GAO report is timely and very applicable to the SARS threat. Dr. Margaret Hamburg, former commissioner of health for the city of New York, recently co-chaired the Institute of Medicine Committee that produced a noteworthy report on micro-biothreats to health. And, finally, Dr. Goodfriend, director of the Loudoun County Health Department will be sharing with us his experience in their first suspected case of SARS.

I want to thank all of our witnesses for appearing before the committee. As I said, everyone's statement will go in the record. Secretary Thompson is limited here until 11:30, so we want to move quickly to your testimony.

What I'm going to ask is that Mr. Waxman give a statement for the minority, our vice chairman, Mr. Shays, give a statement, and all other statements will be put in the record. Is there objection to that?

[No response.]

Chairman TOM DAVIS. If not, Mr. Waxman?

[The prepared statement of Chairman Tom Davis follows:]

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INDEPENDENT

Statement of Chairman Tom Davis
Committee on Government Reform
Hearing on "The SARS Threat: Is the Nation's Public Health Network Prepared for a Possible Epidemic?"
April 9, 2003

Good morning. I would like to welcome everyone to today's oversight hearing on our public health system's response capabilities at the Federal, state, and local level to manage an emerging infectious disease. The global outbreak of severe acute respiratory syndrome, or SARS, provides a valid test of the nation's preparedness to handle any public health threat, whether it is caused by a naturally occurring infectious outbreak or a bioterrorist attack. The Public Health Security and Bioterrorism Preparedness and Response Act provided substantial new funding for states, localities, and hospitals to boost preparedness to respond to a highly contagious disease. The SARS threat is the first challenge to our nation's health network's capabilities and provides us with a chance to evaluate existing procedures and safeguards.

SARS has brought fear and confusion to everyone's lives, particularly international travelers, airline crews, and health care workers. There is no known cure and the disease is easily communicable. In a precautionary effort to prevent further spread of the disease, President Bush signed an executive order, on Friday, April 4th, authorizing the use of quarantine if necessary. The President's unprecedented actions prove how serious the threat of a SARS epidemic is to our country.

SARS is believed to have originated in China in the fall of 2002 and has since spread to 17 countries. As of today, there have been over 2,600 SARS cases reported worldwide, with 98 deaths. In the U.S., the number of reported cases continues to rise. Today, this country has approximately 148 suspected cases in 30 different states, with the highest concentration in New York and California. Fortunately, no deaths have been reported.

We actually have seen two suspected cases of SARS nearby in Northern Virginia. I am pleased that we will hear testimony today from the Director of the Loudoun County Health Department, who was responsible for the treatment of a SARS patient in early February.

It is important for our nation's public health infrastructure to recognize what lessons can be learned from the SARS threat. This is the first test of our nation's preparedness and highlights the importance of strong cooperation and partnerships among different health agencies at all levels. The threat of a public health disaster emphasizes the need for planning and practice. The quicker the health community responds, the quicker a prevention and control strategy can be developed and appropriate treatments can be identified. We must first recognize if any deficiencies in coordination, communication, and capacity exist and then begin to work towards improvements necessary for preparedness. In order to be adequately prepared, we should always be expecting the unexpected.

We have a great selection of witnesses to provide testimony this morning. Secretary Thompson is going to provide the very latest information on this virus and will discuss efforts being taken at the Federal level to respond to SARS. Secretary Thompson will also describe preparedness coordination efforts with state and local authorities.

Joining us on our second panel will be Ms. Janet Heinrich, the Director of Public Health Issues for GAO. She will discuss the GAO report that was released this week regarding state and local preparedness in the event of a bioterrorism attack. This GAO report is timely and very applicable to the current SARS threat. Dr. Margaret Hamburg, former Commissioner of Health for the City of New York, recently co-chaired an Institute of Medicine committee that produced a noteworthy report on microbial threats to health. This report served as the cornerstone for a public health approach to infectious and communicable diseases. And finally, Dr. Goodfriend, Director of the Loudoun County Health Department, will be sharing with us his experience with the region's first suspected case of SARS. He will also provide us with his assessment of state and local public health departments' ability to respond adequately to an emerging disease such as SARS.

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Mr. WAXMAN. Thank you, Mr. Chairman. Thank you particularly for holding this hearing today on SARS, which is a highly contagious and potentially deadly new disease that has infected more than 2,600 patients in 17 countries and claimed over 100 lives. Today in Hong Kong, just a single flight away from the United States, the schools are closed, residents of a city apartment building are living in vacation camps, which is a euphemism for quarantine, and police are searching the streets for people who are contacts with infected patients.

This emerging epidemic reminds us, as Dr. Fauci of the NIH said to the committee last week, that nature is the most dangerous bioterrorist. At a time when it is unclear how much damage this epidemic will do in the United States, we have an urgent need to answer many important questions. There are questions of biology. How did SARS come about and what infection agent is the cause? There are questions of secrecy. Why did China fail to tell the truth about the epidemic in its early stages? And what can we do to assure international cooperation in the future? There are questions of medical care. When will we have the drugs to treat the most seriously ill SARS patients, and what are the prospects for a vaccine?

Today we will focus on a practical question. Is our country's public health system prepared for SARS. We cannot claim that there was no warning. We have many examples in the past decade that were a wakeup call or should have been a wakeup call on the breakdown of our Nation's public health system and its vulnerability to new infections.

Over the last decade our Nation has taken some important steps to combat emerging infections as we look back at the history from the hantavirus to the epidemic of West Nile Virus and the feared Bird Flu that led to the slaughter of chickens in Hong Kong. All these warnings have been presented to us, and over the last decade we have tried to respond to it. The Centers for Disease Control and other agencies have bolstered their disease surveillance around the world. With U.S. support the World Health Organization has developed an international system for identifying and responding to new diseases.

In 2002 Congress appropriated $1.1 billion for bioterrorism preparedness at the State and local levels. The intent was that this money would go to shore up our public health infrastructure, and it is important that we do that. Despite these efforts, however, significant weaknesses remain. In October 2001, an investigation by my staff revealed critical shortages in hospital surge capacity. In March of this year the Institute of Medicine followed up its landmark 1992 report with a warning that, while 13,000 to 15,000 public health investigators and scientists are needed at the local level, many barriers exist to prevent public health agencies from hiring qualified staff. The IOM recommended the Nation take dramatic steps to improve surveillance, enhance response, and reduce antibiotic resistance. And just this week GAO found that many health officials lack guidance from the Federal Government on what they need to do to be prepared.

It is not hard to understand why we have neglected core public health functions. There is very little political appeal to the nuts and bolts of epidemiology, laboratory capacity, communications sys-

tems, planning, and assuring adequate hospital capacity. By comparison, it is much easier to attract attention and funding to magic bullet technology solutions.

By any measure our investment in State and local public health efforts pales next to what we are contemplating spending on drugs, antidotes, and vaccines for bioterrorist agents. I'm not saying we should not spend money for those vaccines and other agents. Of course we should. But as the SARS epidemic makes abundantly clear, a critical aspect of our response is the ability of the public health system to recognize disease and to contain it. That's why I believe Congress must do more than investigate SARS; we must take concrete steps to shore up our public health infrastructure as soon as we can, then we must sustain this commitment for the long term.

As a starting place, Congress should adequately fund the smallpox vaccination effort so that critical resources are not diverted from core public health functions. We should also make sure that the public health threats are addressed adequately in the bioshield proposal. I commend Chairman Davis for the interest he expressed in this issue at last Friday's hearings.

I am pleased that we are holding this bipartisan hearing today and that Secretary Thompson is with us. I also note that we have a very distinguished second panel of witnesses, and I very much look forward to their testimony.

Chairman TOM DAVIS. Thank you very much.

[The prepared statement of Hon. Henry A. Waxman follows:]

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BERNARD SANDERS, VERMONT,
INDEPENDENT

Statement of Rep. Henry A. Waxman
Ranking Minority Member
Hearing on "The SARS Threat: Is the Nation's Public Health Network Prepared for a Possible Epidemic?"

April 9, 2003

Mr. Chairman, thank you for holding this hearing today on SARS, a highly contagious and potentially deadly new disease that has infected more than 2600 patients in 17 countries and claimed over 100 lives. Today, in Hong Kong, just a single plane flight away from many U.S. cities, the schools are closed, residents of a city apartment building are living in "vacation camps," a euphemism for quarantine, and police are searching the streets for people who are contacts with infected patients. In Toronto, 140 paramedics who may have been exposed to SARS have been quarantined at home, and several hospitals have closed their doors to new patients.

This emerging epidemic reminds us, as Dr. Anthony Fauci of the NIH said to this Committee last week, that nature is the most dangerous bioterrorist. At a time when it is unclear how much damage this epidemic will do in the United States, we have an urgent need for answers to many important questions.

There are questions of biology: How did SARS come about and what infectious agent is the cause?

There are questions of secrecy: Why did China fail to tell the truth about the epidemic at its earliest stages and what can we do to assure international cooperation in the future?

And there are questions of medical care: When will we have drugs to treat the most seriously ill SARS patients? What are the prospects for a vaccine?

Today, we will focus on a practical question: Is our country's public health system prepared for SARS? We cannot claim that there was no warning. In 1992, the Institute of Medicine issued a wake up call on the breakdown of our nation's public health system and its vulnerability to new infections. In 1993, a newly recognized virus called hantavirus emerged in the Southwest and subsequently claimed dozens of lives. In 1997, cases of a feared bird flu led to the slaughter all of the chickens, approximately 1.5 million, in Hong Kong. In 1999, the West Nile virus moved to the United States and has become endemic, claiming 277 lives last summer alone.

Over the last decade, our nation has taken some important steps to combat emerging infections. CDC and other agencies have bolstered their disease surveillance around the world. With U.S. support, WHO has developed an international system for identifying and responding to new diseases. In 2002, Congress appropriated $1.1 billion for bioterrorism preparedness at the state and local levels. The intent was that this money would go to shore up our public health infrastructure.

Despite these efforts, however, significant weaknesses remain. In October 2001, an investigation by my staff revealed critical shortages in hospital "surge capacity." In December of last year, the HHS Inspector General found that many state and local health departments lacked the capacity to investigate an outbreak and communicate to the public or to doctors 24 hours a day. In March of this year, the IOM followed up its landmark 1992 report with a warning that while 13,000 to 15,000 public health investigators and scientists are needed at the local level, many barriers exist to prevent public health agencies from hiring qualified staff. The IOM also recommended that the nation take dramatic steps to improve surveillance, enhance response, and reduce antibiotic resistance.

And just this week, GAO found that many health officials lack guidance from the federal government on what they need to do to be prepared. GAO will also testify today that our nation's hospital system may not have the capacity to cope with a major respiratory epidemic.

It is not hard to understand why we have neglected core public health functions. There is very little political appeal to the nuts and bolts of epidemiology, laboratory capacity, communication systems, planning and assuring adequate hospital capacity. By comparison, it is much easier to attract attention and funding to magic bullet technological solutions.

By any measure, our investment in state and local public health efforts pales next to what we are contemplating spending on drugs, antidotes and vaccines for bioterrorist agents. Procuring a new version of the smallpox vaccine has already cost in excess of $400 million dollars, and the President's Bioshield proposal would cost billions annually.

I am not saying that we should not spend money for drugs and vaccines. Of course we should. But as the SARS epidemic makes abundantly clear, a critical aspect of our response is the ability of the public health system to recognize disease and contain it.

It has been said that SARS is a wake up call for the need to prepare for a flu pandemic. It has also been said that SARS is a wake up call for the need to prepare for a bioterrorist attack. Today, this hearing's message is that SARS is a wake up call for SARS. Because of the ease of international travel, SARS could find a soft spot in our public health infrastructure and spread. If one city or locality cannot recognize the disorder in time to contain it, it could take root and move across the country. At risk are hundreds if not thousands of lives.

That's why I believe Congress must do more than investigate SARS. We must take concrete steps to shore up our public health infrastructure as soon as we can. Then, we must sustain this commitment for the long term. As a starting place, Congress should adequately fund the smallpox vaccination effort so that critical resources are not diverted from core public health functions. We should also make sure that public health threats are addressed adequately in the BioShield proposal, and I commend Chairman Davis for the interest he expressed in this issue at last Friday's hearing.

I am pleased that we are holding this bipartisan hearing today and that Secretary Thompson is here today. I also note we have a very distinguished second panel of witnesses and I very much look forward to their testimony.

Chairman TOM DAVIS. Secretary Thompson, Mr. Shays has agreed to put his statement in the record so we can get right to you.

[The prepared statement of Hon. Christopher Shays follows:]

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Statement of Rep. Christopher Shays
April 9, 2003

"Some may ask which is the greater risk – the intentional use of a microbial agent to cause sudden, massive, and devastating epidemics of disease, or the continued emergence and spread of natural diseases such as tuberculosis, AIDS, malaria, influenza, and multidrug-resistant bacterial infections." With that observation, a recent Institute of Medicine (IOM) report entitled *Microbial Threats to Health: Emergence, Detection and Response* poses one of the most difficult questions of the post-9/11 era: What threat should we be prepared to meet?

Ironically, as important as the question is, the answer doesn't matter. We need to be prepared for both, and only a robust, sensitive, universal public health surveillance, diagnosis and treatment capacity will protect us from nature's evolving infectious arsenal as well as the malevolent acts of man.

The recent development and spread of Severe Acute Respiratory Syndrome (SARS), thought to be a naturally occurring disease, is testing the ability of national and international public health systems to respond to an unfamiliar and highly contagious disease. Nevertheless, SARS may represent a telling wakeup call, an all too real "live-fire" exercise providing invaluable lessons against the day bioterrorism strikes our homeland …again.

The mail-borne anthrax attacks of 2001 should have taught us public health systems need both resources and strong guidance to be more effective in detecting, tracking and containing the spread of disease. Federal, state and local public health officials need better coordination and communication.

Reporting of infectious disease trends and anomalies has to be nationwide and real-time. Current surveillance systems here and abroad are limited in reach and slow to capture data, leaving huge blind spots in terms of time and geography. In the case of SARS, the World Health Organization could have been more effective in identifying and containing the disease if the government of China had been more forthcoming in reporting the magnitude of the symptoms and had provided direct access to the affected areas.

As we are seeing every day as SARS spreads, overcoming national and international public health challenges means the difference between life and death. The lessons we are learning today from this genetic cousin of the common cold could one day shield us from the most uncommon, unnatural outbreaks that threaten our national health and security.

Thank you Mr. Chairman for holding this hearing today on these important public health issues. I look forward to hearing the testimony of our witnesses.

Chairman TOM DAVIS. Would you stand please and be sworn as is customary of this committee.

[Witnesses sworn.]

Chairman TOM DAVIS. Thank you. Secretary Thompson, thank you so much for being with us today.

STATEMENT OF TOMMY G. THOMPSON, SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES, ACCOMPANIED BY GENERAL PHIL RUSSELL (RETIRED), COMMANDER, U.S.M.; AND STEVE OSTROFF, CENTERS FOR DISEASE CONTROL

Secretary THOMPSON. Thank you very much, Mr. Chairman, and thank you so very much for holding this hearing. Congressman Waxman, Congressman Shays, and Congressman Burton, all the rest of the Members of this distinguished panel, thank you for giving me this opportunity. I'm especially appreciative of my good friend Governor Bill Janklow being on this committee, so I know I'm in good shape, good stead.

Chairman TOM DAVIS. Wait until the questions. Janklow is tough on the questions. [Laughter.]

Secretary THOMPSON. Members of this committee, thank you so very much for inviting me. I also would like to introduce retired General Phil Russell, who is the Commander of USM, and also Dr. Steve Ostroff from the CDC. I'm going to have to leave at 11:30 because I'm meeting with all the vaccine manufacturers on SARS back in the office. I had set up this meeting. They're coming in and I feel I have to go back at that particular time. I appreciate this opportunity of giving the statement, but Dr. Steve Ostroff is going to stay and answer any questions if there still are questions after I leave. My colleagues and I are committed to doing everything we possibly can to protect the health of all Americans. Right now responding to the SARS outbreak is one of our top priorities.

I also would like to just invite each and every member of this committee to stop over to the Department at your convenience to see our brand new communication war room in which we detect and from which we are able to monitor diseases and storms across the world, and I would appreciate if you would stop over. I'm confident that if you come over it would allay a lot of your fears. Congressman Shays has been over to see it, and I think he will confirm that it is state-of-the-art. It's probably the most technologically advanced command center in the world. I would appreciate if you would all come over and see it.

But right now responding to the SARS outbreak is one of our top priorities. More than 250 researchers and staff from the Centers for Disease Control and prevention are working around the clock in laboratories and on location in several affected nations to understand this new disease, devise appropriate protections, and work with State and local health departments in their efforts to do the same.

Scientists from the National Institutes of Health are working with their colleagues at CDC, as well as the World Health Organization in order to develop diagnostic tests and explore a broad range of ideas for treatment and the possible development of vaccines.

It was the researchers at CDC, ladies and gentlemen, who identified the virus that we think causes SARS, a coronavirus. A lot of other laboratories around the world thought it was a paramixovirus and made that determination. It was our doctors at CDC that said, "No, it doesn't look like a paramixovirus, it looks more like the coronavirus." So I think we are very much in debt to the wonderful doctors that we have working for the Department and for the Nation.

It obviously identifies the virus as critical to the development of antivirals as well as vaccines. As you probably know, Mr. Chairman, it looks like SARS began in the Guangdong Province in China last fall, probably in November of last year. From there it apparently spread to one floor of a hotel in Hong Kong by a physician from Guangdong who was also a professor who became infected while he was treating people at Guangdong Province who himself became ill and subsequently died caring for the patients. He stayed on the ninth floor of the Maripole Hotel in Kowloon Province in Hong Kong. He happened to stay in room 911, which got us very suspicious, and we were able to find out and followup, and we are fairly confident that there's no human involvement, no bioterrorism attack whatsoever in regards to the SARS epidemic.

We are trying to improve our understanding the condition of this man, ladies and gentlemen, and the residents of the hotel floor. It was amazing that the seven individuals that he infected on that floor are the individuals that went out and transmitted the disease to Bangkok, to Hanoi, to Singapore, and to Toronto, and four out of the seven individuals that were infected from that one doctor who also died also subsequently died, so it was very much what we would have called a super transmitter was this doctor that transmitted to the individuals on the 9th floor of the Maripole Hotel, the residents of this hotel floor.

In order to learn more about how this disease was spread, unfortunately the infection was carried to other countries by these travelers who stayed on that floor at the same time. Worldwide, thousands of people have already been infected, and 103 have died, approximately 4 percent, at 3.9 percent of those infected are individuals that have fatally died from this disease. To put it in proper perspective, during the worldwide Pandemic Flu Epidemic of 1918 it was about 3.5 to 3.8 percent of the people died, which of course caused somewhere between 25 and 40 million people to die and about 518,000 in America.

As of yesterday there were 154 suspected cases in the United States. We can be thankful that all of them are still alive. Of those 154, definitive diagnostic information is currently only available from five of the cases, as demonstrated by two different laboratory tests. Four have evidence of coronavirus antibodies, indicating that they were indeed exposed to this novel virus. One had a positive culture of the virus of the 154, 53 have been hospitalized at some point, but only 1 of the individuals out of 154 required a ventilator. Thirty-one have tested positive for pneumonia.

So let me stress that these are suspected cases. Once we have a good test, many of them may turn out not to have SARS at all. We expanded our definition so we would make sure that we got all those individual potential cases so that we could start controlling

and making sure they would not infect other people. So out of the 154, we do not have definite tests on all of them, so there may be more than likely—probability is quite high—that it will be much less than 154 when we finally get up. We had one additional case as of yesterday.

Other countries have not been as fortunate. According to the World Health Organization, the worldwide SARS total not counting the United States is 2,523 cases as of midnight last evening. We'll have an update at 3 p.m., when the World Health Organization reports in.

The early symptoms of SARS are a fever of more than 100.4 degrees, a headache, muscle ache, and a cough. People with severe cases may have difficulty breathing. CDC has asked people who have these symptoms to consult a health care provider for a diagnosis. The incubation period from exposure to symptoms is probably somewhere between 2 and 7 days, though a few reports suggest up to 10 days. That's why we have indicated that people who have the indications, the symptoms of it, we ask them to stay isolated for 10 days.

SARS seems to be transmitted by coughing droplets, by sneezing, and by personal contact. American health care providers have been very good about protecting themselves while interacting with patients that they suspect are suffering from SARS. They've also provided excellent supportive care.

As we speak, CDC and NIH are developing three diagnostic tests which we will soon be able to send to State laboratories as soon as they are ready and FDA approved. Two antibody systems require two samples of serum, one taken as early as possible and the other about 3 weeks later. When comparing these two samples from a given patient, it is possible to tell who has been exposed to this virus. We are also developing a polymerase chain reaction [PCR] test, for use as a diagnostic test—all developed at CDC in Atlanta.

Rapid and accurate communications are absolutely crucial to ensuring a prompt and a coordinated response to any infectious disease outbreak. For this reason, strengthening communication among clinicians, emergency rooms, infection control practitioners and hospitals, pharmaceutical companies, and public health personnel have been of the utmost paramount importance to CDC for some time. And in the past 3 weeks CDC has held multiple teleconferences with State health officials to give them the latest information on SARS spread as well as the implementation of enhanced surveillance and infection control guidelines.

CDC has also appreciated receiving their input in the development of these measures and processes. In addition, ladies and gentlemen, we have issued travel advisories to people returning from China, Hong Kong, Singapore and Vietnam. There are about 70 flights coming in from the affected countries. We hand out these particular pamphlets to each passenger as they come off the airplane and be able to give them information, telling them what they should do, how they should conduct themselves and how they should control this disease if they come down with it. It's very good. We've expanded our surveillance from 8 ports to 22 ports as of today. In addition, we would issue these travel advisories to people returning from China, Hong Kong, Singapore, and Vietnam.

We've distributed now more than 200,000 of these health alert notice cards to airline passengers entering the United States from these areas. What these do is alert passengers that they may have been exposed to SARS. Mr. Chairman, these cards advise people to monitor health for 10 days and to consult a doctor if they develop fever or respiratory symptoms.

So far, Mr. Chairman, the lessons that we can draw from SARS is that surveillance is absolutely critical and that surveillance works. Early detections of a pattern of symptoms have been able to give scientists critical time to start investigating this disease. In addition, we know that we have much more to learn about this virus and this disease so that we can develop the tools that we need to prevent, treat, and contain it. We continue to work around the clock and to learn more about every aspect of SARS.

I want to assure you, Mr. Chairman and members of the committee, that this is not business as usual. We will not rest until we understand how to detect, treat, and prevent this disease.

I look forward to your questions and thank you once again, Mr. Chairman, for giving me this opportunity to appear in front of you.

Chairman TOM DAVIS. Secretary Thompson, thank you very much.

[The prepared statement of Secretary Thompson follows:]

Testimony
Before the Committee on Government Reform
United States House of Representatives

HHS's Response to Severe Acute Respiratory Syndrome (SARS)

Statement of
Tommy G. Thompson
Secretary
Department of Health and Human Services

For Release on Delivery
Expected at 10:00am
on Wednesday, April 9, 2003

Good morning, Mr. Chairman and Members of the Committee. I thank you for the invitation to participate today in this timely hearing on a critical public health issue: severe acute respiratory syndrome (SARS). Today I will update you on the status of the spread of this emerging global infectious disease threat and on the Department of Health and Human Services' (HHS) response to it, primarily through the Centers for Disease Control and Prevention (CDC) and the National Institute for Allergy and Infectious Diseases (NIAID) at the National Institutes for Health (NIH), in cooperation with the World Health Organization (WHO) and other domestic and international partners.

On April 4, 2003, President Bush issued an Executive Order to update the list of communicable diseases that are quarantinable, to include SARS. The Order also delegated to me the authority to approve Surgeon General regulations designed to prevent introduction of communicable diseases into the U.S. and to approve quarantine sites selected by the Surgeon General. While we have no plans at this time to seek any use of the expanded authority, we took the step of issuing the Executive Order as a prudent precaution, so that we would be ready to meet a severe public health risk involving SARS in the event that one should develop in the future - which we are, of course, working to prevent.

As we have seen repeatedly, infectious diseases are a continuing threat to our nation's health. Although some diseases have been conquered by modern advances, such as antibiotics and vaccines, new ones are constantly emerging, such as Nipah virus, West Nile Virus, vancomycin-resistant Staphylococcus aureus (VRSA), and hantavirus pulmonary syndrome. SARS is the most recent reminder that we must always be prepared for the unexpected. SARS also highlights that U.S. health and global health are inextricably linked and that fulfilling HHS's domestic mission–to protect the health of the U.S. population–requires global awareness and collaboration with international partners to prevent the emergence and spread of infectious diseases.

Emergence of SARS

Since late February 2003, CDC has supported WHO in the investigation of a multi-country outbreak of unexplained atypical pneumonia referred to as severe acute respiratory syndrome (SARS). As of April 7, 2003, at 4:00 p.m., a total of 2,460 probable or suspected cases of SARS have been reported to WHO from 17 countries

other than the United States and 98 of these persons have died. In the United States, there have been 149 suspect SARS cases reported from 30 states. Of these 149 suspect cases among U.S. residents, 141 have traveled to mainland China, Hong Kong, Singapore, or Hanoi, Vietnam. Five (5) had household contact with a suspected SARS case, and 3 are healthcare workers who provided medical care to a suspected case. Cases in the United States have had relatively less severe manifestations of SARS compared to cases reported in other countries. A total of 52 suspect SARS cases have been hospitalized, of whom 5 remain hospitalized. None of the suspected cases in the United States have died.

In February, the Chinese Ministry of Health notified WHO that 305 cases of acute respiratory syndrome of unknown etiology had occurred in Guangdong province in southern China since November 2002. In February 2003, a man who had traveled in mainland China and Hong Kong became ill with a respiratory illness and was hospitalized shortly after arriving in Hanoi, Vietnam. Health-care providers at the hospital in Hanoi subsequently developed a similar illness. During late February, an outbreak of a similar respiratory illness was reported in Hong Kong among workers at a hospital; this cluster of illnesses was linked to a patient who had traveled previously to southern China. On March 12, WHO issued a global alert about the outbreak and instituted worldwide surveillance for this syndrome, characterized by fever and respiratory symptoms.

On Friday, March 14, CDC activated its Emergency Operations Center (EOC) in response to reports of increasing numbers of cases of SARS in several countries. On Saturday, March 15, CDC issued an interim guidance for state and local health departments to initiate enhanced domestic surveillance for SARS; a health alert to hospitals and clinicians about SARS; and a travel advisory suggesting that persons considering nonessential travel to Hong Kong, Guangdong, or Hanoi consider postponing their travel. CDC Director Julie Gerberding and I conducted a telebriefing to inform the media about SARS developments.

Cases of SARS continue to be reported from around the world. The disease is still primarily limited to travelers to Hong Kong, Hanoi, Singapore, and mainland China; to health care personnel who have taken care of SARS patients; and to close contacts of SARS patients. Based on what we know to date, we believe that the major mode of transmission is through droplet spread when an infected person coughs or sneezes. However, we are concerned about the possibility of airborne transmission and also the possibility that objects that become contaminated in the environment could serve as modes of spread.

HHS Response to SARS

CDC continues to work with WHO and other national and international partners to investigate this ongoing emerging global infectious disease threat. This is a major challenge, but it is also an excellent illustration of the intense spirit of collaboration among the global scientific community to combat a global epidemic.

CDC is participating on teams assisting in the investigation in mainland China, Hong Kong, Taiwan, Thailand, and Vietnam. In the United States, we are conducting active surveillance and implementing preventive measures, working with numerous clinical and public health partners at state and local levels. As part of the WHO-led international response thus far, CDC has deployed approximately 30 scientists and other public health professionals internationally and has assigned almost 300 staff in Atlanta and around the United States to work on the SARS investigation.

CDC has issued interim guidance to protect against spread of this virus for close contacts of SARS patients, including in health care settings or in the home. We have also issued interim guidance for management of exposures to SARS and for cleaning airplanes that have carried a passenger with suspected SARS. We have issued travel advisories and health alert notices, which are being distributed to people returning from China, Hong Kong, Singapore, and Vietnam. We have distributed more than 200,000 health alert notice cards to airline passengers entering the United States from these areas, alerting passengers that they may have been exposed to SARS, should monitor their health for 10 days, and if they develop fever or respiratory symptoms, they should contact a physician.

Communication Vital to Coordinated Response

WHO is coordinating daily communication between CDC laboratory scientists and scientists from laboratories in Asia, Europe, and elsewhere to share findings, which they are posting on a secure Internet site so that they can all learn from each other's

work. They are exchanging reagents and sharing specimens and tissues to conduct additional testing. Our evidence and that of many of our partners indicates that a new coronavirus is the leading candidate for the cause of this infection.

Rapid and accurate communications are crucial to ensure a prompt and coordinated response to any infectious disease outbreak. Thus, strengthening communication among clinicians, emergency rooms, infection control practitioners, hospitals, pharmaceutical companies, and public health personnel has been of paramount importance to CDC for some time. In the past three weeks, CDC has had multiple teleconferences with state health officials to provide them the latest information on SARS spread, implementation of enhanced surveillance, and infection control guidelines and to solicit their input in the development of these measures and processes. On Thursday April 3, 2003, CDC, FDA, NIH, and the National Vaccine Program Office officials participated in a teleconference hosted by the Pharmaceutical Research and Manufacturers of America with more than 70 representatives from major pharmaceutical industries and vaccine manufacturers to discuss potential SARS diagnostics, clinical interventions, and vaccine production.

On Friday, April 4, WHO sponsored, with CDC support, a clinical video conference broadcast globally to discuss the latest findings of the outbreak and prevention of transmission in healthcare settings. The faculty was comprised of representatives from WHO, CDC, and several affected countries who reported their experiences with SARS. The video cast is now available on-line for download. Dr. Gerberding and I, as well as

other senior scientists and leading experts at CDC, have held numerous media telebriefings to provide updated information on SARS cases, laboratory and surveillance findings, and prevention measures. CDC is keeping its website current, with multiple postings daily providing clinical guidelines, prevention recommendations, and information for the public.

CDC Prevention Measures

Currently, CDC is recommending that persons postpone non-essential travel to mainland China, Hong Kong, Singapore, and Hanoi, Vietnam. Persons who have traveled to affected areas and experience symptoms characteristic of SARS should contact a physician. Health care facilities and other institutional settings should implement infection control guidelines that are available on CDC's website.

We know that individuals with SARS can be very infectious during the symptomatic phase of the illness. However, we do not know how long the period of contagion lasts once they recover from the illness, and we do not know whether or not they can spread the virus before they experience symptoms. The information our epidemiologists have suggests that the period of contagion may begin with the onset of the very earliest symptoms of a viral infection, so our guidance is based on this assumption. SARS patients who are either being cared for in the home or who have been released from the hospital or other health care settings and are residing at home should limit their activities to the home. They should not go to work, school, or other public places until at least ten days after they are fully asymptomatic.

If a SARS patient is coughing or sneezing, he should use common-sense precautions such as covering his mouth with a tissue, and, if possible and medically appropriate, wearing a surgical mask to reduce the possibility of droplet transmission to others in the household. It is very important for SARS patients and those who come in contact with them to use good hand hygiene: washing hands with soap and water or using an alcohol-based hand rub frequently and after any contact with body fluids.

For people who are living in a home with SARS patients, and who are otherwise well, there is no reason to limit activities currently. The experience in the United States has not demonstrated spread of SARS from household contacts into the community. Contacts with SARS patients must be alert to the earliest symptom of a respiratory illness, including fatigue, headache or fever, and the beginnings of an upper respiratory tract infection, and they should contact a medical provider if they experience any symptoms.

NIH Research Efforts

Complementing the efforts of the CDC and WHO, the National Institute of Allergy and Infectious Diseases (NIAID), a component of NIH, also has a significant role in the efforts against SARS, notably by rapidly addressing the issues of vaccine development, drug screening, and clinical research.

To reiterate my earlier statement, as with Hepatitis C, HIV/AIDS, Ebola, West Nile virus and a host of other "new" diseases, the SARS outbreak has reminded us that the emergence or reemergence of infectious diseases is a constant threat. And as has been the case with other emerging diseases, we anticipate that the strong NIAID research base in disciplines such as microbiology, immunology and infectious diseases will facilitate the development of interventions such as diagnostics, therapies, and vaccines to help counter SARS.

In line with assertions by CDC and WHO, NIAID also notes the mounting evidence that SARS is caused by a novel coronavirus that may have crossed species from an animal to humans. This hypothesis is based on the detection and isolation of coronaviruses from unrelated patients from different countries, and on the finding that several SARS patients have mounted an immunological response to coronavirus as they proceeded from the acute illness to the recovery or convalescent stage. While some questions remain -- for example, there is some evidence that a second virus may contribute to the pathogenesis of SARS -- the existing evidence for a causative role for a coronavirus justifies the ongoing development of diagnostic tools, therapies and vaccines that target coronaviruses.

Coronaviruses are best known as one of the causes of the "common cold," which is generally a very benign condition, very rarely resulting in life-threatening disease. The coronavirus suspected to be associated with SARS is a new type of coronavirus that has not been previously identified.

I would note that no evidence of genetic "tampering" of the virus implicated in SARS has been detected, based on analyses of the genomic sequence data of the samples from SARS patients examined so far. As even more extensive genomic sequence data become available for the SARS virus, it will be possible to further distinguish natural origin from the possibility that the SARS agent was created in a laboratory or even as a bioweapon. Until then, we will keep our minds open to these possibilities, however remote.

SARS Research Opportunities

NIAID maintains a longstanding commitment to conducting and supporting research on emerging infectious diseases, such as SARS, with the goal of improving global health. In carrying out its global health research mission, the Institute supports a myriad of activities, including intramural and extramural research, and collaborations with international agencies and organizations. Since the first SARS reports, NIAID has worked rapidly to identify opportunities for accelerating or expanding research to improve the diagnosis, treatment, and prevention of SARS. These areas include:

Surveillance and epidemiology. NIAID supports a long-standing program for surveillance of influenza viruses in Hong Kong, led by Dr. Robert Webster of St. Jude's Children's Research Hospital in Memphis. Dr. Webster and his team in Hong Kong have collaborated with WHO, CDC and others in helping to illuminate the SARS outbreaks in Asia. In addition, at the request of WHO, NIAID assigned a staff

epidemiologist to provide epidemiologic and logistical assistance during the early stages of the epidemic.

Diagnostics. Significant progress has been made by the CDC in developing a diagnostic test for SARS. As part of these efforts, NIAID-sponsored researchers in Hong Kong also devised a diagnostic test based on PCR technology as well as a diagnostic tool using the immunofluorescence assay technique. In other research, the NIAID-funded Respiratory Pathogens Research Unit (RPRU) at Baylor College of Medicine has developed methods to detect known human coronaviruses using cell culture and molecular diagnostic tools and can also assess the host immune response to known coronavirus infections. In 2003 NIAID will expand this capacity for research on emerging acute viral respiratory diseases, including pandemic influenza and SARS.

Vaccine Research. As the SARS epidemic continues, it will be necessary to consider a broad spectrum of vaccine approaches, as well as immunotherapy. NIAID is supporting the rapid development of vaccines to prevent SARS through both our extramural and intramural programs, including the NIAID Vaccine Research Center. Initially, these efforts are focusing on the development of an inactivated (or killed) virus vaccine. However, other approaches will soon follow, including novel approaches such as gene-based vaccines including DNA and replication defective adenoviral vectors, and live attenuated vaccines, as more knowledge about the cause of SARS and its etiology becomes available.

NIAID scientists have received samples of the SARS coronavirus from CDC and have initiated efforts to develop a vaccine. Fortuitously, vaccines against common veterinary coronaviruses are routinely used to prevent serious diseases in young animals, such as a vaccine given to pigs to prevent serious enteric coronavirus disease. These models could prove useful as we develop vaccines to protect humans.

To further accelerate SARS vaccine research and development efforts, NIAID is initiating contracts with companies, institutions and other organizations who have relevant technologies, cell lines and containment facilities; supporting the development of reagents needed for vaccine development; and developing animal models such as mice and relevant species of monkeys.

Therapeutics Research. As the nation began its focus on SARS, NIAID responded rapidly to a request from CDC to evaluate candidate antiviral therapeutic agents through a collaborative antiviral drug-screening project at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID). NIAID also has initiated discussions with the pharmaceutical industry about candidate antiviral drugs, and is reviewing a proposal for a clinical trial of antiviral therapy to be conducted by investigators of the NIAID Collaborative Antiviral Study Group and the NIH Clinical Center.

Clinical Research. Clinicians treating SARS patients have not yet identified treatment strategies that consistently improve prognosis, beyond good intensive and supportive

care. Antibiotics do not work, a fact that is consistent with SARS being a viral disease. However, some improvement has been noted in certain patients treated with a combination of ribavirin and corticosteroids, which are given together in an effort to simultaneously block viral replication and modify the immune system reaction to the virus.

At the NIH Clinical Center in Bethesda, MD, and through the NIAID Collaborative Antiviral Study Group, NIH is preparing to admit SARS patients for evaluation and treatment, should this become necessary. This will be an opportunity to evaluate the efficacy of antiviral and immune-based therapies in patients with SARS. We also plan to evaluate approaches to improve management of patients with severe forms of the disease, including the passive transfer of antibodies from SARS patients who have recovered from the disease.

In addition to ensuring state-of-the-art treatment of potential patients, our clinical experts will be able to study the clinical characteristics of patients with SARS. We are particularly interested in answering key questions about the disease mechanisms of SARS. For example, are acute respiratory distress and mortality entirely caused by the presence of virus, or could it be that the response of the immune system is causing the severe outcomes in some patients? This is a central question to address because it may open up an avenue for immunomodulation treatment in addition to antiviral drugs.

Basic Research. NIAID currently is supporting 18 grants on coronavirus research. Also, the study of patients, as well as specimens in NIAID laboratories, will facilitate studies of the natural history of the SARS agent and its potential animal reservoir, and help to illuminate the risk factors and epidemiology of SARS. NIAID will support and conduct basic research studies on the pathogenesis of the disease and viral replication mechanisms, in order to identify targets for antiviral drugs, diagnostic tests and vaccines. Finally, the Institute will support and conduct genomic sequencing, proteomics and informatics of coronaviruses.

Of note, an existing NIAID animal model of a virus infection that causes a disease in mice very similar to SARS has been identified. The relevance of this animal model will be evaluated and may prove an important tool for defining treatment approaches to SARS that involve modulation of the immune system.

Infrastructure. A central concern when working with the SARS virus or SARS patients is the availability of facilities with the required safety level for the clinicians and staff, as well as for the community. Our ongoing plans to develop high-level containment facilities will facilitate SARS research, as well as planned studies of potential bioterror agents and other emerging diseases.

Emerging Global Microbial Threats

Since 1994, HHS, through CDC, has been engaged in a nationwide effort to revitalize national capacity to protect the public from infectious diseases. Progress continues to

be made in the areas of disease surveillance and outbreak response; applied research; prevention and control; and infrastructure-building and training. However, SARS provides striking evidence that a disease that emerges or reemerges anywhere in the world can spread far and wide. It is not possible to adequately protect the health of our nation without addressing infectious disease problems that are occurring elsewhere in the world.

Last month, the Institute of Medicine (IOM) published a report describing the spectrum of microbial threats to national and global health, factors affecting their emergence or resurgence, and measures needed to address them effectively. The report, *Microbial Threats to Health: Emergence, Detection, and Response*, serves as a successor to the 1992 landmark IOM report *Emerging Infections: Microbial Threats to Health in the United States*, which provided a wake-up call on the risk of infectious diseases to national security and the need to rebuild the nation's public health infrastructure. The recommendations in the 1992 report have served as a framework for HHS's infectious disease programs for the last decade, both with respect to its goals and targeted issues and populations. Although much progress has been made, especially in the areas of strengthened surveillance and laboratory capacity, much remains to be done. The new report clearly indicates the need for increased capacity of the United States to detect and respond to national and global microbial and viral disease threats, both naturally occurring and intentionally inflicted, and provides recommendations for specific public health actions to meet these needs. The emergence of SARS, a previously

unrecognized infectious disease threat, has provided a strong reminder of the threat posed by emerging infectious diseases.

Conclusion

The SARS experience reinforces the need to strengthen global surveillance, to have prompt reporting, and to link this reporting to adequate and sophisticated diagnostic laboratory capacity. It underscores the need for strong global public health systems, robust health service infrastructures, and expertise that can be mobilized quickly across national boundaries to mirror disease movements. As CDC carries out its plans to strengthen the nation's public health infrastructure, it will collaborate with state and local health departments, academic centers and other federal agencies, health care providers and health care networks, international organizations, and other partners. We have made substantial progress to date in enhancing the nation's capability to detect and respond to an infectious disease outbreak; however, the emergence of SARS has reminded us yet again that we must not become complacent. We must continue to strengthen the public health systems and improve linkages with domestic and global colleagues. Priorities include strengthened public health laboratory capacity; increased surveillance and outbreak investigation capacity; education and training for clinical and public health professionals at the federal, state, and local levels; and communication of health information and prevention strategies to the public. A strong and flexible public health infrastructure is the best defense against any disease outbreak.

Furthermore, despite ongoing research efforts and early successes, we still have much to learn about the disease. NIAID-sponsored coronavirus research, studies of other viral diseases, and clinical research already have provided results that are relevant to our quest for tools to detect, treat and prevent SARS. In the weeks and months ahead, NIH will continue to collaborate with the CDC and the Food and Drug Administration, as well as other relevant agencies to accelerate and expand our research aimed at improving the diagnosis, prevention, and treatment of SARS.

Thank you very much for your attention. I will be happy to answer any questions you may have.

Chairman TOM DAVIS. That was a pretty complete statement. I have just a brief question or two before I yield to Mr. Waxman and try to give everyone a question.

To ensure the safety of our health care workers who might have come in contact with the SARS patient, we can issue bulletins and everything else, but as you get out into places like Loudoun County and some of the rural areas, people who have traveled, you know, who knows who they have come in contact with. Are first responders such as paramedics provided with protective gear? What other precautionary measures can we use and get the word out that they may be handling a potential SARS patient?

Secretary THOMPSON. Congressman Davis, we are hooked up to 90 percent of the health departments right now through the CDC and through the command center, which I hope you come over and see, at the Department. Every Friday we give out a report, the MMWR, talking about current diseases, infectious diseases and so on. The last two reports have been totally on SARS, how you protect yourself. We ask people to wear masks, the health care workers to wear masks, as well as goggles, because we're not sure but there may be the potential they can get in—the infection can get in through the eyes, as well. We also, of course, have every health worker wearing gloves. We also are putting out advisories how people can take care of people that may be infected in the home with the potential of SARS, about washing and about controlling any kind of diseases whatsoever, and that the individual that is a suspect for SARS should be wearing a mask. We got this information out throughout the country.

We are also putting out a video for all the airplanes coming in. We're filming that today. It's going to be put out. That's going to be shown to all passengers on planes coming in from the affected countries.

Chairman TOM DAVIS. And that's really the critical part, to stop the importation of this——

Secretary THOMPSON. That is correct.

Chairman TOM DAVIS [continuing]. From other countries coming in at this point.

Secretary THOMPSON. That's why we put out the advisory about travel conditions to other countries, and that's why we're handing these out for all those individual passengers coming back from affected countries, and that's why we're putting out so much information to health care workers throughout the country.

Chairman TOM DAVIS. Thank you very much.

Mr. Waxman.

Mr. WAXMAN. Thank you, Mr. Chairman.

Mr. Secretary, I'm concerned that we passed the bioterrorist bill and that's supposed to help the local, State, and local governments be able to deal with any emergency. They're using funds for a potential smallpox epidemic, but they're not adequately funded for that. But while they're spending money doing that, which comes to $200 a vaccine per person for first responders, I worry whether we're shortchanging the infrastructure to deal with a SARS epidemic. And I'd like to know what is the administration doing to assure that State and local governments do not have to sacrifice

preparation for public health emergencies like SARS in order to prepare for a possible smallpox attack.

I might take note that the IOM, Institute of Medicine, GAO, and the HHS Inspector General all have found major gaps in public health readiness at the State and local levels.

Secretary THOMPSON. Thank you very much for the question. Let me first off thank you for your support on improving the infrastructure of the local State public health systems. You and I both know that we have avoided too long investing the dollars necessary to have a real, complete, comprehensive local State public health system. Now, thanks to you, thanks to all Members of Congress, on a bipartisan basis last year you appropriated $1.1 billion, which we sent out faster, I believe, than any department has ever sent out the dollars to local and State health departments.

I am sad to be able to report to you that only 20 percent of that money has now been actually drawn down out of the Federal treasuries, and the States have that opportunity to do so. California, for instance, has only drawn down approximately 59 percent, which is much higher, but undrawn still is about 41 percent of the dollars that they can draw out.

Mr. WAXMAN. So is your contention——

Secretary THOMPSON. Could I just——

Mr. WAXMAN [continuing]. That there's enough money for the State and local government to handle all of the possible health emergencies?

Secretary THOMPSON. If you let me finish, I can explain it, Congressman.

Mr. WAXMAN. Certainly.

Secretary THOMPSON. Second, we have an additional $1.5 billion that we can send out right now, and we're going to be sending 20 percent of that $1.5 billion out right now, and we are telling—the advisory is going out that States should use some of this money to pay for their smallpox.

The third thing is in the budget resolutions going through there's $60 million approximately set aside—I think it was $55 million, to be exact, set aside for smallpox on top of that 20 percent, plus there's $16 million set aside for SARS in the budget resolution.

If there was going to be any addition, I would think that maybe we want to bump up that SARS to $25 million, but that is a decision that you and other Members—but right now I would encourage you and other Members to contact your State Governors to start drawing down more of this money that we have, because we are in the process of sending out an additional $1.5 billion this year. And this is still fiscal year 2002 funds.

Mr. WAXMAN. Mr. Secretary, I appreciate your sincerity in trying to make sure that we don't have gaps in our public health infrastructure and I know you're doing what you can, but I worry that we're not doing enough. When we hear from the Institute of Medicine, the General Accounting Office, and others who say there are major gaps and that we are spending money to deal with the smallpox possible epidemic, as we appropriately should——

Secretary THOMPSON. Yes.

Mr. WAXMAN [continuing]. And then they come back and tell us that they don't think that we're prepared if there is a surge in need

for hospitals to deal with an emergency like a SARS epidemic, that there is a capacity to deal with it, that there are enough inspectors to go out and find out whether—can find the people that need to be found.

I just would point out to you that the reports we're getting are that we're not doing enough. Do you feel that we are doing everything we should be doing?

Secretary THOMPSON. No. I'll never say that, Congressman. But I'm telling you right now there's money available right now for States to draw down. As far as hospitals, last year we sent out $135 million, this year it is going to be $518 million for surge capacity, for improvements. And we could always use more, but this is a tremendous improvement. We have an additional $1.5 billion, including the 518 for hospitals to send out this year, for fiscal year 2003, and only 20 percent of the money that we sent out last year has actually been drawn down.

Now, the States could have allocated it and are building for the infrastructure and haven't actually drawn down, but there's money in the pipeline and there's more going out. Plus, out of the $1.5 billion, 20 percent—part of that 20 percent can be used for smallpox.

Mr. WAXMAN. Let me ask you what——

Secretary THOMPSON. So I'm just saying, Congressman, there's money in the pipeline. We're working hard. And I would invite you to come over to the command center and see it, and I think we could allay a lot of your fears about all the things we're doing.

Mr. WAXMAN. Let me ask you one last question. Last week the President added SARS to the list of quarantinable communicable diseases. Under what circumstances would you invoke your authority to order a quarantine?

Secretary THOMPSON. That Executive order has not been amended since 1983. This is the first time there was any addition to the Executive order. It came about because a woman came back from Asia and she landed in California, she came down sick on the plane. We asked her to go in and get an X-ray and be examined by our doctors. She refused. She got on a train to go to New Mexico and we couldn't stop her. So we made the suggestion, went up through CDC, through my office, to the President asking him to expand the Executive order so we could do that. We would use our Executive order and I would use it in that kind of a question. We had a situation like that this past couple days in New York, and the State of New York used the authority and had this individual isolated. We don't use the word "quarantine." It's "isolation."

Mr. WAXMAN. Thank you.

Chairman TOM DAVIS. Mr. Shays.

Mr. SHAYS. Thank you, Secretary Thompson, for being here.

I've used SARS as kind of a wake-up call, you know, a very real, live-fire exercise. This is, I believe, highly contagious and we don't have a cure.

Secretary THOMPSON. That's correct.

Mr. SHAYS. I want to first know, in the incubation stage can you spread the disease?

Secretary THOMPSON. Pardon?

Mr. SHAYS. In the incubation stage, can you spread the disease?

Secretary THOMPSON. We're almost certain that it can.

Mr. SHAYS. I would like to know, when you talk about surveillance as being the most important issue, which I think is, as well, let me just ask you this specific question because I don't have the comfort level that we do have the surveillance yet. If I just took my hospitals in my district—Greenwich, Stanford, Norwalk, two in Bridgeport, one in Danbury—are you saying right now that you know every day what they are experiencing, whether they have any outbreaks or not having outbreaks, or has it not gotten that sophisticated yet?

Secretary THOMPSON. We know every day that the hospitals report in their occupancy of the beds. Hospitals report in to CDC on their particular cases, but——

Mr. SHAYS. Every hospital?

Secretary THOMPSON. I believe it is every hospital.

Dr. OSTROFF. Well, in particular in Connecticut, you know, most appropriately——

Mr. SHAYS. Your mic is not on, sir. Sorry.

Dr. OSTROFF. Most appropriately, that information goes to the State health department, and in Connecticut there is an excellent system whereby the State monitors all of the hospitals within the State of Connecticut for unusual illness.

Mr. SHAYS. On a real-time basis of what?

Dr. OSTROFF. On a real-time basis. Correct. They are one of—the State of Connecticut is one of our emerging infections programs recipients, so that's the type——

Mr. SHAYS. Right. I know the claim——

Dr. OSTROFF [continuing]. Of activity they're doing.

Mr. SHAYS. I'm sorry. I have only 5 minutes. I know the claim; I'm just a little concerned that in reality that's not happening. So how would you know? Do you have to get your information from the State?

Dr. OSTROFF. We do get our information from the State. We have a highly collaborative working relationship with them, and if there was an unusual event within the State of Connecticut, we feel quite confident that they would contact us.

Mr. SHAYS. The problem is "unusual," it may only be unusual if you compare from a lot of different places and then you see that maybe a pattern is happening, and so I want to know very specifically if there is an outbreak of some kind but rather small in Stanford so they don't think it's necessarily a big deal, but there may be something in Bridgeport—I'm just taking my own communities—would that be instantly or daily transmitted to—I mean, would the State be informed and would you be informed, as well, out of courtesy or legal requirement?

Dr. OSTROFF. There isn't a legal requirement that the States report to the Centers for Disease Control and Prevention those types of outbreaks. They would do it as a courtesy. Again, this is a very highly collaborative interaction and relationship that we have with them.

Mr. SHAYS. Why wouldn't we want it legally required? Why wouldn't we want to legally require it? I mean, why would we even want to leave a doubt, because this whole system it strikes me is only going to work if you can contain it and box it in and you know

about it soon enough. So is that something that is being considered?

Secretary THOMPSON. I think we should consider it, Congressman.

Mr. SHAYS. You don't have any Executive order to demand it?

Secretary THOMPSON. No, we do not.

Mr. SHAYS. OK. And that's important to know.

Secretary THOMPSON. But we really have great collaboration and cooperation, and especially since we got the new dollars. We are hooked up through the Health Alert Network with 90 percent of the health departments, and we have regular communication with them, and——

Mr. SHAYS. I guess the Stakes——

Secretary THOMPSON [continuing]. We have also the laboratories' capacity.

Mr. SHAYS. The stakes are so high that I don't think this should be a model that is done by just general understanding. I think there should be legal requirements, and if you don't do it some penalties, frankly, because I think the stakes are very high.

I have tremendous confidence with CDC. I have tremendous confidence in NIH. WHO, World Health Organization, I think is a phenomenal organization. I think it is under-resourced. Do you agree that it is a huge and important element to our ability to protect the United States?

Secretary THOMPSON. The World Health Organization?

Mr. SHAYS. Yes.

Secretary THOMPSON. Absolutely.

Mr. SHAYS. And——

Secretary THOMPSON. And we have direct collaboration with them. In fact, we've had—within the last 10 days we have had at least four teleconferences with the World Health Organization with NIH, FDA, CDC, and the Secretary's office.

Mr. SHAYS. What kind of resources is our Government giving World Health Organization?

Secretary THOMPSON. I think we—I'm not sure, but I think it is about 50 percent of their budget, but I'm not sure.

Mr. SHAYS. Do you think it's enough? Do you think we should do more?

Secretary THOMPSON. I think that at this point in time—I didn't expect to answer this question, but I would say off the top of my head, after being on the board of directors, I think it is enough.

Mr. SHAYS. OK. Thank you, sir.

Secretary THOMPSON. I think other countries should be doing more.

Mr. SHAYS. I just want to quickly state that I know you're doing a great job and I know you're working hard. You're using the laws that you have right now, but I do think that you need to have some authority that is clear and no doubts about it and it is not just on a gentleman or gentlelady's understanding.

Secretary THOMPSON. I think that's true. I agree with you.

Chairman TOM DAVIS. OK. Thank you.

Secretary THOMPSON. Could I just say one thing to you, Congressman——

Chairman TOM DAVIS. Yes.

Secretary THOMPSON [continuing]. In response to a couple of questions you asked Steve. We also have a cooperative arrangement with the hospitals. If there is a mysterious illness in the hospital, they're supposed to get their specimens to the State laboratory and also a concurrent specimen to the CDC laboratory. We also have leased planes in which we can fly epidemiologists from Atlanta to a hospital at any particular time any time a mysterious illness comes in, and we have used that. We've had some false alarms on smallpox and we've sent our epidemiologists into several communities, and we have been able to do that on a regular basis. As soon as something comes in, we have told the hospitals and emergency wards throughout America, "You've got something suspicious, don't wait. Don't tarry. Call us."

Mr. SHAYS. It only works though if they tell you.

Secretary THOMPSON. Pardon?

Mr. SHAYS. It only works if they tell you.

Secretary THOMPSON. That's right. It only works if they contact us.

Chairman TOM DAVIS. Thank you.

Mrs. Maloney.

Mrs. MALONEY. Thank you, Mr. Chairman. And I thank all of the panelists for your important testimony. It seems that Lorrie Garrett's predictions in her book, "Betrayal of Trust," have come true. I'd like permission to put in the record an article from the New England Journal of Medicine, and in that article it asks if we could possibly respond fast enough to contain this epidemic.

To quote from the article: "If the virus moves faster than our scientific communications and control capacities, we could be in for a long, difficult race against SARS. The race is on, the stakes are high, and the outcome cannot be predicted."

Chairman TOM DAVIS. Without objection, so ordered.

Mrs. MALONEY. Thank you.

[The information referred to follows:]

4-9-03
Cong. Maloney
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The NEW ENGLAND JOURNAL of MEDICINE

EDITORIAL

Faster . . . but Fast Enough?

Responding to the Epidemic of Severe Acute Respiratory Syndrome

Julie Louise Gerberding, M.D., M.P.H.

Severe acute respiratory syndrome (SARS) was diagnosed in more than 1800 patients in 17 countries (including the United States and Canada) between February 1 and March 31, 2003. During this two-month period, the World Health Organization (WHO) has coordinated an international investigation that has produced unprecedented scientific and epidemiologic discoveries with unprecedented speed. On March 12, the WHO issued a global alert about SARS. On March 14, the Centers for Disease Control and Prevention (CDC) activated its emergency operations center to support the response of the WHO to this global threat. Within 24 hours of the official invitations, CDC investigators joined WHO field teams in several affected Asian countries, supported by the full complement of laboratory, epidemiologic, communications, and logistic capabilities of the CDC and the Department of Health and Human Services (DHHS).

On March 24, scientists at the CDC and in Hong Kong announced that a new coronavirus had been isolated from patients with SARS. Over the next two weeks, the machinery to discover and characterize the pathogen was set in full motion by scientists at the CDC and in 10 other WHO collaborating laboratories. Within days, sequences of the coronavirus polymerase gene were compared with those of previously characterized strains, and scientists were able to say with confidence that this virus was distinct from all known human pathogens. In addition, serum from patients with SARS was evaluated to detect antibodies to the new coronavirus, and seroconversion was documented in several patients with appropriate acute- and convalescent-phase specimens in laboratories at the CDC and elsewhere.

Coronavirus has not been proved to be the cause of SARS, but strong supportive evidence is accumulating. To date, at least eight international laboratories have found evidence of coronavirus in patients with SARS, using a variety of methods including tissue culture, electron microscopy, microarray technology, indirect immunofluorescent antibody tests, and polymerase-chain-reaction amplification of specific genomic sequences. As of April 1, assessment of the accuracy of potential diagnostic tests based on some of these methods has progressed to the point where new case definitions that include laboratory test criteria are under final review and production of test reagents for widespread distribution is well under way. In addition, laboratory testing of antiviral compounds that might be of therapeutic or prophylactic value is under way. Finally, initial steps toward vaccine development have already begun.

Even more impressive than the speed of scientific discovery in the global SARS outbreak is the almost instantaneous communication and information exchange that has supported every aspect of the response. The WHO, the CDC, and national and local health agencies across the globe have disseminated up-to-the-minute information tailored for clinicians, public health officials, health care workers, travelers, household contacts, and many other affected parties. Immediate communication of "interim" guidance, updated as soon as new information becomes available, has become the norm. Use of the Internet has sped information exchange and helped overcome the problems presented by asynchrony in the activities of investigators in many time zones. Scientists at the international collaborating laboratories are exchanging laboratory results and images on a secure Web site. Coordination of the international response strategy has been fostered by regular videoconferences with senior

leaders in the operations centers at the WHO, the DHHS, and the CDC. Satellite broadcasts, Webcasts, and videoconferencing are supporting the dissemination of emerging information to the entire global health community. The international media have also played an around-the-clock part in communicating breaking news to the public by television, radio, print publications, and the Internet.

Speed of scientific discovery and speed of communication are hallmarks of the response to SARS and reflect amazing achievements in science, technology, and international collaboration. However, despite these advances, a very sobering question remains — are we fast enough? Can we prevent a global pandemic of SARS? The epidemic is progressing rapidly in many parts of Asia. The situation in mainland China is not entirely clear, but the available information strongly suggests that there is ongoing transmission in at least some provinces. The epidemic is still expanding in Hong Kong, despite heroic measures on the part of the government to curtail its spread. Clusters of cases in community settings such as hotels and apartment buildings in Hong Kong demonstrate that transmission can be extremely efficient. Likewise, very high attack rates among health care workers in Hanoi, Vietnam, and in hospitals in Hong Kong document the highly contagious nature of this virus. Many household contacts have become ill. Concern is mounting about the potential for spread in schools, the workplace, airplanes, and other crowded areas. New cases among travelers from affected areas continue to emerge and have led to infections in household contacts and health care personnel in many countries, including the United States and Canada.

The epidemic of SARS is apparently only months old, and it is entirely too soon to predict its ultimate scope or magnitude. Epidemiologic evidence indicates that the transmission of SARS is facilitated by face-to-face contact, and this still appears to be the most common mode of spread. Some evidence suggests that a few persons may be especially infectious and that most others are less likely to serve as sources of infection, but this concept is still speculative. Airborne transmission may have a role in some settings and could account for the extensive spread within buildings and other confined areas that has been observed in some places in Asia. Certainly, airborne transmission will make containment of the epidemic much more challenging. If the new coronavirus proves to be the cause of SARS, fomite or other modes of transmission could also be relevant, since coronaviruses can survive on contaminated objects in the environment for at least a few hours and have been isolated from the stool of some animals. Despite our long experience with other viral respiratory infections, we have no proven, successful population-based strategy for their prevention. Even when we have an effective vaccine, as in the case of influenza, annual infection rates and attributable mortality remain very high. If SARS transmission evolves to mimic that of influenza, containment may well be impossible without vaccination, prophylaxis, or treatment.

There is reason to be optimistic about future control measures. Vaccines are successful in preventing coronavirus infection in animals, and the development of an effective vaccine against this new coronavirus is a realistic possibility. Likewise, novel antiviral agents, antiviral drugs in development, or existing licensed drugs could be found to provide effective prophylaxis or treatment. But can we make these products available fast enough to prevent an extensive global outbreak? Recent experience with the advances in measures against bioterrorism suggests that the pace of development can be dramatically accelerated. However, potential rate-limiting steps include the development of suitable animal models to demonstrate efficacy, the time necessary to demonstrate the safety of any new product in adults and children, and the time and resources needed to increase production to meet global market needs.

The emergence of SARS presents formidable global challenges. If we are extremely lucky, the epidemic will be curtailed, develop a seasonal pattern that will improve prospects for regional containment, or evolve more slowly than it has in this early stage. If the virus moves faster than our scientific, communications, and control capacities, we could be in for a long, difficult race. In either case, the race is on. The stakes are high. And the outcome cannot be predicted.

From the Centers for Disease Control and Prevention, Atlanta.

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Mrs. MALONEY. I want to know—I represent New York, and we have 8 million people in a very small area. How contagious is SARS? I've read articles that on the airlines you can catch it from someone who is infected that is sitting immediately next to you or in the immediate vicinity, but because of the sophisticated air handling system all the passengers on the plane would not be at risk. But in terms of mass transit, the subway systems that do not have the air handling system, could someone get infected by riding on the same subway train? Can you speak about how contagious it is?

There have been many, many articles about airlines, but not about subways, buses, other forms of meeting halls or other ways that people could be——

Secretary THOMPSON. Congresswoman, I'm going to ask one of the doctors to respond directly, too, but let me just set it up this way and tell you how much we are doing, because I think that may allay some of your fears from New York, as well as others.

CDC is working around the clock. We have the best laboratories, the best scientists, the best doctors doing this. When the rest of the world was looking at this and came up and said this is a paramixovirus, it was our scientists that said, "Hey, wait a minutes. We don't think so. We think it is the coronavirus." They are 99.9 percent sure that it's a coronavirus, and that's thanks——

Mrs. MALONEY. So you believe it is a naturally occurring disease?

Secretary THOMPSON. Yes.

Mrs. MALONEY. It's not from any type of biological agent or anything?

Secretary THOMPSON. We're almost absolutely certain that it is. We're not 100 percent, but we're going to get there hopefully, but we are very, very certain that it's not. Second, we also, within the last 3 weeks, we have been able to come up with three tests. The first thing you have to do is you have to find out what the virus is. We were able to determine that at CDC.

Second thing we have to do is come up with a test. We've already come up with three tests we're working on right now. We're hoping to be able to get it FDA approved very quickly, get that sent out to the State laboratories in New York and throughout the country so people can test. Of the 154 cases right now, we've only really tested approximately a handful, so out of the 154 we're not sure all of those will be SARS. The probability is they will not be.

And the third thing is we're still learning a great deal about this disease. As far as the infections, we believe that there are what we call "super transmitters," like this doctor that was in the Maripole Hotel on the 9th floor and gave it to the seven individuals that went out and spread it throughout the world. He was what we would call a "super transmitter," and now as far as the medical I would either ask Dr. Phil Russell or Dr. Steve Ostroff to tell you.

Mrs. MALONEY. Could I just followup with another question very briefly? You said that it was similar to a cold. And what——

Secretary THOMPSON. The coronavirus is the family of the virus that causes the common cold.

Mrs. MALONEY. So if we haven't been able to develop a vaccine for colds, how can we develop a vaccine for SARS?

Secretary THOMPSON. As soon as I leave here Dr. Phil Russell and I are meeting with all the vaccine companies. We've also asked

all the pharmaceutical companies to come in with all of their research and all of their antiviral medicines in the pipeline for us to be able to test.

Everybody has been cooperating. We're not certain that we can come up with it.

Mrs. MALONEY. But you will try.

Secretary THOMPSON. Our specialists think that we're—we're working around the clock to do so.

Steve, did you want to talk about the infection?

Dr. OSTROFF. Yes. What I would add to what the Secretary said is that we always have to keep our minds open and, as he emphasized, we're still learning a lot about this particular virus as we go along. The predominance of the evidence that we have up to this point indicates to us that, as is the case with many other types of cold viruses, that direct, very close contact with somebody else that's ill is probably the major mode of transmission. We always have to keep our minds open to the fact that in some situations where there are particularly sick people, that it might spread more widely than that. But, like with most of these respiratory viruses, close contact, direct transmission within a few feet seems to be the major way that this particular virus spreads.

Secretary THOMPSON. Congresswoman, we also have vaccines for the coronavirus for animals, and I'd like to ask Dr. Phil Russell just to expand on that a little bit.

Dr. RUSSELL. That's true. The coronavirus genus has many members in the animal kingdom, including causes of disease of pigs and cats and so forth. There have been some very successful vaccines made in the veterinary community that are used on a regular basis. The virus also grows very well in cell culture systems that are currently used for manufacturing vaccines. So we believe we have an advantage here that might be able to be exploited. How fast we can do it and how successful we are going to be remains to be seen.

Mrs. MALONEY. Thank you. My time is up.

[The prepared statement of Hon. Carolyn B. Maloney follows:]

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STATEMENT OF CONGRESSWOMAN CAROLYN B. MALONEY

Committee on Government Reform

"The SARS Threat: Is the Nation's Public Health Network Prepared for a Possible Epidemic?"

April 9, 2003

Thank you Mr. Chairman and Ranking Member Waxman for holding this hearing on this urgent topic.

Welcome Secretary Thompson, Director Heinrich, Dr. Hamburg and Dr. Goodfriend. We appreciate your taking the time to be with us today to testify on the preparedness of our public health network to deal with contagious diseases.

Unfortunately, it seems that Laurie Garrett's predictions in *Betrayal of Trust* are coming true. The alarming and rapid spread of SARS around the world is, I'm afraid, a sign of things to come for our global society. And it is clear that we must be better prepared to deal with this epidemic and others that are bound to follow.

The President has added SARS to the list of quarantine diseases, and, fortunately, we have not had to take the extreme steps of closing schools that Hong Kong and Singapore have taken or closing hospitals to new patients as Canada has done in two instances.

But we have evidence that the United States is not prepared to deal with the SARS deadly global outbreak.

As Mr. Waxman pointed out, in 2000 the GAO issued a report finding that our potential response to an influenza pandemic was inadequate. We know that SARS is not the flu, but preparedness for the two has many overlapping elements. Nearly three years after the GAO report, HHS has still not completed a national response plan for a flu pandemic, so we know that, by extension, we don't have it for SARS, either.

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Then, last month the Institutes of Medicine issued a major report on emerging microbial threats to health. And they stated, outright in the report, that our public health infrastructure is in disrepair.

Our nation's health care workers are among the best in the world, but we already know they are overworked and understaffed. We have gaps and weaknesses in our health care labor force and in our laboratories. And our state and local health officials have no coordinated means of sharing effective strategies to address an immediate, contagious crisis.

The tragic, horrible events of 9/11 struck us deeply as a nation. We have been forced to examine and respond quickly and effectively to the weaknesses in our security and preparedness systems. We have had to build terrorism response systems that we never dreamed we'd need.

With SARS now inside our borders, we must again act swiftly. Thankfully, no one in the United States has died of SARS.

A recent New England Journal of Medicine editorial asks if we can possibly respond fast enough to contain this epidemic. "If the virus moves faster than our scientific communications and control capacities, we could be in for a long, difficult race [against SARS]. ...The race is on. The stakes are high. And the outcome cannot be predicted."

This kind of response takes money, manpower and accelerated scientific research. And we don't yet have a handle on how much of each of those we'll need. I look forward to your testimony providing clear guidance on the best ways to streamline and bolster our public health system.

We have to contain SARS, and protect our citizens with a system that will work against any new diseases that may emerge.

Again, I thank you, Mr. Chairman, Mr. Waxman and all of the witnesses for coming together to speak to the needs of our public health network.

Chairman TOM DAVIS. Thank you.

The gentleman from Indiana?

Mr. BURTON. I'm just going to ask two quick questions, and then I'll yield to Mr. Janklow for a question.

Either developing a vaccine or going to try to develop a vaccine for SARS, what about the people who are older or who have immune problems already like AIDS patients or senior citizens who have problems like that? How are you going to deal with them and help those who may get infected in the upper age levels? And are we going to use anything like—are you going to recommend anything like eucalyptus which is a natural oil which has some properties that does fight some of these viruses?

Secretary THOMPSON. Dr. Phil Russell is probably one of the world's most noted virologists, and I would ask him to respond directly to it.

Mr. BURTON. Sure.

Dr. RUSSELL. I think the populations you describe are at a very high risk, and whether we're going to be able to provide substantial help for high-risk individuals remains to be seen in the future. A very aggressive program attempting to screen all the potential anti-viral drugs that we can get our hands on will be underway soon. It's already started. There are some reports that steroid treatment is of some use from the Chinese or from the Hong Kong experience. But I have fundamentally a very pessimistic view of dealing with an acute, severe virus illness in those populations you described.

I think controlling the spread of the disease with a vaccine is probably our best hope after we—if it gets around all of our quarantine and isolation methodology.

Mr. BURTON. I hope when they're looking at these vaccines and so forth they'll look at some of the natural remedies that might be of assistance, like the eucalyptus and other things like that, just in the course of looking in to see if that might be a help.

Dr. RUSSELL. I think going forward we're going to look at every possible option.

Mr. BURTON. OK. Mr. Janklow, I yield to you.

Chairman TOM DAVIS. This will be the last question, because I know you have to leave, but we'll make this a Governor-to-Governor question.

Mr. JANKLOW. Thank you very much.

Secretary THOMPSON. Always the toughest, I might add.

Mr. JANKLOW. Thank you very much, and thanks for yielding. A quick question. There have been about 3,000 cases worldwide, and those 3,000—in that period of time that you've become aware of it, you have put out 200,000 pamphlets on airplanes, you're preparing a tape, you've dealt with the isolation issues with respect to your legal authorities. In addition to that, you've had many teleconferences with State officials. You've called the pharmaceutical reps together in a teleconference. You're now meeting with them.

The point that I'm trying to make is that this is a phenomenal response. But my question is: have we pursued or will we pursue the reason that the Chinese Government sat on this? Congressman Shays' question dealt with our hospitals reporting things to you. China sat on this, fibbed about it, covered it up. And now may not

be the time to deal with it, but will there be a time when this is addressed for China so this kind of problem with respect to world health can be dealt with in a more satisfactory manner? And is there anything we can do to assist in that process?

Secretary THOMPSON. I think it is the time to deal with it, because this started in Guangdong Province in late October, early November, and we had a very difficult time getting our people to get into Guangdong Province. In fact, we didn't get in there until—I think it was last Tuesday was the first day. It required myself calling the Minister of Health. It required the World Health Organization putting on a tremendous amount of pressure. It required the CDC saying that, "We helped you set up a CDC counterpart," and we went through that avenue, and finally they came out. And we didn't get our people in. It was led by Dr. Robert Brenman from CDC, and he had to subsequently leave and go back, and now we've got a Dr. Mark McGuire who is leading our efforts there.

So they've opened up, and they have now come back, Congressman Janklow, to contact us and say, "We want more collaboration." In fact, they want us to go into Beijing, they want us to go into Shanghai and help them diagnose this and help to control it. The Chinese have been very forthcoming since last Tuesday, and they want more collaboration rather than less, which is unusual for the Chinese. So it seems that they have moved a great deal. Plus, the Minister of Health had a press conference and actually apologized, and we've never heard that happen before, so I think that's a good sign.

Chairman TOM DAVIS. Thank you very much. Governor, thank you. I know you have to leave. Dr. Ostroff, I understand you're going to stay here for additional questions as we move to Mr. Ruppersberger.

Mr. RUPPERSBERGER. Thank you, Mr. Chairman.

The issue of outreach, obviously we have the best doctors and researchers in the world, and we need and we're helping them and I think doing a great job. I'm glad that we are on top of this. But what about the plan for the public outreach besides nightly newscasts? What about health departments, both local and State? How does that work, and what plan do we have from a public outreach point of view to educate not only the public and the other governments, but also the physicians who might be dealing with this problem?

Dr. OSTROFF. Well, we've used a variety of different mechanisms to try to make sure that we keep our front line public health workers, that we keep our health care providers, and that we keep the public informed about what is happening not only here in the United States but what's happening elsewhere. We've done this through having constant press conferences and telebriefings to all of our State health departments. Our Web site has a tremendous amount of information on SARS, and according to our public affairs people at CDC, even in comparison to our experience with anthrax 2 years ago, the number of calls that our hotline is receiving from the public exceeds the numbers that we had during the anthrax outbreak in 2001. And, in addition to that, our Web site is getting hundreds of thousands of hits over the course of the last several weeks. So clearly the public is accessing the information that we

have available. And we're using every modality that we can think of to keep the public informed about what is happening with this syndrome.

Mr. RUPPERSBERGER. Do you rely more on State and local health departments to educate, say, physicians about what they need to look for, where you need to go, or is it more——

Dr. OSTROFF. Well, we've had communications with all of the professional organizations, as well, and we keep them informed about what is happening, and through the professional organizations they've also been keeping their membership informed about what is happening with this disease, and they have been distributing our information, as well.

Clearly, we rely on a partnership with all of the States and with the local health departments to help us make sure that they get information to those who are out on the front line.

Mr. RUPPERSBERGER. Do you have a special team that goes into a certain location in the event that there is an outbreak?

Dr. OSTROFF. We have many such teams at CDC. It is important to point out that we always have to go in at the invitation of the State health department in order to provide assistance to them in conducting those——

Mr. RUPPERSBERGER. Have you had problems with that in the past?

Dr. OSTROFF. I think that on balance it is a highly collaborative working relationship and it continues to get better all the time.

Mr. RUPPERSBERGER. OK. Thank you.

Chairman TOM DAVIS. Ms. Davis.

Mrs. DAVIS OF VIRGINIA. Thank you, Mr. Chairman, and thank you, Dr. Ostroff. A couple of questions. One, you say that it started with the doctor on the 9th floor treating other folks. One, I don't know why he was treating the other folks unless they had something together. I don't know what. But how did it originate with that doctor? I mean, where did it come from? That's question one.

The second question you may not be able to answer because it refers to what Secretary Thompson said when I believe it was Mr. Waxman that asked him were we doing enough, and he very quickly said no. Well, if we are not doing enough, what else do we need to be doing? That's the second.

And the third question is to you. When you responded to Mr. Shays, you talked about how great Connecticut was. Well, what about the other 49 States.

Dr. OSTROFF. Thank you for those questions. In response to the first question, let me try to clarify the situation with the physician who came to Hong Kong. He actually came to Hong Kong to attend a family affair. He was from Guangdong Province. He was directly involved in the care of patients that were ill with the syndrome that was subsequently identified as SARS in Guangdong Province. He had a family affair to attend in Hong Kong. He and his wife traveled to Hong Kong. He wasn't directly taking care of people while he was at the hotel. He arrived ill. He attended the family event. The following morning he was hospitalized and then 24 hours later he died.

We do know that a number of people that were staying at the hotel, as was pointed out, subsequently became ill, and in addition

to that several of the other family members that attended the event that he was attending, which was a wedding, also became ill. And so that's how we think that this originated, and that from his providing direct health care in China that's how he got exposed.

Mrs. DAVIS OF VIRGINIA. To people who had the same thing. Well, where did they get it? I mean, where did it start? The chicken and the egg—where did it start?

Dr. OSTROFF. That remains a very significant question, which is to try to get back to the origins of the disease in Guangdong Province and to try to get back to some of the first patients that look like they had this syndrome, which, as the Secretary pointed out, appears to have occurred back in November.

The collaborators in China have identified those individuals that they consider to be the first identified cases in at least seven different locations in Guangdong Province, and they actually have done a great deal of work, as has been relayed to us by the team that we had on the ground in Guangdong looking into the circumstances of those people to try to get some clues as to where this may have come from.

Mrs. DAVIS OF VIRGINIA. Did you forget the other two questions?

Dr. OSTROFF. Sorry. The question about the capacities in the other 49 States, we have cooperative agreements with all of the State health departments to try to work with them to enhance their capacities. We have two types of programs. One is for basic epidemiology and laboratory capacity. All of the State health departments receive that assistance from us. And in a certain number of instances in 10 different locations around the United States we have a more-sophisticated program that's known as an "emerging infections program" whereby they can conduct their surveillance activities on a much more active basis. So we have a number of different programs that we use to support all of our partners at the State level.

Mrs. DAVIS OF VIRGINIA. Are they pretty much up to speed, most of the States, all of the States?

Dr. OSTROFF. Well, I think that the Secretary said it very appropriately that we certainly have made great strides over the last several years. That has come both from these types of resources as well as from the funds that are being used for bioterrorism, because it has always been recognized that those funds are basically dual-use funds. They are used primarily for bioterrorism-related activities, but they also are used by the States to build their intrinsic capacity to recognize both intentional as well as naturally occurring diseases. So I think all of those resources have been used to enhance capabilities.

And, as I think we would all say, and I think you will hear from our partners at the State and local level, this is a continuous process. We have to keep on building the system as we move forward.

Mrs. DAVIS OF VIRGINIA. And I'll have to refer the other question to Secretary Thompson, I suppose. Thank you. Thank you, Mr. Chairman.

Chairman TOM DAVIS. Thank you.

The orders that I have on the Democratic side are Watson, Lynch, Clay, and Norton, and I have Duncan, Murphy, and

Janklow. If that's not correct, I need to be corrected. But Ms. Watson, you have the floor.

Ms. WATSON. Thank you so much, Mr. Chairman. I want to thank Tommy Thompson and his team for being here.

During his presentation, the Secretary mentioned the draw down of money that is proposed to be allocated and that California has only drawn down 51 percent. I want to know what the process is for drawing down the money. Do they have to have a plan proposed or in operation to be entitled to this money? That's my first question.

And I also want to know is this smallpox threat a reality now to take precedence over the SARS threat, because I did hear it mentioned that 20 percent of the moneys can be used for smallpox. So if a State doesn't want to have that program enforced, does that get in the way from getting the money for the other kind of epidemics or biothreats?

If you could address those points?

Dr. OSTROFF. Well, let me try to address your questions.

Ms. WATSON. OK.

Dr. OSTROFF. I certainly can't go into the same level of detail that the Secretary did.

Ms. WATSON. Yes. I understand.

Dr. OSTROFF. But what I can tell you is that all of the States, as a condition of receiving the bioterrorism funds, had to develop a very detailed plan. That detailed plan had to address a number of different issues. There were, I think, 16 different priority areas that had to be developed in their operational plans before any of the funds could be released. It was a very rapid process because we wanted to get the funding out there as quickly as we possibly could. But over a process of a couple of months last year, all of the State plans were eventually approved. And once those approvals came through, then the States could start drawing upon the resources.

In terms of your question about the threat of smallpox versus the threat of something like SARS, it is hard to compare and contrast because they are quite different threats. What I can say to you is that we would consider both of them to be very important, and both of them very much deserving of enhancements in preparedness.

Ms. WATSON. Here is my concern: California is a Pacific Rim nation. It is the first stop when people are coming from Southeast Asia at LAX. The airlines might hand out or that yellow card might be handed out, and I was wondering if there's any requirement for them to hand out the masks. It makes sense to me that if you are going to fly across the Pacific Ocean, the number of hours that it takes—6 to 8 hours—we ought to be giving out face masks if they come from one of the affected areas.

But my other problem is, in trying to think it through as I was listening to the testimony, is that we are having a tremendous problem meeting the deficit in California. We are closing in my county, Los Angeles, we're closing the clinics, the public health clinics. That's where the indigents are taken care of. And is there some way to expedite the applications for this money so that we can get it out there? Can they proceed the detail planning, because we're closing our clinics, and the threat is greater on the coastal

areas of the United States, particularly on the West Coast. And I'm thinking that the paperwork that's required—I have been in Government for a long time—slows that process down. So can you—and I'm throwing these things at you because they're on my mind.

Dr. OSTROFF. Right. Well, in response to the second part of your question, we've tried to move as expeditiously as we possibly could once the money became available to make sure that the States had developed their plans and that the plans were approved by us so that we could move the resources as rapidly as we possibly could.

In response to the first part of your question concerning the issue of masks and other ways of potentially preventing transmission—and I think, in response to some of the questions that Congressman Davis also raised concerning specific guidance for various types of groups, we have been working very, very hard to develop recommendations and guidance for all types of situations, including airlines, including emergency responders, etc., so that they would have information about what is appropriate to do in terms of protecting themselves from potential exposure.

In terms of the guidance that both we and the World Health Organization have provided around airline circumstances, we do not routinely recommend that people wear masks. The emphasis in the airline setting has been the prompt identification of somebody who may potentially be ill, isolating that passenger from the rest of the passengers, preferably placing a mask on the ill individual rather than all of the other passengers.

Ms. WATSON. Excuse me, if you will allow me. How in the world would you know? When I have come out of the Far East there are hundreds—and I know my time is up. I'll just finish with this if you don't mind 1 second.

Chairman TOM DAVIS. Thank you.

Ms. WATSON. How would you know, in the crowds that are coming through, getting on those planes? I think we ought to err on the side of requiring, because you could be sitting next to that infected person that showed no signs as they come up to the desk, go through security. Who is there checking them out? I just throw that out. Think about it. You don't even have to respond.

Thank you, Mr. Chairman.

Chairman TOM DAVIS. I thank the gentlelady.

At this time the Chair recognizes Mr. Duncan.

Mr. DUNCAN. Thank you, Mr. Chairman. Actually, my first question is somewhat related to that last line. How difficult is this to diagnose? And is there some simple test or procedure, or can it be quickly, easily identified, or is it something that it takes a test that you have to send off and wait a day or two?

Dr. OSTROFF. Well, up until 2 weeks ago we didn't even know what the potential cause was.

Mr. DUNCAN. Right.

Dr. OSTROFF. And so it is only once you identify what the causative agent might be that you can develop—start developing tests that would be directed specifically against that diagnosis. The syndrome, itself, particularly early on, is pretty non-specific. It looks like many other types of respiratory illnesses. And so there is nothing, at least initially, that distinguishes it from other types of diseases. That's why we've gone to such great lengths to use a very

wide net in terms of being able to recognize people with the appropriate travel histories so that we can take the appropriate precautions and make sure that we can reduce the risk to the minimum possible to have them potentially transmit to other individuals.

As far as where we are with the diagnostic tests, we have been making great strides since we identified the coronavirus 2 weeks ago to develop these tests. Right now these tests are being refined in our laboratories in Atlanta, and when we're at the point where we think that the tests perform the way that we think the test ought to perform, both in terms of recognizing people who really have the disease, as well as excluding people who don't, then we will begin distributing it to all of the States so that they can more rapidly make the diagnosis appropriately.

Mr. DUNCAN. Well, hopefully we are going to be able to come up with some way to contain and eradicate this disease very shortly, but let me ask you this: what other steps can we take if we don't come up with something very quickly, because obviously you mentioned a few minutes ago that you're getting more calls and more hits on the Web site than even the anthrax scare, which was a pretty big scare, and I think you said, what, 100,000 hits or something?

Dr. OSTROFF. Hundreds of thousands.

Mr. DUNCAN. Hundreds of thousands. So obviously the concern is very great. And the West Coast, of course, is the front line, I suppose, but we have people flying in from all over the world in my home town of Knoxville, TN, and all over the country. What can we do? If this thing starts to explode in some country, can we require that all passengers coming in from that country be tested or something done before they start spreading this all around the country, or what can we do?

Dr. OSTROFF. Right. Well, before we get to that point we have to have the test and we have to make sure the test works the way that we think that it ought to work.

Mr. DUNCAN. Because some of these people may be carrying this without realizing it.

Dr. OSTROFF. Right. One of the things that the World Health Organization has recommended is that on the embarkation end, when people are getting on airplanes from the areas in which there's evidence that there is local transmission occurring, that these passengers in some way, shape, or form be screened before they get on the airplane so that ill individuals can be recognized and make sure that they don't get on the airplane in the first place.

Mr. DUNCAN. That's good.

Dr. OSTROFF. And then, in addition to that, they've provided this information about what to do if somebody may not necessarily have been sick at the time they got on board but if they become sick en route.

In terms of what happens if this does explode and gets bigger and bigger and we run into situations like have been seen in some other parts of the world, I think the best defense against that is some of the things that Secretary Thompson and General Russell mentioned in terms of trying to come up with specific therapeutics and trying to come up with preventative measures that we can use

to prevent people from getting the disease in the first place. They obviously will take some time to get into that position. But hopefully that would enhance the tools that we have available to control this in the future.

Mr. DUNCAN. Well, I think Vice Chairman Shays made a good point in saying that we maybe need to give you some more authority, especially to do things concerning people who fly in from these other countries, if this thing gets bigger and bigger.

Thank you very much, Mr. Chairman.

Chairman TOM DAVIS. Thank you very much.

Mr. Lynch.

Mr. LYNCH. Thank you, Mr. Chairman. I want to thank you and also Ranking Member Waxman for your leadership on this issue. I want to thank the Secretary for coming in, and also you, Doctor.

I heard you mention in your earlier testimony that we are having people on the ground in Guangdong Province, and, while I have not been in Guangdong Province in over 2 years, I am quite familiar with the city of Guangzhou and the province, itself. Now, we probably have close to 7 million people in the city of Guangzho. It is the provincial capital. You have one of the major regional markets there. And while I need to be mindful of the cultural sensibilities, environmentally and from a public health standard those systems have been compromised in that city. It is just simply overwhelmed.

Also, and to my point, we have the major U.S. and European adoption center located at the White Swan Hotel right in the middle of Guangzho, and on an average weekend there—and I've seen it with my own eyes—you might have anywhere from 300 to 500 families coming in. Usually one parent comes in, adopts the child, flies out the same weekend. And all of this is exacerbated by the China one child policy and the fact the that Chinese Government has taken really a—kind of closed one eye to the adoption process, and they're sort of doing this thing without recognizing they're doing it.

We've got a situation there that is not adoption as we would view it in this country. You're really looking at a humanitarian effort there and we're rescuing kids. We're saving their lives. I have in my District recently a woman and her sister went over and adopted a young child, which is fairly customary, and came back, and now the child is infected and the sister is infected, as well, in Springfield, MA.

My question is this: given the whole situation then, do we have any protocol in place to address that situation? Have we allocated any additional resources to State or to anybody else, to your own people, to help that situation, given the fact that these adoptions need to go forward and we need to protect our people?

Dr. OSTROFF. Right. Thank you very much, Congressman, for asking that question. We, too, have been very concerned about that situation because virtually all international adoptions from China come from that particular region of the country.

We have been working on a highly collaborative basis with the international adoption agencies that deal with adoptees from China—with all of them. There are a number of them in the United States—to make sure that we have protocols in place so that we can provide information to the parents before they go over there

about what measures they can take to reduce their risk, and we have been also working quite well with all of these agencies in collaboration with our States and our local health departments to make sure that we can monitor these children as they do come so that we can minimize any potential impact not only from the child but also from potentially the parents. And so we've recognized this as a considerable issue, and we have been working quite strenuously to make sure that we address it in the most sensitive and appropriate way.

Mr. LYNCH. Thank you, Doctor. Thank you, Mr. Chairman.

Chairman TOM DAVIS. I thank the gentleman.

Mr. Janklow, you have the floor.

Mr. JANKLOW. Thank you very much, Mr. Chairman.

Doctor, in Secretary Thompson's testimony on page 7 they talk about this is a very infectious—SARS is very infectious during the symptomatic phase of the disease. Then it goes on to say, "However, we do not know how long the period of contagion lasts once they recover from the illness. We do not know whether or not they can spread the virus before they experience symptoms. The information our epidemiologists have suggests the period of contagion may begin with the very onset of the earliest symptoms of the viral disease."

Then on page 8 it says, "People who are living in a home with a SARS patient who are otherwise well, there's no reason to limit activities currently."

Well, why do we draw that conclusion, sir, if we don't know at what stage it is transmitted? And are we suggesting to people that it is OK if you live with a SARS patient to just go on about your business around the community if, in fact, it is maybe transmittable before you have any of the manifestations of the onset of the illness? Do you understand what I'm saying?

Dr. OSTROFF. Right. No, I understand, Congressman. We have been very rapidly accumulating a great deal of information, not only here in the United States but also through our teams that are working overseas where most of these cases are occurring, to try to answer some of the questions that you are raising, and the way to do this is through the collection of serial specimens.

Mr. JANKLOW. But, sir, if we're telling people don't go to Hanoi, don't go to Guangdong, Guangzho, don't go to Hong Kong, but if you have a SARS patient in your house you can go out and go to the supermarket, I mean, how is the public supposed to understand what it is that we really think is the cause for concern?

Dr. OSTROFF. Right. Well, looking at the situation here in the United States, you know, most of our cases are considerably milder than what has been seen in other parts of the world. Obviously, for those individuals who are ill, most of these people have been put in the hospital appropriately and have been put in appropriate isolation. In instances where there are some of these milder cases, as a routine recommendation we have made the recommendations that these individuals stay at home, remain in their homes, and for family members of these individuals that are living in the same household, that they monitor themselves for illness. In the absence of illness, however, we do not recommend that they self isolate themselves.

Mr. JANKLOW. But, Doctor—and I'm not trying to argue with you, but the testimony indicates that if someone is a SARS patient and they're cared for at home, that they should stay at home for at least 10 days——

Dr. OSTROFF. Correct.

Mr. JANKLOW [continuing]. After they are no longer symptomatic.

Dr. OSTROFF. Correct.

Mr. JANKLOW. If they should stay at home for 10 days, aren't we really pushing our luck to suggest it is OK for the family members to come and go and wander around the community while I'm staying at home for 10 days after I have no more symptoms?

Dr. OSTROFF. Well, until there is information to suggest that isn't the correct thing to do——

Mr. JANKLOW. OK.

Dr. OSTROFF [continuing]. We have difficulty making recommendations that non-ill people stay at home. Now, this is an important point because in some other countries they, indeed, have taken measures, based on their local circumstances, to restrict well individuals that have been in contact with SARS patients from going into the community. At this point, we have not seen any reason to do that in this country.

Mr. JANKLOW. OK.

Dr. OSTROFF. And so far this has worked quite well here in the United States.

Mr. JANKLOW. Doctor, some of the literature we were given says coronaviruses can mutate and change rapidly. This is the reason why this virus stand was not included in this year's influenza vaccine. Is that really a conclusion by somebody?

Dr. OSTROFF. Well, one influenza vaccine has nothing to do with coronavirus.

Mr. JANKLOW. OK. I'm just reading the sentence that was given to me in the briefing papers.

Mr. JANKLOW. Right. They are two completely different types of viruses. The influenza vaccine has—is directed against three different types of influenza, only. As was mentioned earlier, there are no human vaccines against coronaviruses.

Mr. JANKLOW. OK. Thank you.

Chairman TOM DAVIS. At this time the Chair recognizes Mr. Clay. Thank you for your patience.

Mr. CLAY. Thank you, Mr. Chairman.

Doctor, in a 1992 report on micro-biothreats to health, the Institute of Medicine recommended the development of a worldwide disease surveillance system. This recommendation was made again in the IOM's 2003 update to the 1992 report. Can you tell us what steps the administration has taken to implement this recommendation and what steps are planned for the future?

Dr. OSTROFF. Well, I think I can try to address what steps that we've been taking at CDC and in HHS to work collaboratively with the World Health Organization to try to enhance global capacity to be able to address the threat of emerging infectious diseases.

Again, as was mentioned, we have been providing resources to WHO so that they can do their job better. WHO has been working, and I think we are seeing the fruits of many of the things that WHO has done in terms of their ability to work collaboratively with

all of the countries in Asia that are affected by this and be able to monitor the world's situation. They have a global alerting network that they've built to be able to rapidly provide information about outbreaks that are occurring in other parts of the world. We support that.

In addition to that, we are working toward building similar types of programs to those that I described in Connecticut in other parts of the world, as well. This is a program that we've just started within the past couple of years. One of them currently exists in Thailand in Bangkok, and that program, itself, has been one of the instrumental tools that we've had to help provide assistance in Asia with the SARS problem. And so we have been working to try to improve global capacity, but I think that there would be little question, both in our minds as well as in the minds of WHO, that there is a great deal more that needs to be done.

Mr. CLAY. Thank you. In October 2001, the minority staff of this committee reported on the growing problem of ambulance diversions because of crowded emergency rooms in cities across the United States, indicating serious implications for a public health crisis. Are there any known cases of ambulance diversions documented by public health authorities that relate to SARS? And, if so, how many and when did it occur?

Dr. OSTROFF. I am not aware of specific circumstances, but that doesn't mean they haven't necessarily occurred.

Mr. CLAY. Are SARS cases being turned away from medical facilities because of lack of health care insurance that you know of?

Dr. OSTROFF. None that have particularly come to my attention. Others may have other information. Obviously, many health facilities around the country are very concerned about the potential risk that such patients may pose. From our perspective, it is important that all hospitals have the appropriate infection control procedures and precautions in all, both outpatient as well as inpatient settings, so that these people can be appropriately cared for.

Mr. CLAY. OK. Can this disease manifest itself in our food and water supply?

Dr. OSTROFF. It's way too early to be able to answer those types of questions. Again, we are basing everything on knowing about the existence of the virus, itself, for only 2 weeks, and it is far too soon to be able to answer those types of questions.

Mr. CLAY. OK. And along those lines then is there any reason to think that SARS is or is not related to a bioterrorism effort?

Dr. OSTROFF. Well, as the Secretary mentioned, all of the information that we have currently available to us suggests that this is a naturally occurring event. Nature, you know, has a lot of tricks up its sleeve of its own, and these viruses are constantly changing and mutating, and we constantly are seeing new naturally occurring, emerging infectious diseases. However, we haven't done everything that we need to do until we have been able to look at the entire genetic sequence of the virus to be able to say with 100 percent certainty that might not be the case. We remain open to that possibility. But at least everything that we've heard up to this point suggests that this is naturally occurring.

Mr. CLAY. Thank you, Doctor. I thank you for your answers.

[The prepared statement of Hon. Wm. Lacy Clay follows:]

Statement of the
Honorable William Lacy Clay
Before the
Government Reform Committee
Wednesday, April 9, 2003

"The SARS Threat: Is the Nation's Public Health Network Prepared for a Possible Epidemic"

Mr. Chairman, I would like to thank you for holding this important hearing regarding the new pubic health threat known as the Severe Acute Respiratory Syndrome commonly referred to as SARS. The Centers for Disease Control (CDC) and the World Health Organization (WHO) have classified SARS as an atypical pneumonia that has spread to over 20 countries since first reported in the Fall of 2002. According to the CDC, as of this morning there have been 2,671 cases reported worldwide. One hundred and three people have died in at least 17 countries with over 148 possible cases of SARS reported in the U.S alone. These numbers represent an increase of 70 cases and 5 deaths when compared to yesterday's numbers.

The question before this Committee is whether or not the nation's public health network is prepared for a possible long term epidemic given its current state of preparedness. Three facts tell me they are not. First, there is no known successful diagnostic test. Second, there is no known treatment. And finally, there is no known vaccine. None of this sounds encouraging.

The Bio-terrorism Preparedness and Response Core Capacity Project reported that the essential elements of preparedness should include at a minimum: Surveillance, Identification of the threat, Communication, Mobilization, and public health interventions. One question that

immediately comes to mind is what direction or resource has the CDC given to public health authorities to comply with these measures.

In conclusion, there's know doubt that SARS is a growing health epidemic which could have a profound effect on this nation's ability to deliver quality health services in times of crisis. In my estimation doctors, nurses, and medical researchers should receive every monetary and medical resource available to them to address this challenge. I look forward to hearing from today's witnesses. Mr. Chairman, I ask unanimous consent to submit my statement into the record.

Mr. SHAYS [assuming Chair]. Doctor, we're almost done. I would just like to ask you a few questions, and then we'll get to the next panel, and maybe the Governor has a question or two to followup.

I want outstanding understanding, because we've said it. I want to know if it is true. Is this a highly contagious disease or is it not? In a scale of 1 to 10, how does it fit in, 10 being highly contagious?

Dr. OSTROFF. Well, I'm not sure that we necessarily have all of the answers yet to be able to properly give it a score. What I can say is that in most circumstances it does not appear to be highly transmissible. However, what concerns us is that we have seen a number of instances in Asia and also in Toronto where there seems to be what the Secretary referred to as the "super spreaders" where all of a sudden we see explosive numbers of cases in their close contacts, particularly in the health care setting and, as I'm sure many are aware, in the apartment complex in Hong Kong and in the hotel setting in Hong Kong, as well, and we need to understand a little bit better the circumstances of those particular events and why they happened and what may have been responsible for why one individual seems to transmit the disease to so many people while, in the vast majority of cases, they don't seem to do that. It may simply have something to do with the stage of disease. It may have something to do with the severity of the illness at the time that individual was being cared for or was around.

So we can't say with absolute certainty, so I can't give you a definite score, but certainly if you look at a virus, say, like measles where almost everybody that is within an area will—you know, if they're not vaccinated, that are exposed will develop the disease. It doesn't appear to have that degree of contagiousness. But, again, most of these respiratory viruses go from one person to another, and until we gather more information we can't say exactly what degree of contagiousness this one has.

Mr. SHAYS. What is the sense of our ability—how do we determine whether something is natural or by the malevolent act of man, something tampered with? How do we know whether it is an act of a terrorist or just a natural act of——

Dr. OSTROFF. Well, again, it is looking at the structures of the virus, itself, and looking at the genetic material——

Mr. SHAYS. But there is a way to tell?

Dr. OSTROFF [continuing]. And looking to see whether or not there are sequences that would correspond with other sequences that would suggest that maybe something was introduced into the virus. All of that, you know, would go into making a determination that something may not necessarily be natural.

Mr. SHAYS. Let me be clear on this. Do we learn from analyzing the virus, the pathogen, or do we learn by just tracking it down to its beginning and then learn that way?

Dr. OSTROFF. Well, it is both.

Mr. SHAYS. OK.

Dr. OSTROFF. Clearly. And that's one of the reasons why we have been making such great efforts to try to get back to some of these very early cases in Guangdong Province so that we could learn about the types of exposures that these individuals had that may give us some clue as to exactly what you're talking about. But a lot of it is also based on what we learn about the virus, itself.

Mr. SHAYS. You're one seat over from a gentleman who was at our hearing on national security about 3 years ago, and he closed—he was a doctor of a major medical magazine, and he shared with us his biggest concern. His biggest concern was that a small group of dedicated scientists would alter a biological agent such that there would be no antidote and it would wipe out humanity as we know it. He was not saying that in an attempt to draw attention; he was just answering an honest question and giving an honest answer. That scared the hell out of me, though, and it makes me very interested just to come back again, because I don't have a handle or a sense of the concept of surveillance, which we believe is the most important issue. I think the Secretary has said that.

When will a national surveillance system with real-time data be put in place?

Dr. OSTROFF. Well, what I can say in addressing that issue is this is a system that we are working on developing.

Mr. SHAYS. Right.

Dr. OSTROFF. We are looking at ways to access data on a real-time basis at the national level, collect that information, be able to analyze it and look for aberrancies. That work is going on as we speak. It's a system that we refer to as biointelligence.

Mr. SHAYS. And when will this biointelligence—when do you think—what's your time table for getting this in place?

Dr. OSTROFF. We hope that we will be able to move toward pilots of such a system in the not-too-distant future. When will a national system be in place? I think it is a little premature——

Mr. SHAYS. I don't know about not-too-distant future. I've got to pin you down a little more.

Dr. OSTROFF. Well——

Mr. SHAYS. This is too important. You know, I mean, you have to have some time. If you want to say within the next year or you want to say within the next 5 years——

Dr. OSTROFF. Well, we would certainly hope to have pilots in place within the next year, Congressman.

Mr. SHAYS. OK. Within the next 12 months. And what does "pilots" mean?

Dr. OSTROFF. Well, again, to look at different mechanisms to be able to collect the information and try to figure out which is the best way to do it efficiently.

Mr. SHAYS. OK. So presently we have a basic ad hoc system that hospitals report to the States in some States and that you try to grab any information where you can get it, directly from the States or directly from New York City, and maybe the State of New York, any way you can do it, and you're trying to compile it. But right now we don't have a nationwide system that captures in real time all the data around the country in a matter of seconds or minutes all at once to be able to compare data, right?

Dr. OSTROFF. No. I think it is fair to say that we don't have such a system, but I'd also point out to you that, at least in our experience, a one-size-doesn't-fit-all system, and what might necessarily work, say, in Connecticut may not necessarily work in Los Angeles. That's why we have been—you know, with the bioterrorism resources, one of the major efforts of those resources is to develop the type of syndromic surveillance that you have been describing, and

there are many different models that are being used at the State and local level to be able to do that.

Mr. SHAYS. Let me just say my time has run out. I'm just going to go a few minutes longer and then go to my other colleagues.

Mr. JANKLOW. Very briefly?

Mr. SHAYS. Sure.

Mr. JANKLOW. Very briefly, I have three very quick questions.

One, you say there's indications that it may be weaker in this country. Does that give us hope that this thing may kind of peter itself out as it continues to move through society, that there's any logical reason for it?

Dr. OSTROFF. I think, Congressman, the term "weaker" is probably not the right term. The spectrum of illness that we've seen so far in the United States seems to be milder than what has been seen elsewhere. We believe that's probably a phenomenon of the fact that we're casting a very wide net, and as you cast a wide net and become less specific in terms of what you're looking for, to try to be as sensitive as possible to find all even theoretically possible cases, we're probably picking up people with milder illness who have something else.

Mr. JANKLOW. Sir, the second thing, when you were asked the question by the gentleman from Maryland about cooperation, you took a deep breath, let it out, and you said "on balance, things are highly collaborative." Is there a problem at all with collaboration with the other health agencies in the country? And I realize I put you on the spot, sir, but it is very important as we're talking about this kind of problem.

Dr. OSTROFF. Right. Congressman, what I can say is that we work on a highly collaborative basis with all of our partners at the State health departments.

Mr. JANKLOW. Is that happening now with this disease?

Dr. OSTROFF. Absolutely.

Mr. JANKLOW. OK.

Dr. OSTROFF. All of—you know, we've had—currently we've had reports of suspected cases from, you know, that we have been including on our line listing from at least 30 States. I don't know what today's count will be, but at least 30 different States. And, in addition to that, there have been many hundreds more, individuals that have either directly contacted us, their health care providers have contacted us——

Mr. JANKLOW. I'm talking about the agencies, not——

Dr. OSTROFF [continuing]. Or the States have.

Mr. JANKLOW. Not the individuals.

Dr. OSTROFF. Or the States have. And we have worked collaboratively with every single health department in this country to be able to investigate those cases and figure out whether——

Mr. JANKLOW. One last question.

Dr. OSTROFF [continuing]. They meet our definition.

Mr. JANKLOW. Thank you. One last question, sir. There's a suspicion that this may have jumped from animals to people. Do we know of any animal that has carried this disease in the past that gives us that suspicion?

Dr. OSTROFF. Right. This coronavirus, at least based on the work that we have done up to this point, appears to be unique and new,

different than other coronaviruses that we've seen. We do know that there are a number of coronaviruses that naturally infect animals, and so what we have been doing is we have been doing additional work to actually look at the virus, itself, and see if it will give us any clues as to the type of animal that it may have come from. We're not there yet.

Mr. JANKLOW. Thank you, Mr. Chairman.

Mr. SHAYS. Thank you. We're almost done here. This is a live-fire exercise. If it was more contagious, obviously we would be presented with a more difficult challenge. There's nothing in nature's law that says there couldn't be something more contagious, correct?

Dr. OSTROFF. Oh, absolutely.

Mr. SHAYS. Yes. So in one sense this is a good practice for us, would you agree?

Dr. OSTROFF. Well, all I can say is that we remain highly concerned about even this particular virus and the potential impact it can have, not only around the world but also here in the United States.

Mr. SHAYS. OK.

Dr. OSTROFF. I think we have to be very vigilant about the potential for this virus.

Mr. SHAYS. OK. And we have to move as quickly as we can to get those pilot programs——

Dr. OSTROFF. Absolutely.

Mr. SHAYS [continuing]. Moving, and I think, frankly, if I could express an opinion, not a question, a little more forcefully, I think that the Secretary and you and others have to be a little more outspoken. I tend to think that the Secretary doesn't want to alarm people because obviously that's not healthy, but at the same time he doesn't want us to feel like things are moving along and we don't need more resources or we don't need more legislation. It strikes me that we need to push the surveillance as quickly as we can.

It's a fact, isn't it, that a terrorist act could tamper with a biological agent or they could take a natural agent and just try to spread it, and then it's a little more difficult to know because you can't know from looking at the virus or the pathogen where it hasn't been altered, it hasn't been changed, it's natural in that sense, correct?

Dr. OSTROFF. That's correct. I mean, it is important to have some baseline of other viruses to be able to compare it to.

Mr. SHAYS. One last area real quick. At one point we were going to destroy the smallpox virus, both sites. The Russians had it, we had it. And there were a number of us who said, "We're not sure that's a good idea." Even within HHS also had some concerns. But ultimately we didn't do it, and it is probably proved wise that we haven't. But in the process of creating a vaccine, is it possible that someone can take from a vaccine and create the virus from a vaccine? Is that possible?

Dr. OSTROFF. Well, you know, to some degree. It depends on the virus. We certainly know many live virus vaccines where—and probably the best example of that would be, for instance, polio, where even the vaccine strains can revert themselves in nature to become more virulent and actually produce disease, and so it is——

Mr. SHAYS. What about——

Dr. OSTROFF [continuing]. Theoretically possible to do that.

Mr. SHAYS. What about smallpox?

Dr. OSTROFF. Well, the smallpox is not so much of an issue because the vaccine, itself, is a different virus.

Mr. SHAYS. Well, let me ask you this, though. Why is it, though, that if one partner in a marriage can't take the vaccine the other doesn't? In other words, if you're pregnant you choose not to, so the husband is determined that he should not, you know, have the——

Dr. OSTROFF. Right.

Mr. SHAYS. And why would that be?

Dr. OSTROFF. Well, because the virus, itself, is transmissible from one individual to another through direct contact.

Mr. SHAYS. Well, is——

Dr. OSTROFF. And because of that and because of the health threat that the virus could potentially pose to pregnant women and other people with immunocompromised health conditions, the recommendation is that if there is someone in your household who fits into one of those categories that you defer from vaccination.

Mr. SHAYS. OK. I don't want to dwell on this. I just want to understand it, though. I want to understand that—is that—are you saying, in essence, that someone could basically have the vaccine—is it called a vaccine, smallpox vaccine?

Dr. OSTROFF. The smallpox vaccine is vaccinia.

Mr. SHAYS. Right. OK. You have the vaccine. It is possible that someone could contract smallpox from a person who has had a—I'm seeing a shaking of the head behind.

Dr. OSTROFF. No. Not smallpox.

Mr. SHAYS. OK. Some other——

Dr. OSTROFF. Vaccinia in some circumstances can produce illness.

Mr. SHAYS. OK. It would be an illness, but not——

Dr. OSTROFF. Not smallpox.

Mr. SHAYS. Happy to have that on the record.

Dr. OSTROFF. OK.

Mr. SHAYS. We'll be real clear.

Dr. OSTROFF. Right.

Mr. SHAYS. You can't transmit it. OK.

Dr. OSTROFF. Thank you.

Mr. SHAYS. Thank you very much. We appreciate it, Doctor.

We're going to our second panel, which is: Janet Heinrich, Director, Public Health Issues, U.S. General Accounting Office; Dr. Margaret Hamburg, vice president for biological programs, the Nuclear Threat Initiative; and Dr. David Goodfriend, director, Loudoun County Health Department.

If you'd remain standing, we'll swear you in. If you'd raise your right hands.

[Witnesses sworn.]

Mr. SHAYS. Note for the record our witnesses have responded in the affirmative.

Chairman TOM DAVIS [resuming Chair]. Thank you for being patient with us. The rules of the committee, 5 minutes to give your testimony. Your full statement is going to be in the record. There's a light on in front of you. When it turns orange, that means 4 min-

utes have expired, you've got a minute to sum up. When it turns red, we'd appreciate your moving to summary as quick as you can, and then we can get right to the questions.

We'll start with Ms. Heinrich and move to Dr. Hamburg and then to Dr. Goodfriend. Thank all of your for your patience and for being with us today for what we think is a very important hearing.

Ms. Heinrich, you may proceed.

STATEMENTS OF JANET HEINRICH, DIRECTOR, PUBLIC HEALTH ISSUES, U.S. GENERAL ACCOUNTING OFFICE; DR. MARGARET HAMBURG, VICE PRESIDENT, BIOLOGICAL PROGRAMS, THE NUCLEAR THREAT INITIATIVE; AND DR. DAVID GOODFRIEND, DIRECTOR, LOUDOUN COUNTY HEALTH DEPARTMENT

Ms. HEINRICH. Mr. Chairman and members of the committee, I appreciate the opportunity to be here today as you consider the Nation's preparedness to manage a major public health threat. Whether an outbreak occurs naturally, as with influenza epidemics or the new SARS or is due to the intentional release of a harmful biological agent by a terrorist, much of the initial response would occur at the State and local level. In particular, hospitals and their emergency departments, as well as physicians and nurses, would be the first to respond as individuals with symptoms seek treatment.

Public health agencies would be involved in gathering information about the extent of the problem and initiating a global response effort. There is widespread concern, however, that our public health agencies and hospitals do not have the capacity to manage a major public health event.

We have been examining the capacity of State and local preparedness for a bioterrorism attack as part of a mandate in the Public Health Improvement Act of 2000. My remarks will focus on what we know about the preparedness at the State and local level, about hospital preparedness for such an event, and Federal and State efforts to prepare for an influenza pandemic, an important component of public health preparedness. All of these issues have become much more pertinent in light of emerging infectious diseases like SARS.

As you noted, we released our review of State and local preparedness for bioterrorism on Monday. In visiting selected States and cities, local officials reported varying ability to respond to a major public health threat. They recognize gaps in elements such as communication to the public, and have begun to address these. However, gaps remain in elements such as disease surveillance, laboratory capacity, and the trained work force. Although States have moved to electronic systems to compile data, for the most part they still rely on voluntary reporting of unusual diseases by health care providers. Such passive systems suffer from chronic under-reporting and time lags between diagnosis of a condition and the health department's receipt of the report. State officials were planning to purchase new equipment for public health laboratories, hire additional staff, and incorporate clinical laboratories into cooperative systems. Hiring epidemiologists and laboratory personnel trained to do the appropriate investigations in an emergency has been

hampered by a general shortage of these trained individuals and by non-competitive salaries, as well.

Other recent work shows that progress in improving public health response capacity has lagged in hospitals. Although most hospitals across the country reported participating in basic planning activities for large-scale infectious disease outbreaks and had provided training to staff on symptoms to watch for and likely biological agents, few have acquired the medical equipment and isolation facilities they would need.

For example, from our survey of almost 1,500 hospitals, we found that almost all hospitals had at least one ventilator, one protection suit, or an isolation bed, but half of hospitals had less than six ventilators, three or fewer protective suits, and less than four isolation beds per 100 staffed beds.

Even before September 11th, the need to plan for a worldwide influenza pandemic was acknowledged. In the 20th century, there have been three such pandemics, the last in 1968.

While efforts to develop plans have been in the works for a while, officials have been slow to finalize plans. Thirty-four States are in various stages of completion of preparing a pandemic response. Key Federal decisions related to vaccines and antiviral drug distribution have yet to be made, such as the amount of vaccines and antiviral drugs that will be purchased at the Federal level, the division of responsibility between the public and private sectors for the purchase, distribution, and administration of these vaccines and drugs, and how population groups will be prioritized.

In summary, many actions taken at the State and local level to prepare for a bioterrorist event have enhanced the ability of response agencies to manage a major public health threat; however, there are significant gaps in public health capacity, local hospitals' ability to handle large-scale infectious disease outbreaks, and the supply and distribution of vaccines and drugs in short supply. Clearly, progress has been made and much more needs to be done.

Mr. Chairman, that completes my remarks. I'm happy to answer any questions.

Chairman TOM DAVIS. Thank you very much.

[The prepared statement of Ms. Heinrich follows:]

United States General Accounting Office

GAO

Testimony
Before the Committee on Government Reform, House of Representatives

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INFECTIOUS DISEASE OUTBREAKS

Bioterrorism Preparedness Efforts Have Improved Public Health Response Capacity, but Gaps Remain

Statement of Janet Heinrich
Director, Health Care—Public Health Issues

GAO-03-654T

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Highlights

Highlights of GAO-03-654T, a testimony before the Committee on Government Reform, House of Representatives

Why GAO Did This Study

Following the bioterrorist events of the fall of 2001, there has been concern that the nation may not be prepared to respond to a major public health threat, such as the current outbreak of Severe Acute Respiratory Syndrome (SARS). Whether a disease outbreak occurs naturally or is due to the intentional release of a harmful biological agent by a terrorist, much of the initial response would occur at the local level, particularly hospitals and their emergency departments. Efforts to plan for worldwide influenza pandemics are useful for understanding public health preparedness for other large-scale outbreaks.

GAO was asked to examine (1) the preparedness of state and local public health agencies and organizations for responding to a large-scale infectious disease outbreak, (2) the preparedness of hospitals for responding to a large-scale infectious disease outbreak, and (3) federal and state efforts to prepare for an influenza pandemic.

This testimony is based on GAO's report, *Bioterrorism: Preparedness Varied across State and Local Jurisdictions*, GAO-03-373 (Apr. 7, 2003), a survey of hospitals GAO conducted to assess their level of emergency preparedness, and information updating GAO's prior report on federal and state planning for an influenza pandemic, *Influenza Pandemic: Plan Needed for Federal and State Response*, GAO-01-4 (Oct. 27, 2000).

www.gao.gov/cgi-bin/getrpt?GAO-03-654T.

To view the full report, including the scope and methodology, click on the link above. For more information, contact Janet Heinrich at (202) 512-7119.

April 9, 2003

INFECTIOUS DISEASE OUTBREAKS

Bioterrorism Preparedness Efforts Have Improved Public Health Response Capacity, but Gaps Remain

What GAO Found

The efforts of state and local public health agencies to prepare for a bioterrorist attack have improved the nation's capacity to respond to infectious disease outbreaks and other major public health threats, but gaps in preparedness remain. GAO found workforce shortages and gaps in disease surveillance and laboratory facilities. The level of preparedness varied across cities GAO visited. Jurisdictions that have had multiple prior experiences with public health emergencies were generally more prepared than others. GAO found that regional planning was generally lacking between states but that states were developing their own plans for receiving and distributing medical supplies for emergencies, as well as plans for mass vaccinations in the event of a public health emergency.

GAO found that many hospitals lack the capacity to respond to large-scale infectious disease outbreaks. Most hospitals across the country reported participating in basic planning activities for large-scale infectious disease outbreaks and training staff about biological agents. However, most hospitals lack adequate equipment, isolation facilities, and staff to treat a large increase in the number of patients that may result.

Federal and state officials have not finalized plans for responding to pandemic influenza. These plans do not consistently address problems related to the purchase, distribution, and administration of supplies of vaccines and antiviral drugs that may be needed during a pandemic.

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to be here today to discuss the work we have done pertaining to the nation's preparedness to manage major public health threats. The initial response to an outbreak of infectious disease would occur at the local level, with support from the state, whether the outbreak was naturally occurring or due to the intentional release of a harmful biological agent by a terrorist. Just as in a bioterrorist attack, a naturally occurring outbreak could involve public health officials in disease surveillance,[1] epidemiologic investigation,[2] health care delivery, and quarantine management. Because of prior worldwide influenza outbreaks—known as pandemics[3]—federal and state agencies have focused special attention on planning how to address such events, and these efforts are useful for understanding public health preparedness for other large-scale outbreaks. The outbreak of Severe Acute Respiratory Syndrome (SARS)[4] has not infected large numbers of individuals in the United States, but it has raised concerns about the nation's preparedness should it, or other infections, reach pandemic proportions.

Following the bioterrorist events of the fall of 2001, Congress expressed concern that the nation may not be prepared to respond to a major public health threat such as a large-scale outbreak of an infectious disease. State and local response agencies and organizations have recognized the need to strengthen their infrastructure and capacity to respond to a bioterrorist attack. The improvements they are making will also strengthen their ability to identify and respond to other major public health threats, including naturally occurring large-scale infectious disease outbreaks.

[1]Disease surveillance uses systems that provide for the ongoing collection, analysis, and dissemination of health-related data to identify, prevent, and control disease.

[2]An epidemiologic investigation seeks to determine how a disease is distributed in a population and the factors that influence or determine this distribution.

[3]Influenza pandemics are worldwide influenza epidemics that can have successive "waves" of disease and last for up to 3 years. Three pandemics occurred in the twentieth century: the "Spanish flu" of 1918, which killed at least 20 million people worldwide; the "Asian flu" of 1957; and the "Hong Kong flu" of 1968.

[4]SARS is a respiratory illness that has recently been reported principally in Asia, Europe, and North America. As of April 7, 2003, there were an estimated 2,601 cases reported in 19 countries, including 141 suspected cases in the United States. There have been 98 deaths worldwide, none of which have been in the United States. Symptoms of the disease, which may be caused by a previously unrecognized coronavirus, can include a fever, chills, headache, other body aches, or a dry cough.

Planning for a response to bioterrorism and influenza pandemics targets the public health resources essential for a response to other infectious diseases.

To assist the Committee in its consideration of our nation's capacity to respond to a major public health threat, my remarks today will focus on (1) the preparedness of state and local public health agencies for responding to a large-scale infectious disease outbreak, (2) the preparedness of hospitals for responding to a large-scale infectious disease outbreak, and (3) federal and state efforts to prepare for an influenza pandemic.

My testimony today is based largely on our recently released report on state and local preparedness for a bioterrorist attack.[5] For that report, we conducted site visits to seven cities and their respective state governments. We also reviewed each state's spring 2002 applications for bioterrorism preparedness funding distributed by the Department of Health and Human Services' (HHS) Centers for Disease Control and Prevention (CDC) and Health Resources and Services Administration (HRSA), and each state's fall 2002 progress report on the use of that funding. In addition, I will present some initial findings from a survey we conducted of hospitals to assess their level of emergency preparedness, which we will more fully report later, and from information updating our 2000 report on federal and state planning for an influenza pandemic.[6]

In summary, while the efforts of public health agencies and health care organizations to prepare for a bioterrorist attack have improved the nation's capacity to respond to infectious disease outbreaks and other major public health threats, gaps in preparedness remain. More specifically, we found that there are gaps in disease surveillance systems and laboratory facilities, and that there are workforce shortages. The level of preparedness varied across cities we visited, with jurisdictions that have had multiple prior experiences with public health emergencies being generally more prepared than others. We found that regional planning was lacking between states, but states were developing their own plans for receiving and distributing medical supplies for emergencies, and for mass

[5]U.S. General Accounting Office, *Bioterrorism: Preparedness Varied across State and Local Jurisdictions*, GAO-03-373 (Washington, D.C.: Apr. 7, 2003).

[6]U.S. General Accounting Office, *Influenza Pandemic: Plan Needed for Federal and State Response*, GAO-01-4 (Washington, D.C.: Oct. 27, 2000).

vaccinations in the event of a public health emergency. We found that many hospitals lack the capacity to respond to large-scale infectious disease outbreaks. Although most hospitals across the country report participating in basic planning activities for such outbreaks, few have adequate medical equipment, such as ventilators, needed to handle the large increases in the number of patients that may result. Federal and state influenza pandemic response plans, another component of public health preparedness, are in various stages of completion and do not consistently address the problems related to the purchase, distribution, and administration of supplies of vaccines and antiviral drugs during a pandemic.

Background

In order to be adequately prepared for a major public health threat, state and local public health agencies need to have several basic capabilities, whether they possess them directly or have access to them through regional agreements. Public health departments need to have disease surveillance systems and epidemiologists to detect clusters of suspicious symptoms or diseases in order to facilitate early detection of disease and treatment of victims. Laboratories need to have adequate capacity and necessary staff to test clinical and environmental samples in order to identify an agent promptly so that proper treatment can be started and infectious diseases prevented from spreading. All organizations involved in the response must be able to communicate easily with one another as events unfold and critical information is acquired, especially in a large-scale infectious disease outbreak. In addition, plans that describe how state and local officials would manage and coordinate an emergency response need to be in place and to have been tested in an exercise, both at the state and local levels as well as at the regional level.

Local health care organizations, including hospitals, are generally responsible for the initial response to a public health emergency, be it a bioterrorist attack or a naturally occurring infectious disease outbreak. In the event of a large-scale infectious disease outbreak, hospitals and their emergency departments would be on the front line, and their personnel would take on the role of first responders. Because hospital emergency departments are open 24 hours a day, 7 days a week, exposed individuals would be likely to seek treatment from the medical staff on duty. Staff would need to be able to recognize and report any illness patterns or diagnostic clues that might indicate an unusual infectious disease outbreak to their state or local health department. Hospitals would need to have the capacity and staff necessary to treat severely ill patients and limit the spread of infectious disease. In addition, hospitals would need

adequate stores of equipment and supplies, including medications, personal protective equipment, quarantine and isolation facilities, and air handling and filtration equipment.

The federal government also has a role in preparedness for and response to major public health threats. It becomes involved in investigating the cause of the disease, as it is doing with SARS. In addition, the federal government provides funding and resources to state and local entities to support preparedness and response efforts. CDC's Public Health Preparedness and Response for Bioterrorism program provided funding through cooperative agreements in fiscal year 2002 totaling $918 million to states and municipalities to improve bioterrorism preparedness and response, as well as other public health emergency preparedness activities. HRSA's Bioterrorism Hospital Preparedness Program provided funding through cooperative agreements in fiscal year 2002 of approximately $125 million to states and municipalities to enhance the capacity of hospitals and associated health care entities to respond to bioterrorist attacks. Among the other public health emergency response resources that the federal government provides is the Strategic National Stockpile, which contains pharmaceuticals, antidotes, and medical supplies that can be delivered anywhere in the United States within 12 hours of the decision to deploy.

Officials view influenza vaccine as the cornerstone of efforts to prevent and control annual influenza outbreaks as well as pandemic influenza. Deciding which viral strains to include in the annual influenza vaccine depends on data collected from domestic and international surveillance systems that identify prevalent strains and characterize their effect on human health.[7] Antiviral drugs and vaccines against influenza are expected to be in short supply if a pandemic occurs. Antiviral drugs, which can be used against all forms of viral diseases, have been as effective as vaccines in preventing illness from influenza and have the advantage of being available now. HHS assumes shortages will occur in a pandemic because demand is expected to exceed current rates of production and increasing production capacity of antiviral drugs can take at least 6 to 9 months, according to manufacturers.

[7]CDC participates in international disease and laboratory surveillance sponsored by the World Health Organization, which operates in 83 countries.

State and Local Officials Reported Varying Levels of Public Health Preparedness for Infectious Diseases Outbreaks

In the cities we visited, state and local officials reported varying levels of public health preparedness to respond to an infectious disease outbreak. They recognized gaps in preparedness elements such as communication and were beginning to address them. Gaps also remained in other preparedness elements that have been more difficult to address, including the response capacity of the workforce and the disease surveillance and laboratory systems. In addition, we found that the level of preparedness varied across the cities. Jurisdictions that had multiple prior experiences with public health emergencies were generally more prepared than those with little or no such experience prior to our site visits. We found that regional planning was lacking between states. States were working on their own plans for receiving and distributing the Strategic National Stockpile and for administering mass vaccinations.

Progress Has Been Made in Elements of Public Health Preparedness, But Gaps Remain

States and local areas were addressing gaps in public health preparedness elements, such as communication, but weaknesses remained in other preparedness elements, including the response capacity of the workforce and the disease surveillance and laboratory systems. Gaps in capacity often are not amenable to solution in the short term because either they require additional resources or the solution takes time to implement.

Communication

We found that officials were beginning to address communication problems. For example, six of the seven cities we visited were examining how communication would take place in a public health emergency. Many cities had purchased communication systems that allow officials from different organizations to communicate with one another in real time. In addition, state and local health agencies were working with CDC to build the Health Alert Network (HAN), an information and communication system. The nationwide HAN program has provided funding to establish infrastructure at the local level to improve the collection and transmission of information related to public health preparedness, including preparedness for a bioterrorism incident. Goals of the HAN program include providing high-speed Internet connectivity, broadcast capacity for emergency communication, and distance-learning infrastructure for training.

Surveillance Systems and Laboratory Facilities

State and local officials for the cities we visited recognized and were attempting to address inadequacies in their surveillance systems and laboratory facilities. Local officials were concerned that their surveillance

systems were inadequate to detect a bioterrorist event and all of the states we visited were making efforts to improve their disease surveillance systems. Six of the cities we visited used a passive surveillance system[8] to detect infectious disease outbreaks.[9] However, passive systems may be inadequate to identify a rapidly spreading outbreak in its earliest and most manageable stage because, as officials in three states noted, there is chronic underreporting and a time lag between diagnosis of a condition and the health department's receipt of the report. To improve disease surveillance, six of the states and two of the cities we visited were developing surveillance systems using electronic databases. Several cities were also evaluating the use of nontraditional data sources, such as pharmacy sales, to conduct surveillance.[10] Three of the cities we visited were attempting to improve their surveillance capabilities by incorporating active surveillance components into their systems.

However, work to improve surveillance systems has proved challenging. For example, despite initiatives to develop active surveillance systems, the officials in one city considered event detection to be a weakness in their system, in part because they did not have authority to access hospital information systems. In addition, various local public health officials in other cities reported that they lacked the resources to sustain active surveillance.

Officials from all of the states we visited reported problems with their public health laboratory systems and said that they needed to be

[8]Passive surveillance systems rely on laboratory and hospital staff, physicians, and other relevant sources to take the initiative to provide data on illnesses to the health department, where officials analyze and interpret the information as it arrives. In contrast, in an active disease surveillance system, public health officials contact sources, such as laboratories, hospitals, and physicians, to obtain information on conditions or diseases in order to identify cases. Active surveillance can provide more complete detection of disease patterns than a system that is wholly dependent on voluntary reporting.

[9]Officials in one city told us that although it had no local disease surveillance, its state maintained a passive disease surveillance system.

[10]This type of active surveillance system in which the public health department obtains information from such sources as hospitals and pharmacies and conducts ongoing analysis of the data to search for certain combinations of signs and symptoms, is sometimes referred to as a syndromic surveillance system. One federal official has stated that research examining the usefulness of syndromic surveillance needs to continue. See S. Lillibridge, *Disease Surveillance, Bioterrorism, and Homeland Security*, Conference Summary and Proceedings Prepared by the Annapolis Center for Science-Based Public Policy (Annapolis, Md.: U.S. Medicine Institute for Health Studies, Dec. 4, 2001).

upgraded. All states were planning to purchase the equipment necessary for rapidly identifying a biological agent. State and local officials in most of the areas that we visited told us that the public health laboratory systems in their states were stressed, in some cases severely, by the sudden and significant increases in workload during the anthrax incidents in the fall 2001. During these incidents, the demand for laboratory testing was significant even in states where no anthrax was found and affected the ability of the laboratories to perform their routine public health functions. Following the incidents, over 70,000 suspected anthrax samples were tested in laboratories across the country.

Officials in the states we visited were working on other solutions to their laboratory problems. States were examining various ways to manage peak loads, including entering into agreements with other states to provide surge capacity, incorporating clinical laboratories into cooperative laboratory systems, and purchasing new equipment. One state was working to alleviate its laboratory problems by upgrading two local public health laboratories to enable them to process samples of more dangerous pathogens, and establishing agreements with other states to provide backup capacity. Another state reported that it was using the funding from CDC to increase the number of pathogens the state laboratory could diagnose. The state also reported that it has worked to identify laboratories in adjacent states that are capable of being reached within 3 hours over surface roads. In addition, all of the states reported that their laboratory response plans were revised to cover reporting and sharing laboratory results with local public health and law enforcement agencies.

Workforce

At the time of our site visits, shortages in personnel existed in state and local public health departments and laboratories and were difficult to remedy. Officials from state and local health departments told us that staffing shortages were a major concern. Two of the states and cities that we visited were particularly concerned that they did not have enough epidemiologists to do the appropriate investigations in an emergency. One state department of public health we visited had lost approximately one-third of its staff because of budget cuts over the past decade. This department had been attempting to hire more epidemiologists. Barriers to finding and hiring epidemiologists included noncompetitive salaries and a general shortage of people with the necessary skills.

Shortages in laboratory personnel were also cited. Officials in one city noted that they had difficulty filling and maintaining laboratory positions. People that accepted the positions often left the health department for better-paying positions. Increased funding for hiring staff cannot

necessarily solve these shortages in the near term because for many types of laboratory positions there are not enough trained individuals in the workforce. According to the Association of Public Health Laboratories, training laboratory personnel to provide them with the necessary skills will take time and require a strategy for building the needed workforce.[11]

Level of Preparedness Varied across Cities We Visited

We found that the overall level of public health preparedness varied by city. In the cities we visited, we observed that those cities that had recurring experience with public health emergencies, including those resulting from natural disasters, or with preparation for National Security Special Events, such as political conventions,[12] were generally more prepared than cities with little or no such experience. Cities that had dealt with multiple public health emergencies in the past might have been further along because they had learned which organizations and officials need to be involved in preparedness and response efforts and moved to include all pertinent parties in the efforts. Experience with natural disasters raised the awareness of local officials regarding the level of public health emergency preparedness in their cities and the kinds of preparedness problems they needed to address.

Even the cities that were better prepared were not strong in all elements. For example, one city reported that communications had been effective during public health emergencies and that the city had an active disease surveillance system. However, officials reported gaps in laboratory capacity. Another one of the better-prepared cities was connected to HAN and the Epidemic Information Exchange (Epi-X),[13] and all county emergency management agencies in the state were linked. However, the state did not have written agreements with its neighboring states for responding to a public health emergency.

[11]Association of Public Health Laboratories, "State Public Health Laboratory Bioterrorism Capacity," *Public Health Laboratory Issues in Brief: Bioterrorism Capacity* (Washington, D.C.: October 2002).

[12]Presidential Decision Directive 62 created a category of special events called National Security Special Events, which are events of such significance that they warrant greater federal planning and protection than other special events. In addition to major political party conventions, such events include presidential inaugurations.

[13]Epi-X is a secure, Web-based exchange for public health officials to rapidly exchange information on disease outbreaks, exposures to environmental hazards, and other health events as they are identified and investigated.

Regional Planning Was Lacking between States

Response organization officials were concerned about a lack of planning for regional coordination between states of the public health response to an infectious disease outbreak. As called for by the guidance for the CDC and HRSA funding, all of the states we visited organized their planning on the basis of regions within their states, assigning local areas to particular regions for planning purposes. A concern for response organization officials was the lack of planning for regional coordination between states. A hospital official in one city we visited said that state lines presented a "real wall" for planning purposes. Hospital officials in one state reported that they had no agreements with other states to share physicians. However, one local official reported that he had been discussing these issues and had drafted mutual aid agreements for hospitals and emergency medical services. Public health officials from several states reported developing working relationships with officials from other states to provide backup laboratory capacity.

States Have Begun Planning for Receiving and Distributing the Strategic National Stockpile and for Administering Mass Vaccinations

States have begun planning for use of the Strategic National Stockpile. To determine eligibility for the CDC funding, applicants were required to develop interim plans to receive and manage items from the stockpile, including mass distribution of antibiotics, vaccines, and medical materiel. However, having plans for the acceptance of the deliveries from the stockpile is not enough. Plans have to include details about dividing the materials that are delivered in large pallets and distributing the medications and vaccines.

Of the seven states we visited, five states had completed plans for the receipt and distribution of the stockpile. One state that was working on its plan stated that it would be completed in January 2003. Only one state had conducted exercises of its stockpile distribution plan, while the other states were planning to conduct exercises or drills of their plans sometime in 2003.

In addition, five states reported on their plans for mass vaccinations and seven states reported on their plans for large-scale administration of smallpox vaccine in response to an outbreak. Some states we visited had completed plans for mass vaccinations, whereas other states were still developing their plans. The mass vaccination plans were generally closely tied to the plans for receiving and administering the stockpile. In addition, two states had completed smallpox response plans, which include administering mass smallpox vaccinations to the general population, whereas four of the other states were drafting plans. The remaining state

was discussing such a plan. However, only one of the states we visited has tested in an exercise its plan for conducting mass smallpox vaccinations.

Most Hospitals Lack Response Capacity for Large-Scale Infectious Disease Outbreaks

Our recent work shows that progress in improving public health response capacity has lagged in hospitals. Although most hospitals across the country reported participating in basic planning activities for large-scale infectious disease outbreaks, few have acquired the medical equipment resources, such as ventilators, to handle large increases in the number of patients that may result from outbreaks of diseases such as SARS.

Most Hospitals Reported Planning and Training Efforts, but Fewer Than Half Have Participated in Drills or Exercises

At the time of our site visits, we found that hospitals were beginning to coordinate with other local response organizations and collaborate with each other in local planning efforts. Hospital officials in one city we visited told us that until September 11, 2001, hospitals were not seen as part of a response to a terrorist event but that the city had come to realize that the first responders to a bioterrorism incident could be a hospital's medical staff. Officials from the state began to emphasize the need for a local approach to hospital preparedness. They said, however, that it was difficult to impress the importance of cooperation on hospitals because hospitals had not seen themselves as part of a local response system. The local government officials were asking them to create plans that integrated the city's hospitals and addressed such issues as off-site triage of patients and off-site acute care.

According to our survey of over 2,000 hospitals,[14] 4 out of 5 hospitals reported having a written emergency response plan for large-scale infectious disease outbreaks. Of these hospitals with emergency response plans, most include a description of how to achieve surge capacity for obtaining additional pharmaceuticals, other supplies, and staff. Almost all

[14]Between June and September 2002, we surveyed over 2,000 nonfederal, short-term, general, medical, adult and children's hospitals with emergency departments located in metropolitan statistical areas (see U.S. General Accounting Office, *Hospital Emergency Department: Crowded Conditions Vary among Hospitals and Communities*, GAO-03-460 (Washington, D.C.: Mar. 14, 2003) for information on the survey universe and development of the survey). The survey contained three parts, the third of which specifically addressed hospital preparedness for mass casualty incidents. We obtained responses from 1,482 hospitals for the third section of the survey addressing emergency preparedness, a response rate of about 73 percent.

hospitals reported participating in community interagency disaster preparedness committees.

Our survey showed that hospitals have provided training to staff on biological agents, but fewer than half have participated in exercises. Most hospitals we surveyed reported providing training about identifying and diagnosing symptoms for the six biological agents identified by the CDC as most likely to be used in a bioterrorist attack. While at least 90 percent of hospitals reported providing training for smallpox and anthrax, approximately three-fourths of hospitals reported providing training about plague, botulism, tularemia, and hemorrhagic fever viruses. Fewer than half the hospitals reported participating in drills or exercises related to bioterrorism.

Most Hospitals Lack Adequate Equipment, Facilities, and Staff Required to Respond to a Large-Scale Infectious Disease Outbreak

Most hospitals lack adequate equipment, isolation facilities, and staff to treat a large increase in the number of patients for an infectious disease such as SARS. To prevent transmission of SARS in health care settings, CDC recommends that health care workers use personal protective equipment, including gowns, gloves, respirators, and protective eyewear. SARS patients in the United States are being isolated until they are no longer infectious. CDC estimates that patients require mechanical ventilation in 10 to 20 percent of SARS cases.[16]

In the seven cities we visited, hospital, state, and local officials reported that hospitals needed additional equipment and capital improvements—including medical stockpiles, personal protective equipment, quarantine and isolation facilities, and air handling and filtering equipment—to enhance preparedness. Five of the states we visited reported shortages of hospital medical staff, including nurses and physicians, necessary to increase response capacity in an emergency. One of the states we visited reported that only 11 percent of its hospitals could readily increase their capacity for treating patients with infectious diseases requiring isolation, such as smallpox and SARS. Another state reported that most of its

[15]CDC, *Interim Domestic Guidance for Management of Exposures to Severe Acute Respiratory Syndrome (SARS) for Healthcare and Other Institutional Settings* (Mar. 27, 2003), http://www.cdc.gov/ncidod/sars/exposureguidance.htm (downloaded Apr. 5, 2003).

[16]CDC, *SARS Frequently Asked Questions*, http://www.cdc.gov/ncidod/sars/faq.htm (downloaded Apr. 5, 2003).

hospitals have little or no capacity for isolating patients diagnosed with or being tested for infectious diseases.

According to our hospital survey, availability of medical equipment varied greatly between hospitals, and few hospitals seemed to have adequate equipment and supplies to handle a large-scale infectious disease outbreak. While most hospitals had at least 1 ventilator per 100 staffed beds, 1 personal protective equipment suit per 100 staffed beds, or an isolation bed per 100 staffed beds, half of the hospitals had less than 6 ventilators per 100 staffed beds, 3 or fewer personal protective equipment suits per 100 staffed beds, and less than 4 isolation beds per 100 staffed beds.

Officials Have Been Slow to Finalize Plans for Federal and State Response to an Influenza Pandemic

Federal and state influenza pandemic response plans, another important component to public health preparedness, are in various stages of completion and do not consistently address the problems related to the purchase, distribution, and administration of supplies of vaccines and antiviral drugs during a pandemic. CDC has provided interim draft guidance to facilitate state plans, but final federal decisions necessary to mitigate the effects of potential shortages of vaccines and antiviral drugs have not been made. Until such decisions are made, the timeliness and adequacy of response efforts may be compromised.

Federal and State Pandemic Response Plans Are Not Finalized

Federal and state officials have not finalized plans for responding to pandemic influenza. To foster state and local pandemic planning and preparedness, CDC first issued interim planning guidance in draft form to all states in 1997, outlining general federal and state planning responsibilities. Thirty-four states are actively preparing a pandemic response plan, and many are integrating these plans with existing state plans to respond to natural or man-made disasters, such as floods or a bioterrorist attack. Although to a certain extent planning efforts for other emergencies can be used for pandemic response, additional planning is important to deal with specific aspects of a pandemic response. This includes developing plans to address the large-scale emergency needs of an entire population, including mass distribution and administration of limited vaccines and drugs, with an uncertain amount of available resources.

Key Federal Decisions Are Unresolved

In the most recent version of its pandemic influenza planning guidance for states, CDC lists several key federal decisions related to vaccines and antiviral drugs that have not been made. These decisions include determining the amount of vaccines and antiviral drugs that will be purchased at the federal level; the division of responsibility between the public and private sectors for the purchase, distribution, and administration of vaccines and drugs; and how population groups will be prioritized and targeted to receive limited supplies of vaccines and drugs. In each of these areas, until federal decisions are made, states will not be able to develop strategies consistent with federal action.

The interim draft guidance for state pandemic plans says that resources can be expected to be available through federal contracts to purchase influenza vaccine and some antiviral agents, but some state funding may be required. The amounts of antiviral drugs to be purchased and stockpiled are yet to be determined, even though these drugs are available and can theoretically be used for both treatment and prevention during a pandemic.

CDC has indicated in its interim draft guidance that the policies for purchasing, distributing, and administering vaccines and drugs by the private and public sector will change during a pandemic, but some decisions necessary to prepare for these expected changes have not been made. During a typical annual influenza response, influenza vaccine and antiviral drug distribution is primarily handled directly by manufacturers through private vendors and pharmacies to health care providers. During a pandemic, however, CDC interim draft guidance indicates that many of these private-sector responsibilities may be transferred to the public sector at the federal, state, or local levels, and priority groups within the population would need to be established for receiving limited supplies of vaccines and drugs.

State officials are particularly concerned that a national plan has not been issued with final recommendations for how population groups should be prioritized to receive vaccines and antiviral drugs. In its interim draft guidance, CDC lists eight population groups that should be considered in establishing priorities among groups for receiving vaccines and drugs during a pandemic. The list includes such groups as health care workers and public health personnel involved in the pandemic response, persons traditionally considered to be at increased risk of severe influenza illness and mortality, and preschool and school-aged children.

Although state officials acknowledge the need for flexibility in planning because many aspects of a pandemic cannot be known in advance, the absence of more detail leaves them uncertain about how to plan for the use of limited supplies of vaccine and drugs. In our 2000 report on the influenza pandemic, we recommended that HHS determine the capability of the private and public sectors to produce, distribute, and administer vaccines and drugs and complete the national response plan.[17] To date, only limited progress has been made in addressing these recommendations.

Concluding Observations

Many actions taken at the state and local level to prepare for a bioterrorist event have enhanced the ability of state and local response agencies and organizations to manage a major public health threat, such as a large-scale infectious disease outbreak. However, there are significant gaps in public health surveillance systems and laboratory capacity, and the number of personnel trained for disease detection is insufficient. Hospitals have begun planning and training efforts to respond to large-scale infectious disease outbreaks, but lack adequate equipment, medical stockpiles, personal protective equipment, and quarantine and isolation facilities. Federal and state plans for the purchase, distribution, and administration of supplies of vaccines and drugs in response to an influenza pandemic have still not been finalized. The lack of these final plans has serious implications for efforts to mobilize the distribution of vaccines and drugs for other infectious disease outbreaks.

Mr. Chairman, this completes my prepared statement. I would be happy to respond to any questions you or other Members of the Committee may have at this time.

Contact and Staff Acknowledgments

For further information about this testimony, please contact me at (202) 512-7119. Jennifer Cohen, Robert Copeland, Marcia Crosse, Martin T. Gahart, Deborah Miller, Roseanne Price, and Ann Tynan also made key contributions to this statement.

[17] GAO-01-4.

Chairman TOM DAVIS. Dr. Hamburg, thanks for being with us.

Dr. HAMBURG. Thank you. Mr. Chairman and members of the committee, I really appreciate the opportunity to testify and thank you for holding this timely and important hearing.

SARS is a serious public health threat that has surprised government officials and scientists around the globe, constrained travel, shut down schools and businesses, and caused widespread fear. At present, no one can predict how far the disease will spread and how much higher the toll will be. Will this outbreak be contained or will it become the next global pandemic?

Many organizations and their leaders should be commended for the robust international response mobilized, yet SARS demonstrates gaps in our systems for disease prevention, response, and control. These will require increased domestic attention, but also demand greater global cooperation and support. For example, the failure of China to initially report was a missed opportunity for rapid investigation, adding unnecessary delay to an already difficult diagnostic and disease control challenge, and clearly we need research to provide better diagnostic tools, as well as the drugs and vaccines necessary to treat or prevent disease.

In addition, SARS has demonstrated how easily health care systems can be overwhelmed and has revealed troubling questions about how and when travel and commerce should be constrained in the context of communicable disease. On both the domestic and international level, a great deal must be done to develop appropriate policies, define authorities, and design strategies for implementation. We must recognize that SARS is but one of a series of new and deadly infectious diseases that have emerged in recent times, not to mention old diseases that have resurged, often in new and more frightening forms because of the development of drug resistance.

What is more, we live in an age when we must think seriously about the intentional use of biological agents to do harm.

The ability of infectious agents to destabilize populations, economies, and governments is fast becoming an unfortunate fact of life. Over the past decade, the United States has taken important steps to strengthen capacity to address the threats posed by infectious diseases, but were inadequately prepared. Public health is public safety, and an important pillar in our national and international security framework. We must do more to improve our ability to prevent, detect, and control microbial threats to health.

Several weeks ago the Institute of Medicine released a new report, "Microbial Threats to Health," focused on just these concerns. The report represents an effort to describe the spectrum of microbial threats, the factors affecting their emergence and resurgence, and measures needed to address them. The major thrust of this report and its recommendations are almost uncannily relevant to our current experience with SARS. As co-chair of this effort, I'd like to briefly discuss some of our major themes and conclusions.

More than a dozen factors, some reflecting the ways of nature, most reflecting our ways of life, are described in the report to account for new or enhanced microbial threats. Any of these factors alone can trigger problems, but their convergence creates especially high-risk environments where infectious diseases may readily

emerge, take hold, and spread. In our transforming world, conditions are ripe for the convergence of multiple factors to create microbial perfect storms, yet, unlike meteorological perfect storms, these events are not to be once-in-a-century events, but frequent or ongoing. SARS is not an isolated phenomenon.

An effective national response to infectious diseases must be global, so our recommendations begin with a strong call for the United States to support enhancement of global disease surveillance and the capacity to respond to infectious disease threats. The report also stresses the need to bolster the U.S. public health infrastructure. State and local health departments represent the backbone of response to a major outbreak of disease, whether naturally occurring or bioterrorist attack, yet we've never adequately equipped these agencies to do that job.

Upgrading current public health capacities will require us to strengthen and extend effective disease surveillance systems, laboratory capacity, and systems to ensure the rapid use and sharing of information. These efforts will require enhancement of both the capacity and expertise of the work force, greater partnership between public health and medicine, and the need to develop and use better diagnostics.

It was felt that we faced a serious crisis in vaccine and drug development, production, and deployment, as well. A more coordinated approach among government, academia, and industry is necessary, and issues of identification of priorities for research, determination of effective incentive strategies for developers and manufacturers, liability concerns, and streamlining the regulatory process must be addressed in a more meaningful and systematic fashion.

Other recommendations address ways to reduce microbial resistance, control vector-borne diseases, and the need for interdisciplinary approaches to infectious disease research.

In conclusion, prevention and control of infectious disease is fundamental to individual, national, and global security. Failure to recognize and act on this essential truth will surely lead to disaster. Recent Federal investments in bioterrorism preparedness are resulting in some improvements; yet, while we've taken some steps forward, we are at risk for serious backsliding. Cutbacks in crucial but nonbioterrism programs at the Federal level, such as in CDC's emerging infectious disease program or USAID dollars for global disease surveillance, combined with cuts to public health programs in State budgets across the country, along with the many competing priorities at the State, local, and Federal level means that overall dollars to build and sustain the necessary elements for infectious disease preparedness and response may not be there.

Our country has always been willing to meet the requirements and pay the bills when it comes to our military defense needs. We must now be willing to do the same when it comes to public health needs. SARS is yet another wakeup call. While there is an enormous human and economic toll, it is a far milder version of what we might experience with a more deadly or contagious disease.

The best defense against any outbreak is robust public health, both science and practice. Given our significant and growing vulnerabilities, markedly greater attention and resources must be

devoted toward this end. Effective strategies will require sustained efforts, as well as greater coordination and cooperation with partners around the globe. We must endeavor now to create a system that really works so that we will be prepared for the next attack, whether it is Mother Nature or an act of bioterrorism.

Thank you.

Chairman TOM DAVIS. Thank you very much.

[The prepared statement of Dr. Hamburg follows:]

Testimony of Margaret A. Hamburg, M.D.
Vice President of Biological Programs, Nuclear Threat Initiative
House Committee on Government Reform
April 9, 2003

Mr. Chairman and members of the Committee. Thank you for holding this timely and important hearing on our nation's preparedness to handle major public health threats. My name is Margaret (Peggy) Hamburg. I am a physician and a public health professional, currently serving as Vice President for Biological Programs at NTI, a private foundation, co-chaired by Ted Turner and Sam Nunn, whose mission is to reduce the global threat from weapons of mass destruction. Previously, I have served as Assistant Secretary for Planning and Evaluation in the Department of Health and Human Services; as New York City Health Commissioner; and as Assistant Director of the National Institute of Allergy and Infectious Diseases, National Institutes of Health. I have spent much of my time over many years working on issues of public health preparedness and response, particularly with respect to infectious diseases threats, both naturally occurring and intentionally caused. I also recently co-chaired, along with Dr. Joshua Lederberg, a recent report from the Institute of Medicine (IOM), National Academy of Sciences, entitled *Microbial Threats To Health: Emergence, Detection and Response* which examined a set of critical issues concerning microbial threats to health in the twenty-first century. I welcome this opportunity to offer my views on Severe Acute Respiratory Syndrome (SARS) and its implications for public health

In my testimony this morning, I would like to address some of the important concerns raised by the emergence and ongoing response to the SARS outbreak, as well as broader issues of emerging infections, public health and security. In this context, I would also like to offer a brief review of the IOM's *Microbial Threats to Health* report, which focused on the severe and urgent nature of the infectious disease threat and offered a series of recommendations to improve domestic and global capacity to detect and respond to the kinds of public health threats that we are now experiencing with SARS.

Severe Acute Respiratory Syndrome (SARS)
Severe Acute Respiratory Syndrome (SARS) represents a serious public health threat. Unfolding as we speak, it is surprising government officials and scientists around the globe, constraining travel, shutting down businesses, causing widespread fear and possibly threatening our security. SARS is a life-threatening pneumonia that, as of April 7, 2003, has infected more than 2,600 people, with 98 deaths. First appearing in China, it has now been reported in 18 countries. We are still uncertain as to the definitive cause of this emerging disease, and there is no known effective treatment. Transmission of the disease involves human-to-human spread, predominately through aerosol droplets. To date, between 3- 4% of those infected die. No one can predict how far the disease will

spread and how much higher the toll will be. Will this outbreak be contained, or will it become the next global pandemic?

Many organizations and their leaders should be commended for the robust international response mobilized in light of the emergence of SARS. Yet SARS has demonstrated important outstanding needs and gaps in our systems for disease prevention, response and control. These will require increased domestic attention, but importantly also demand greater global cooperation and support. For example, failures to initially report this unusual syndrome appearing last fall in China's Guangdong Province likely represents a missed opportunity for rapid outbreak investigation and disease control. Time lags in getting samples to the best labs around the world for evaluation no doubt added further significant delays to an already difficult diagnostic challenge. Continuing spread though human contact and travel has now dispersed the disease around the globe, yet there is not an adequate system for global disease surveillance to assure the necessary disease tracking; nor is there a coordinated system to assure appropriate action and response when cases appear. And clearly we need more research to provide better diagnostic tools, as well as the drugs or vaccines necessary to treat or prevent disease.

In addition, SARS has demonstrated how easily health care systems can be overwhelmed by the demands for patient screening and care, particularly with the special infection control requirements that come with a respiratory illness of this kind. Similarly, it has revealed troubling questions about how and when travel and commerce should be constrained in the context of communicable disease. On both the domestic and international level, a great deal more work must be undertaken to develop appropriate policies, define authorities and design strategies for implementation

These are fundamental issues, both with respect to the current SARS outbreak and in terms of our broader health and security needs to protect against a set of serious infectious disease threats. We must recognize that SARS is but one of a series of new and deadly infectious diseases that have emerged in recent times--not to mention old diseases that have resurged, often in new and more frightening forms because of the development of drug-resistance. What is more, we live in an era when we must think seriously about the potential for intentional use of biological agents as weapons to do harm, possibly even with genetically engineered organisms produced to enhance their lethality or infectivity.

The Ongoing Threat of Infectious Disease

Several decades ago, there was enormous optimism that the threat of infectious diseases was receding. Scientific and technologic advances, including the development of antibiotics and vaccines, along with improved sanitation and vector control enabled the control and prevention of many infectious diseases, particularly in the industrialized world. However, we know today that such optimism was premature. It did not take into account many critical factors such as:

- the extraordinary increases in international travel, immigration and trade;
- the movement of people into urban settings where opportunities for disease spread are amplified through crowding, and possibly poor sanitation and hygiene;

- changing agricultural practices and environmental manipulations that alter disease vectors as well as opportunities for exposure;
- the continuing difficulties of translating existing medical knowledge and tools into action for all who need it, whether because of inadequate resources, ignorance or complacency; and
- the extraordinary resilience and adaptability of the microbes themselves

As we enter the 21st century, infectious diseases continue to burden populations around the world. Both naturally occurring diseases and the possibility of bioterrorist attacks hold increasing potential to cause sickness, disability, and death. The ability of infectious agents to destabilize populations, economies, and governments is fast becoming an unfortunate fact of life. Moreover, because national borders offer little impediment to such threats, especially in today's highly interconnected and readily traversed "global village," one nation's problem soon can become every nation's problem.

Over the past decade, the United States has taken important steps to strengthen its capacity to address the threats posed by infectious diseases. But the present reality is that we are inadequately prepared. Looking to the future, we must realize that public health is public safety, and an essential pillar in our national and international security. We must do more to improve our ability to prevent, detect, and control emerging as well as resurgent microbial threats to health. The best defense against any outbreak is robust public health science and practice. Given our significant--and growing--vulnerabilities, markedly greater attention and resources must be devoted toward this end, and we must recognize that effective strategies will require greater coordination and cooperation with partners around the globe. Without question, we must work now to create a system that really works so that we will be prepared for the next attack--whether it is mother nature or an act of bioterrorism.

Microbial Threats To Health: Emergence, Detection and Response

Several weeks ago, the Institute of Medicine (IOM), National Academy of Sciences, released a new report focused on microbial threats in the twenty-first century. The report, *Microbial Threats To Health: Emergence, Detection and Response,* represents an effort to describe the spectrum of microbial threats to national and global health, the factors affecting their emergence or resurgence, and measures needed to address them. The major thrusts of this report--and its recommendations--are almost uncannily relevant to our current experience with SARS. As co-chair of the report committee, I would like to briefly discuss some of our major themes and conclusions.

This report serves as a successor to the landmark 1992 IOM report on emerging infections, which provided a wake-up call to the nation about the risk of infectious diseases and the need to avoid complacency. In the decade since that first report was published, the impact of infectious diseases on the United States

has only increased. Illnesses unknown in the United States only a few years ago, such as West Nile encephalitis and hantavirus pulmonary syndrome, have emerged to kill hundreds of Americans. Meanwhile, old diseases such as measles, tuberculosis, and malaria--which were thought to be a thing of the past in the United States--have reappeared, sometimes in epidemic proportion. Similarly, gains made against sexually transmitted diseases have slowed or reversed in certain population groups. And of course, HIV/AIDS continues to take a devastating toll.

Compounding the danger posed by these infectious diseases are two other important trends. First, antimicrobial resistance has become pervasive not only in the United States but also worldwide. Second, we must now deal with the intentional use of infectious agents as weapons.

The new report does not focus exclusively on the United States as a venue for microbial threats to health because it must be increasingly recognized that these are global problems that require global solutions. Nor does the report focus solely on newly emerging diseases when it is evident that there remains a long way to go to in effectively addressing known diseases, including those appearing in new forms or new places. We did limit the focus of this report to human health, but placed significant emphasis on zoonoses, or animal infectious diseases that affect humans.

First, we considered it important to outline the factors that lead to the emergence of infectious disease. More than a dozen factors--some reflecting the ways of nature, most of them reflecting our ways of life--are described in the report to account for new or enhanced microbial threats. Any of these factors alone can trigger problems, but their convergence creates especially high-risk environments where infectious diseases may readily emerge or re-emerge, take hold, and spread. In our transforming world, conditions are ripe for the convergence of multiple factors to create microbial "perfect storms" --yet unlike meteorological perfect storms, these events would not be once-in-a-century events, but frequent or ongoing.

An effective national response to infectious diseases must be a global response. Therefore, our recommendations begin with a strong call for the United States to enhance global disease surveillance as well as the capacity to respond to infectious disease threats, recognizing the heightened need that exists in the developing world. Our efforts should be coordinated by key international agencies, such as the World Health Organization, and based in appropriate U.S. federal agencies, such as the Centers for Disease Control and Prevention and the Department of Defense. Moreover, these efforts should involve collaboration with private-sector organizations and foundations. Investments should take the form of financial and technical assistance, operational research, enhanced surveillance, and efforts to share both knowledge and best public health practices across national boundaries. Sustainable progress and ultimate success in these efforts will require health agencies to broaden partnerships to include non-health agencies and institutions.

The report stresses the need to bolster the U.S. public health infrastructure, which has suffered from years of neglect. SARS underscores the urgent need to increase core capacities of our public health system to detect, track and contain infectious disease. State and local health public health departments represent the backbone of our ability to respond effectively to a major outbreak of disease, whether naturally occurring or a bioterrorist attack. Yet we have never adequately equipped these public health agencies to do that job. In fact, many hesitate to even call the array of health structures at the state, county and local level a public health "system" because years of relative neglect and underfunding have left them undercapitalized, fragmented and uncoordinated.

Upgrading current public health capacities will require us to strengthen and extend effective disease surveillance systems, laboratory capacity, communication skills, and systems to ensure the rapid use and sharing of information. Expanded prevention and control measures must be implemented by an adequately trained and competent work force. Unfortunately, there are many troubling shortfalls in both the capacity and expertise of the present work force, as well as in the systems for training future generations.

The report also addresses the fact that the reporting of infectious diseases by health care providers and laboratories remains inadequate. Open lines of communication are essential to robust systems of surveillance, investigation, and response. We need greater understanding and partnership between public health and medicine, and we need to take advantage of information technology to enhance efficient reporting, including the electronic reporting of laboratory results. In addition, the report strongly encourages the integration of new tools for surveillance into practice. We call for the development and use of better diagnostics--simpler, quicker and hopefully more cost-effective--to enhance the quality of disease surveillance. We also recognize the promise of syndrome surveillance, but stress the critical need for rigorous evaluation of existing and emerging approaches, as well as the need to explore strategies for harmonization and integration of those approaches that are proven effective so that information can be shared and compared across geographic regions.

The committee was deeply concerned about the current and future arsenal of drugs and vaccines to address microbial threats to health. To be blunt, it was felt that our nation--and the world--faces a serious crisis with respect to vaccine and drug development, production, and deployment. The challenges here are many, varied and complex. Solutions will require a novel, coordinated approach among government agencies, academia and industry. Issues that must be addressed in a more meaningful and systematic fashion include the identification of priorities for research, the determination of effective incentive strategies for developers and manufacturers, liability concerns, and streamlining of the regulatory process. Up until now, the federal government has neither addressed these challenges at a sufficiently high level, nor provided adequate resources. Only by focusing

leadership, authority, and accountability at the cabinet level can the federal government meet its responsibility for ensuring innovative and adequately funded research on existing and emerging diseases, as well as an ample supply of antimicrobials and vaccines. In that spirit, the secretary of the Department of Health and Human Services should work closely with other relevant federal agencies, Congress, industry, academia, and the public health community to define and implement a national strategy.

To avert an imminent crisis resulting from microbial agents' increasing resistance to available drugs, the committee recommends procedures to alert stakeholders to the problem and more finely target the use of antimicrobials. This requires, first, expanded outreach and better education of health care providers, drug dispensers, and the general public about inappropriate use of antimicrobials. Second, it requires the increased use of diagnostic tests, as well as the development and use of more rapid diagnostic tests, to determine the sources of infection and thereby ensure more appropriate use of antimicrobials. In addition, there should be a ban on the use of antimicrobials for growth promotion in animals if those classes of antimicrobials are also used to treat disease in humans.

Other recommendations address ways to control vector-borne diseases and diseases that can spread from animals to humans. The report also describes the need for a comprehensive infectious-disease research agenda for the United States and the establishment of interdisciplinary infectious-disease centers.

Conclusion

The continuing efforts to identify and contain SARS reminds us that we must always be ready today for the unexpected health threat of tomorrow. While it will never be possible to fully prepare for every potential, imaginable threat, there is a great deal that can and should be done. In this time of heightened anxiety and concern, our nation has a real opportunity--and obligation--to make sure that we have in place the programs and policies necessary to better protect against microbial threats. Certainly, the experience with SARS reinforces the need for improved global disease surveillance and reporting, linked to a rapid investigation and response capability, including adequate and appropriate diagnostic laboratory capacity. The response to SARS underscores the importance of strong public health systems, from the global to the local, as well as integrated and well-functioning systems for health care delivery. Future preparedness will also depend on a well-educated and trained clinical and public health workforce. In addition, we need a sound research agenda addressing near and long term requirements for new insights into the nature of infectious disease threats, human host responses, and the opportunities to develop new diagnostics, drugs and vaccines.

Dramatic advances in science, technology, and medicine have enabled us to make great strides forward in our struggle to prevent and control infectious diseases, yet we cannot fall prey to illusions and complacency. The emergence of SARS, a previously unrecognized microbial threat, is a powerful reminder of our continuing vulnerability. We must understand that pathogens--old

and new--are endlessly resourceful in adapting to and breaching our defenses. We must also understand that factors relating to society, the environment, and our increasing global interconnectedness actually enhance the likelihood of disease emergence and spread. Moreover, it is a sad reality that today we must also grapple with the intentional use of biological agents to do harm, human against human.

Thus the prevention and control of infectious diseases are fundamental to individual, national, and global security. Failure to recognize--and act on--this essential truth will surely lead to disaster. The magnitude and urgency of the problem demand renewed concern and commitment. We have not done enough--in our own defense or in the defense of others. As we take stock of our prospects with respect to microbial threats in the years ahead, we must recognize the need for a new level of attention, dedication, and sustained resources to ensure the health and safety of this nation--and of the world.

Chairman TOM DAVIS. Dr. Goodfriend, thanks for being with us.

Dr. GOODFRIEND. Mr. Chairman and distinguished Members, thank you for the opportunity to discuss current responses to public health threats at a local level, particularly during National Public Health Week.

Loudoun County, VA, is one of the Nation's fastest-growing communities and includes Washington Dulles International Airport. The Loudoun County Health Department is part of Virginia's Department of Health. It includes about 75 State and county employees who perform a variety of functions, all tied to the protection of the public's health, such as permitting well and septic systems, conducting restaurant inspections, providing direct care to pregnant women and children, administering immunizations, and investigating outbreaks of disease, whether occurring naturally or through terrorist action.

During my 2 years as its director, our Health Department has confronted numerous communicable disease challenges within Loudoun County, including an anthrax attack, Virginia's first human death from West Nile Virus, and three cases of locally acquired malaria. Lessons learned from these experiences—in particular, the necessity of having effective partnerships with other involved agencies, with our local media and citizenry, and with our health care community—put us in a good position to effectively respond to the Nation's first suspect case of Severe Acute Respiratory Syndrome [SARS].

Specifically, since September 11, 2001, the Loudoun County Health Department has developed an e-mail distribution list to send out timely public health information to key hospital personnel and to a large majority of physicians in our county, it has taken an increasingly active role in our hospital's Infection Control Committee and our County's EMS Advisory Council, has established the ability of citizens concerned about bioterrorism or other unusual diseases to contact us 24 hours a day, and has been conducting daily reviews of the complaints of all patients seen in our local emergency department as part of the syndromic surveillance that was discussed earlier.

We have also taken a much more active role in regional agencies, and with interactions with our other northern Virginia health departments.

Loudoun Hospital Center, our county's only hospital, has responded to these threats by creating an Emergency Preparedness Committee, sponsoring numerous lectures on emerging diseases and bioterrorism, and instituting new policies and algorithms for quickly diagnosing, isolating, and treating any patient presenting with a potentially communicable disease. They have also improved communication with other hospitals in the region, including establishing a radio frequency for rapid notification.

On February 17, 2003, a woman who had recently traveled to Guangdong Province in China presented to Loudoun Hospital Center's Emergency Department with pneumonia. SARS had not yet been identified as a syndrome, but there had been reports of unusual pneumonias being seen in Guangdong. As a precaution, hospital staff quickly moved the patient into an isolation room. They then contacted the hospital's infection control chief, who is with me

today, and the Health Department as part of their infectious disease notification algorithm.

The patient was subsequently admitted to Loudoun Hospital under airborne and droplet precautions and started on empirical antibiotic therapy. Anita Boyer, who is also here with me today, is one of our two new employees funded through a Federal bioterrorism grant. She investigated the case the following day and quickly consulted with her counterparts at the Virginia Department of Health and the Centers for Disease Control and Prevention. Over the course of that weekend, all hospital and household contacts were interviewed either by hospital staff or by the Health Department, and any ill person was tested.

Our investigation found that the patient had not transmitted her infection to any one else, and she was discharged when she was medically stable and we were confident she was no longer contagious.

Three elements combined to ensure successful outcome in this case, both for the patient's health and for the prevention of disease spread: one, having plans in place in the Emergency Room to isolate the patient and notify key personnel quickly; two, having effective communication patterns established throughout the public health chain from the hospital to the local and State health departments and to the CDC; and, three, having a history of established partnerships between our local medical community and public health.

Some gaps were identified during our review, which in this case fortunately did not negatively impact on patient care.

First, there were insufficient materials preplaced in northern Virginia for all the contacts we needed to test.

Second, we had procedures in place to transport specimens quickly to our State's lab, but similar procedures didn't exist for transportation to the CDC over the weekend.

And, third, all hospitals in northern Virginia are equipped with isolation rooms, but there is limited additional surge capacity to handle an epidemic of respiratory diseases in the region. If there had been many suspected SARS cases presented to hospitals throughout the region, it would have been difficult to appropriately isolate all potentially contagious patients.

There are many challenges currently facing local health departments. In addition to an increasing demand for our core environmental health and safety net medical services, our staff are responding to new naturally occurring threats such as West Nile Virus, as well as preparing for the potential of chemical, biologic, or radiologic attacks.

Our federally funded local and regional epidemiologists were crucial to the successful handling of this country's first suspect SARS case. Appropriate funding, training, and leadership are essential to meeting the ongoing and emerging public health challenges facing our communities. Equally important, though, is the need to continuously work to maintain and improve effective communication with all our community stakeholders and with related agencies at

the regional, State, and Federal levels.

I thank you again, and I would be happy to address any questions you may have.

Chairman TOM DAVIS. Thank you very much.

[The prepared statement of Dr. Goodfriend follows:]

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Prepared Statement for
House Committee on Government Reform
David Goodfriend, MD, MPH
Director, Loudoun County Health Department

April 9, 2003

Mr. Chairman and distinguished members, thank you for the opportunity to come before the House Committee on Government Reform. My name is Dr. David Goodfriend and I am Director of the Loudoun County Health Department. On behalf of our Health Department, I am pleased to discuss current responses to public health threats at a local level.

Loudoun County, Virginia is one of our nation's fastest growing communities, bordered to the east by Washington Dulles International Airport, to the north by the Potomac River, and to the west by the Blue Ridge Mountains. It is home to a diverse business and residential population, from high tech companies to a thriving rural economy. Loudoun is also home to the FAA's National Capital Region center and is a major emergency evacuation route from the District of Columbia.

The Loudoun County Health Department is part of Virginia's Department of Health. It includes about 75 state and county employees who perform a variety of functions all tied to the protection of the public's health, such as permitting well and septic systems, conducting restaurant inspections, providing direct care to pregnant women and children, administering immunizations, and investigating outbreaks of disease, whether occurring naturally or through terrorist action.

During my two years as its Director, our Health Department has confronted numerous communicable disease challenges within Loudoun County, including an anthrax attack, Virginia's first human death from West Nile virus, and three cases of locally acquired malaria. Lessons learned from these experiences, in particular the necessity of having effective partnerships with other involved agencies, with our local media and citizenry, and with our healthcare community, put us in a good position to effectively respond to the nation's first suspect case of Severe Acute Respiratory Syndrome (SARS).

Specifically, since September 11, 2001, the Loudoun County Health Department has:

- developed an email distribution list to send out timely public health information to key hospital personnel and to over 100 of the county's physicians,
- taken an increasingly active role in our hospital's infection control committee and our county's EMS Advisory Council,
- established the ability of citizens concerned about bioterrorism or other unusual diseases to contact us 24 hours a day, and
- been conducting daily reviews of the complaints of all patients seen in our local emergency department.

We have also taken a more active role in regional agencies, such as the Metropolitan Washington Council of Governments and the Northern Virginia Emergency Response Coalition, and in interactions with other northern Virginia health departments.

The Loudoun County government has improved its emergency response communications through the addition of up-to-date public health information on its web site (www.loudoun.gov/general/emerprep.htm) and by hosting community meetings and press conferences on such topics as smallpox prevention, malaria, anthrax and emergency preparedness. It has also taken a leadership role in regional commissions.

Loudoun Hospital Center, our county's only hospital, has responded to these threats by creating an emergency preparedness committee, sponsoring numerous lectures on emerging diseases and bioterrorism, and instituting new policies and algorithms for

quickly diagnosing, isolating and treating any patient presenting with a potentially communicable disease. They have also improved communication with other hospitals in the region, including establishing a radio frequency for rapid notification.

On February 17, 2003, a woman who had recently traveled to Guangdong province in China presented to Loudoun Hospital Center's Emergency Department with pneumonia. SARS had not yet been identified as a syndrome, but there had been reports of unusual pneumonias being seen in Guangdong. As a precaution, hospital staff quickly moved the patient into an isolation room. They then contacted the hospital's infection control chief and the Health Department as part of their infectious disease notification algorithm. The patient was subsequently admitted to Loudoun Hospital under airborne and droplet precautions, and started on empirical antibiotic therapy.

Benita Boyer, one of our two new employees funded through a federal bioterrorism grant, investigated the case the following day and quickly consulted with her counterparts at the Virginia Department of Health and the Centers for Disease Control and Prevention. Over the course of that weekend, all household and hospital contacts were interviewed by hospital or Health Department staff and any ill person was tested. Our investigation found that the patient had not transmitted her infection to anyone else and she was discharged once she was medically stable and we were confident she was no longer contagious.

Three elements combined to ensure a successful outcome in this case, both for the patient's health and for the prevention of disease spread:

1. Having plans in place in the emergency room to isolate the patient and to notify key personnel quickly;
2. Having effective communication patterns established throughout the public health chain, from the hospital to the local and state health departments to the CDC; and
3. Having a history of established partnerships between our local medical community and public health.

Some gaps were identified during our review, which in this case did not negatively impact on patient care:

1. There were insufficient materials pre-placed in northern Virginia for all the contacts we needed to test, required a courier to retrieve additional supplies from Richmond;
2. We had procedures in place to transport specimens quickly to our state's lab, but procedures for shipping specimens quickly to the CDC over the weekend were lacking; and
3. Although all hospitals in northern Virginia are equipped with isolation rooms, there is limited additional surge capacity to handle an epidemic of respiratory diseases. If there had been many suspected SARS cases presenting to hospitals in the region, it would have been difficult to appropriately isolate all potentially contagious patients.

There are many challenges currently facing local health departments. In addition to an increasing demand for our core environmental health and safety net medical services, our staff are responding to new naturally occurring threats, such as West Nile virus, as well as preparing for the potential of chemical, biologic or radiologic attacks.

Our federally funded local and regional epidemiologists were crucial to the successful handling of this country's first suspect SARS case. Appropriate funding, training and leadership are essential to meeting the ongoing and emerging public health challenges facing our communities. Equally important, though, is the need to continuously work to maintain and improve effective communication with all our community's stakeholders and with related agencies at the regional, state and federal levels.

Thank you again and I would be happy to address any questions you may have.

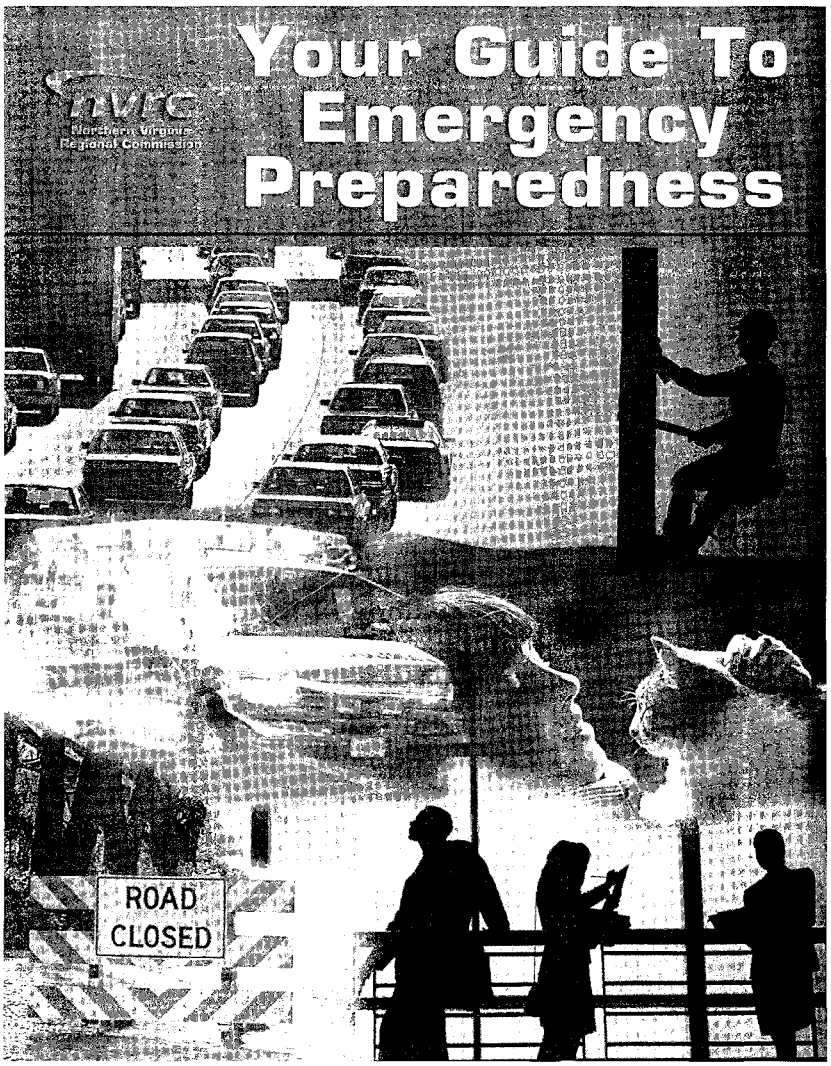
Your Guide To
Emergency
Preparedness
NVRC
Northern Virginia
Regional Commission
ROAD
CLOSED

Table of Contents

- Preparing for an Emergency *page 3*
- Your Emergency Preparedness Kit *page 3*
- Emergency Planning for Pets *page 4*
- Household and Financial Preparations *page 5*
- Emergency Planning for Businesses *page 6*
- Homeland Security *page 6*
- Reporting Suspicious Activity *page 7*
- Terrorism *page 7*
- Biological/Chemical Emergencies *page 8*
- Handling Mail Safely *page 8*
- Emergency Shelter *page 8*
- When Electrical Power is Lost *page 9*
- Keeping Warm *page 10*
- Checking on Relatives and Neighbors *page 10*
- Evacuation *page 10*
- Children in School *page 10*
- Senior Information *page 11*
- Keeping Updated *page 11*
- Jurisdiction Phone Numbers *page 12*
- Utilities Serving Northern Virginia *page 15*
- Transportation Serving Northern Virginia *page 16*
- Resources *page 16*

Dear Neighbors:

It has been over fifteen months since the direct attack on the Pentagon in Arlington, Virginia. Since that time bioterrorist threats, sniper attacks and mosquito viruses have made us all keenly aware of the need to be prepared in case of emergency.

Local governments are working together in Northern Virginia to update plans and provide information to you in the event of an emergency. The events of the past year remind us all that home emergency preparedness is a must for everyone and should be carefully planned.

This Guide to Emergency Preparedness is designed to help you do just that. It does not cover every conceivable emergency. However, it does offer information and resources to help you plan for most emergency situations. I hope you find it helpful.

Scott K. York

Scott K. York

Chairman
Northern Virginia Regional Commission

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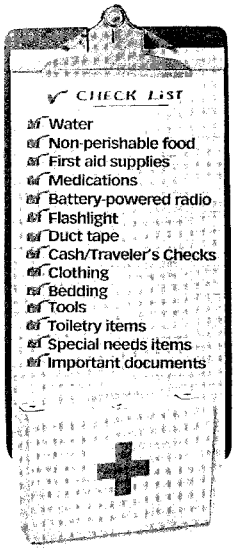
Preparing for an Emergency

Emergency events can occur quickly and without warning. Planning for any emergency requires considering all likely scenarios. If you are able to stay at home, electricity, water, heat, air conditioning, telephone service and transportation could be disrupted or lost for a considerable amount of time. Most emergency management planners suggest having enough food, water, medications and other essentials on hand to last your family for three to five days for weather-related events, for example. In other types of emergencies, you may have to evacuate your home or community. In any case, it is important to develop a household emergency preparedness plan that includes:

- An emergency preparedness kit.
- An escape plan that includes at least two emergency meeting places. Pick one right outside your home in case of a sudden emergency, such as fire. Pick at least one other place outside your neighborhood in case you can't return home.
- An emergency communications plan. Choose an out-of-town person to be your contact point for family members to call if you are separated. Make sure everyone has contact information including phone numbers and e-mail addresses.
- Information about school and workplace emergency plans.

Your Emergency Preparedness Kit

The basic items that should be stored in your home are water, food, first-aid supplies, an ABC fire extinguisher, clothing and bedding, tools, emergency supplies and specialty items. Keep the items that you would most likely need at home in one easy-to carry container such as a trash can, plastic storage container, camping backpack or duffel bag. Store it in a convenient place, and put a smaller version in your car. Keep items in airtight plastic bags. Remember to change the stored water and rotate the food supplies every six months (place dates on containers). Check the supplies and re-think your needs every year. Consult your physician or pharmacist about storing prescription medications, and maintain a list of your prescription needs.



Water

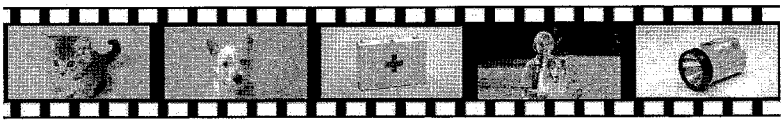
Purchase bottled water, or store tap water in clean, airtight plastic containers. Avoid containers that will decompose or break, such as glass bottles. Plan for one gallon of water per person per day. Water should be stored in a cool, dark place with the date labeled on the container. Having some water purification tablets on hand could be useful in the event of an extended water service outage.

Food

Store a three- to five-day supply of nonperishable food per person. Foods should require no refrigeration, preparation, or cooking, and little or no water. Examples include: ready to eat canned meats, fruits and vegetables; canned or boxed juices, milk and soup; condiments such as sugar, salt and pepper; high energy food like peanut butter, jelly, low-sodium crackers, granola bars and trail mix; vitamins; foods for infants or persons on special diets; cookies; hard candy; instant coffee and sweetened cereals. Bulk food items such as wheat, powdered milk, corn and soybeans can be stored for long periods of time.

First-Aid Kit

Assemble a first-aid kit for your home and each vehicle. Items should include sterile adhesive bandages in assorted sizes, gauze pads, hypoallergenic adhesive tape, triangular bandages, sterile gauze roll bandages, Ace bandages, scissors, tweezers, needle, moistened towelettes, antiseptic, thermometer, tongue depressors, tube of



petroleum jelly or other lubricant, safety pins, cleansing soap, latex gloves and sunscreen. Other items include aspirin or other pain medication, antidiarrhea medication, Syrup of Ipecac, activated charcoal (in case of poisoning), antacids and laxatives.

Tools and Supplies

Keep the following items handy for all-around use: battery-powered radio, flashlight, extra batteries of assorted sizes (check shelf life before purchasing), duct tape, aluminum foil, rope, bow saw, mess kits or paper cups, plates and plastic utensils, cash (include change) and/or traveler's checks, nonelectric can opener and utility knife, small ABC fire extinguisher, tube tent, pliers, adjustable wrench, compass, waterproof matches, plastic storage containers, signal flares, paper and pencil or pen, needles and thread, medicine dropper, whistle, plastic sheeting and local map. For sanitation, pack toilet paper, soap and liquid detergent, feminine supplies, plastic garbage bags with ties, a plastic bucket and lid, disinfectant and household chlorine bleach.

Clothing and Bedding

Assemble one or two complete changes of clothing per person, sturdy shoes or work boots, rain gear, blankets or sleeping bags, hat and gloves, thermal underwear and sunglasses.

Specialty Items

Babies—formula, diapers, bottles, powdered milk and medication.
Adults—medications, prescriptions, denture needs, eyeglasses and/or contact lenses and related supplies, personal hygiene items.
Entertainment—games, books and several quiet toys for children.
Important Family Documents—wills, insurance policies, bank account numbers, contracts, deeds, passports, stocks and bonds, immunization records, important phone numbers, credit card accounts, Social Security cards and other personal family records.
Equipment—NOAA weather radio.

Emergency Planning for Pets

Emergency planning is for all members of the family, including pets. With the exception of service animals, most shelters do not accept pets. Prepare a list of kennels, friends or family members who may be able to care for your pet in an emergency. If you plan to place your pet in a kennel, make sure that the facility meets all requirements for long-term care and has an adequate disaster plan itself. If your family must relocate to a shelter or other site and there is no place for your pet to go, as a last resort, confine your pet to a specific room in the house and provide plenty of food and water to sustain the animal while you are away. Put together a basic disaster kit for your pets to take with you in case you must leave your residence quickly. Recommended items include:

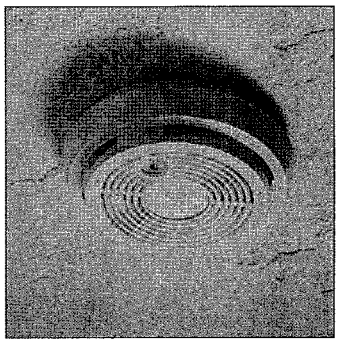
- An airline-approved carrier for each dog, cat or other pets
- ID with photo, vaccination records, registrations, special needs list, sufficient medicines, collar and a muzzle/leash.
- An extra supply of pet food
- Plenty of clean water.
- Bowls (disposable containers if you must leave your residence), manual can opener, kitchen trash bags, bleach (disinfectant and water purification), blankets, towels, paper towels and other waste disposal supplies.

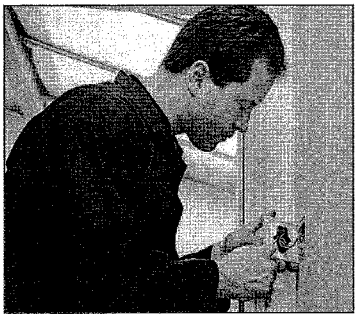
For more information on emergency preparedness for pets, call the Humane Society of the United States at 202-452-1100 or visit their Web site at www.hsus.org.

Household and Financial Preparations

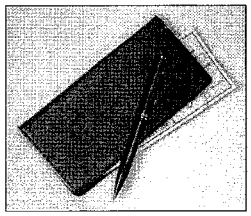
Whether you own your home or rent, there are many things you can do to protect your home and possessions. You can increase your safety and reduce your insurance costs by:

- Installing safety equipment such as smoke alarms and carbon monoxide alarms to alert you to potentially deadly conditions.
- Securing large or heavy items that could fall and cause damage during storms.
- Covering windows, turning off utilities, or moving possessions to a safer location if you have adequate warning of something like a hurricane or flood.
- Having your house inspected by a building inspector or architect to find out what structural improvements could prevent or reduce major damage from disasters.
- Conducting an inventory of your household possessions to help you catalog what you own for insurance purposes if those possessions are damaged or destroyed and to provide documentation for tax deductions you claim for your losses. Make a visual or written record of your possessions. Include photographs of cars, boats, and recreational vehicles. Get professional appraisals of jewelry, collectibles, artwork, or other items that are difficult to value. Update the appraisals every two to three years.





- Making copies of receipts and canceled checks for more valuable items.
- Keeping the originals of all important financial and family documents, such as birth and marriage certificates, wills, deeds, tax returns, insurance policies, and stock and bond certificates in a safe place. Store copies elsewhere. You'll need accessible records for tax and insurance purposes.
- Photographing the exterior of your home. Include the landscaping—that big tree in the front yard may not be insurable, but it does increase the value of your property for tax purposes.
- Updating your inventory list annually and putting a copy in a safe place.
- Buying insurance.



Even with adequate time to prepare for a disaster, you still may suffer significant, unavoidable damage to your property. That's when insurance for renters or homeowners can be a big help. Yet, many people affected by recent disasters have been underinsured —or worse—not insured at all. Homeowner's insurance often doesn't cover floods and some other major disasters. Make sure you buy the insurance you may need to protect against the perils you may face.

Emergency Planning for Businesses

Businesses are just as vulnerable to emergency situations as individuals. Business owners should develop emergency plans for the sake of their employees as well as the survival of their businesses.

Emergency planning includes:

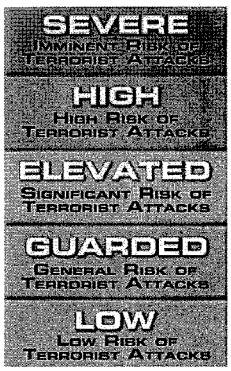
- Maintaining a list of emergency numbers of employees so their families can be contacted if necessary.
- Having a plan in place to evacuate staff and customers quickly and safely. The plan should include a designated meeting place outside the building.
- Practicing the plan with staff.
- Backing up computer data regularly and storing it offsite.
- Purchasing ample insurance coverage to minimize losses.
- Identifying crucial business operations and developing plans to ensure their continuation in the event of an emergency.
- Ensuring local police have up to date emergency contact information for key personnel.

"Your employees depend on you now for direction and leadership. They will depend on you even more should there be an emergency situation."

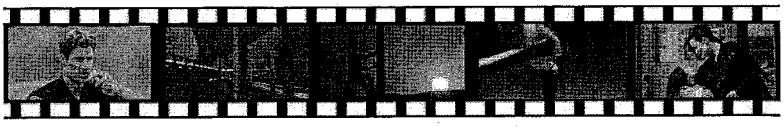
Employees need to know what to do in an emergency. The time to think about what you need to do in the event of a disruption to your business is before you face a crisis. Your employees depend on you now for direction and leadership. They will depend on you even more should there be an emergency situation.

Homeland Security

National and Virginia Homeland Security Advisory systems have been put into place to provide a quick and comprehensive way to provide information on warnings and actual events involving terrorist acts that may occur. Five threat conditions have been identified. Each condition is assigned a specific color and includes a description of the category as well as information on specific actions citizens should take. Threat conditions can be assigned to a specific geographic area or they may be set for the entire Nation. When officials announce a specific alert the appropriate safety instructions for the situation will be given to citizens.



State and local health departments also are preparing for terrorist events. Working under guidance from the Centers for Disease Control, health officials have implemented an enhanced disease surveillance system to rapidly identify any unusual disease events that may be occurring in the state. State and local health departments are working closely with agencies and organizations locally and across the state to develop coordinated response plans for various situations. In case of an attack, pertinent health information would be provided to the public via mass media.



Reporting Suspicious Activity

Occasionally, the federal government may call for a heightened state of alert on the part of local law enforcement and residents. When the police go to a higher state of alert, they may add extra patrols in various locations, increase staffing, carry extra protective equipment and maintain more frequent communication with federal, state and other local law enforcement agencies. Residents should also increase their awareness of their surroundings and report any suspicious activity to the police. Many people fail to act because they are not sure if what they are observing is worth reporting. When in doubt, call the police immediately. Don't lose precious time discussing the event with friends and neighbors first. Types of activity that residents should report include people, vehicles, or circumstances that appear unusual or out of place, such as:

- A stranger around your neighborhood or a strange vehicle parked in your neighborhood for a long period of time.
- Someone looking into houses or vehicles.
- Recurring appearances of strange vehicles in the neighborhood.
- Someone tampering with the electrical, gas, water, or sewer system without an identifiable company vehicle and uniform.
- An unusually large amount of traffic coming to a house or apartment building.
- Houses or buildings where extreme security measures seem to have been taken.
- Houses or buildings where no owner or primary renter is apparent, and no home activities—yard work, painting, maintenance, etc.—seem to go on.
- Strange odors coming from around houses or buildings.
- Door-to-door solicitors without solicitor permits, or any stranger knocking at doors.
- Persons standing around, possibly acting as lookouts.

If you suspect a crime is being or is about to be committed, call 911. Do not panic and do not put yourself at risk. **If the activity simply appears suspicious, call the police non-emergency number** and describe the activity in detail. You need not give your name in either case. However, if you want a police officer to contact you, be prepared to give your name, address and telephone number, and ask that the officer contact you. This information is kept confidential.

Terrorism

Terrorism is a broad term that describes the use of force or violence against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion or ransom. Terrorists often use threats to create fear among the public and to try to convince citizens that their government is powerless to prevent terrorism. The effects of terrorism can include a significant number of casualties, structural damage to buildings, and disruptions in basic services such as electricity, water supply, public transportation, communications and healthcare.

You can prepare to deal with a terrorist incident by adapting many of the same techniques used to prepare for other crises:

- Be alert and aware of the surrounding area. The very nature of terrorism suggests that there may be little or no warning.
- Take precautions when traveling. Be aware of conspicuous or unusual behavior. Do not accept packages from strangers. Do not leave luggage unattended.
- Learn where emergency exits are located. Think ahead about how to evacuate a building, subway or congested public area in a hurry. Learn where staircases are located.
- Notice your immediate surroundings. Be aware of heavy or breakable objects that could move, fall or break in an explosion.

Biological/Chemical Emergencies

A major chemical or biological emergency can happen when hazardous amounts of toxins are released into the environment. You can be exposed to chemical and biological toxins by:

- Inhaling them.
- Swallowing contaminated food, water or medication.
- Touching or coming into contact with contaminated items.

Many times you cannot see or smell anything unusual. In the event of a hazardous chemical or biological emergency, you will be given instructions by authorities. You may be told to evacuate, to move uphill and upwind of the release, to shelter in place, or to go to a designated facility. You may also be in the immediate vicinity of an incident and not realize the danger. If you see people vomiting, in convulsions or acting disoriented, leave the area immediately and seek medical attention. If out of doors, check the wind and walk upwind to evacuate the area.

Handling Mail Safely

The United States Postal Service urges people to report suspicious letters or packages such as mail that:

- Has excessive postage, no postage, or non-canceled postage.
- Has no return address or a fictitious return address.
- Has an improper spelling of addressee names, titles, or locations.
- Looks lumpy or has a lopsided appearance.
- Is sealed with excessive amounts of tape.
- Is unexpected and is from a foreign country.
- Has a postmark showing a different location than the return address.
- Displays distorted handwriting or cut-and-paste lettering.

If you receive a suspicious letter or package:

- Do not open it.
- Do not shake, bump or sniff it.
- Cover it or place it in a plastic bag.
- Wash your hands thoroughly with soap and water.
- Call the police non-emergency number.

In most cases the police will be dispatched for a report of an unopened suspicious letter or package and after investigating the item, will advise you what to do. If the letter or package does not meet specific criteria, they may simply advise you to dispose of the suspicious letter or package if you are uncomfortable opening it. The fire department will respond to reports of suspicious substances for evaluation and proper disposal. When in doubt, however, call the police non-emergency number or 911.

Coping with Emergencies

People react to emergencies in different ways. Typical reactions may include:

- Anger
- Restless sleep
- Nightmares
- Emotional numbness
- Need to talk
- Loss of appetite
- Weight loss or gain
- Headaches
- Mood swings

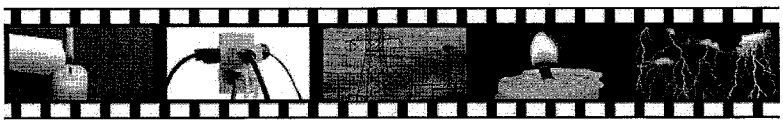
Try These Strategies:

- Maintain good health practices
- Talk with family and friends
- Assure children they are safe
- Answer children's questions simply, directly, and honestly
- Encourage children to express their feelings
- Reach out to others

If additional help is needed, contact your community mental health services or call CrisisLink at 703-527-4077 (voice and TTY).

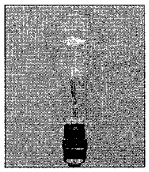
Emergency Shelter

When conditions warrant, local officials may instruct residents to seek shelter in their homes or officials may establish community-based shelters for local residents. Normally, shelters are set up in public schools, recreation centers or other appropriate facilities where residents can seek refuge as well as sleep and eat. Persons needing shelter are asked to bring a change of clothing, bathing and sanitary supplies, pre-filled prescription and other medical needs, denture and eye care materials, and



special dietary supplies or requirements. With the exception of service animals, pets are generally not permitted in the shelters. If local officials advise you to "shelter in place," they mean for you to remain indoors and protect yourself there. Take your children and pets indoors immediately. Get your disaster supplies kit, and make sure the radio is working. Go to an interior room without windows. In the case of a chemical threat, an above-ground location is preferable because some chemicals are heavier than air, and may seep into basements even if the windows are closed. While gathering your family, you should:

- Close all windows, exterior doors and fireplace dampers.
- Turn off all fans, heating, and air conditioning systems.
- Wet some towels and jam them in the cracks under the doors.
- Tape around the doors, windows, exhaust fans and vents.
- Use plastic garbage bags to cover windows, outlets, and heat registers.
- Close the window shades, blinds or curtains if you are told there is a danger of explosion.
- Stay inside and keep listening to your radio or television until you are told all is safe or you are told to evacuate.



When Electrical Power is Lost

Disruption of electrical service can occur as a result of many things, including lightning, high winds, ice and heavy snow, and equipment failure. For the most part, service is normally restored within a short period. However, major power outages can happen for extended periods from time to time. When power is lost, you should:

- Check to see if your neighbors have power. The power loss may be only in your home, due to a blown fuse or a tripped circuit. If your neighbors also are without service, call your local power company (see page 15). If you must go outside to assess the situation, take a flashlight and watch for downed power lines that could still be energized. If downed lines are located, don't go near them or touch anything that they may be in contact with. Report downed power lines immediately.
- Use flashlights or battery-operated lanterns for lighting. Candles and kerosene lanterns are not recommended for lighting because of fire hazards.
- Turn off all major appliances. When major appliances—refrigerators, electric water heaters, air conditioners and pumps—are left on, they could overload electric lines when power is restored causing a second outage.
- Keep refrigerator and freezer doors closed as much as possible. Food can be kept cold for a day or two if the doors are kept closed. During the winter, you may be able to store some items outside in a proper container. If temperatures are below freezing, it's possible to freeze water outside in containers and place them inside your refrigerator to help keep food cold. Try to consume perishable foods first. When in doubt, throw it out.
- Use portable generators cautiously. They can be used to provide limited electrical power during an outage. But, take care to ensure that they do not pose a threat to you and your family. Never fuel or run a portable generator in the home or garage, as gas-powered generators pose a serious fire and carbon monoxide threat. Generators should be installed in compliance with your local power company's guidelines. Always operate according to the manufacturer's instructions. For additional information on the proper use of emergency generators, call your power company.
- If you depend on a well or cistern for your water supply be prepared to use alternate sources of water until power is restored. These systems normally use electric pumps which may not operate when the power is out.
- Be aware that gas appliances may not work if the electricity is off because the equipment may require electricity for ignition or valve operation.
- Drain pumps, supply lines, water heaters, boilers and traps in drains of tubs, sinks, commodes, washing machines and dishwashers. Plumbing can freeze when power is lost during cold weather periods. To avoid major flooding when temperatures rise, turn off supply lines to outside spigots. Water heaters that are drained to prevent damage from freezing must have their power circuits shut off as well. Failure to do so could result in loss of the heating element when power is restored. Never turn on a water heater unless the tank is full.
- List life support equipment required for family members who depend on these devices (respirators, ventilators, oxygen equipment or other life-sustaining devices) with the power company. You should have a contingency plan that always includes an alternate power source for the device and relocating the person.

Keeping Warm

Select a single room in the home in which the entire family can live – ideally a room that gets sunlight during daylight hours. Use fireplaces and wood-burning stoves with care, and always supervise them when burning. Make sure the fireplace is in proper working condition and has been inspected regularly. Never use charcoal as an indoor heat source; charcoal produces deadly carbon monoxide gas. Wear layers of clothing, including sweaters and coats, which hold warm air and help to maintain body heat for longer periods. For homes with natural gas heaters, keep meters and vents clear of ice and snow.

Checking on Relatives and Neighbors

During storms and other emergency events, check to see how your relatives and neighbors are coping, especially senior citizens and persons with disabilities. If possible, help them plan or locate resources from which to obtain assistance. Contact your local department of human services for information on services available for the elderly and residents with disabilities.

Evacuation

Local officials may call for evacuation in specific areas at greatest risk in your community. If you are told to evacuate, it is important to stay calm, listen carefully and follow all instructions. If you're sure you have time, call your family contact to tell them where you are going and when you expect to arrive. Shut off water and electricity, but leave natural gas ON unless local officials advise you otherwise. Only a professional can restore gas service once it's turned off, and this could take weeks in a disaster situation. If you must choose quickly what to take with you, grab these things and go: medical supplies, disaster supplies (flashlight, batteries, radio, first-aid kit, bottled water), a change of clothes, sleeping bag or bedroll and pillow for each family member and car and house keys.

If you plan to travel by car, become familiar now with alternate travel routes you can use to avoid congested main arteries in the event of an emergency. Remember, it is against the law to drive on the shoulder. Shoulders are reserved for police, fire and rescue vehicles.

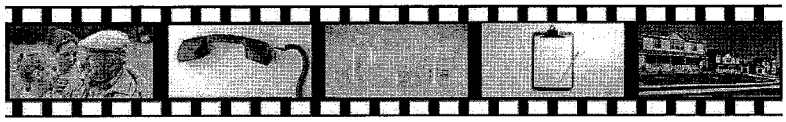
All news radio stations such as WTOP (1500 AM/107.7 FM) and WMAL (630 AM) provide 24/7 traffic information.

Carry a winter survival kit in your vehicle. Suitable items include blankets, flashlight, shovel, jumper cables, road salt or kitty litter, flares or reflective triangles, local road maps, and high-calorie food like granola bars and cans of juice.

Consider keeping an old cell phone and a power cord in each of your cars. Even if the phone does not have a service provider, it should still be able to dial 911.

Children in School

In the event of a community or national emergency, or an evacuation or a shelter-in-place order, parents should check the local media and local school system cable stations, hot lines, and Web sites for announcements about changes in school openings and closings. News about changes in school schedules is routinely disseminated through most metropolitan radio and televisions stations. Many regional school divisions now also use e-mail notification systems to alert parents immediately of changes in school schedules. Check with your school to see if an e-mail notification system is in place. Generally, unless evacuation of a particular school is ordered, students will be kept at school until school officials can safely transport them home. Because the best place for children during a regional crisis may well be in school, parents are discouraged from going to school to pick up their children. If a parent does go to school, he or she should be prepared to present the identification required by the school system—usually a photo ID. Note that if a school is ordered to provide shelter in place—to protect the safety of the children—no one will be allowed in or out of the school building until the danger is passed. In that event, parents, for their own safety, should also remain indoors. Relying on the schools to transport students home on normal bus routes will help avoid gridlock in and around schools and help keep roads clear for essential emergency vehicles. If buses are severely delayed, schools may ask parents to help by picking up their children. Parents should check the local media and school news outlets regularly for announcements about school decisions.



Senior Information

Older adults should have an individual emergency plan. You can prepare your individual emergency plan by planning ahead; keeping in touch with your family and neighbors; and sharing your emergency information with others.

Plan Ahead

Disaster can strike without warning and older adults can especially be vulnerable in disasters. Older adults can help ensure their safety in case of an emergency by:

- Having your emergency kit at home ready to take with you in case you need to evacuate your home. The kit can also help "shelter in place" if emergency officials direct people to stay in their homes.
- Knowing the location and phone number of your local emergency management and American Red Cross offices.
- Labeling any equipment, such as wheelchairs, canes or walkers you would need.
- Listing the style and serial numbers of medical devices such as pacemakers.
- Planning for transportation if you need to evacuate.
- Filling prescriptions before they run out.
- Knowing the telephone number of a 24-hour pharmacy for emergencies.
- Knowing the 24-hour emergency contact number for your doctor.
- Posting emergency phone numbers near the phone.
- Keeping a copy of important contact numbers and medical information in your wallet or purse.
- Planning and practicing the best escape routes from your home.

Keep in Touch with Family and Neighbors and Share Your Emergency Information

Establish relationships with nearby neighbors before an emergency or disaster happens. Ask nearby family or neighbors you trust to check on you during a disaster. Keep in touch with your family and neighbors and look out for each other by:

- Sharing your emergency contact and medical information with your apartment building management or condo association.
- Giving your emergency contact and medical information to your neighbors and family.
- Creating a contact list of your neighbors' information.
- Arranging for someone to check on you.
- Teaching those who may need to assist you in an emergency how to operate necessary equipment. Be sure they will be able to reach you.
- If you have home health care services, plan ahead with your agency for emergency procedures.
- Notifying local police, fire and rescue responders of special needs or mobility issues.

Keeping Updated

Getting information during an emergency situation is vital, especially at the height of the event when evacuation may be required. In 1951, President Harry Truman established the first national emergency alert system (EAS). Although the technology has improved over the years, the goal continues to be to use broadcast media to provide emergency information to the general public as quickly as possible. Using the EAS, emergency managers can provide critical information and instructions to the public. Radio and television stations provide the quickest means to obtain information. Have a battery operated radio tuned to a local all-news or talk-radio station. Consider purchasing a battery-operated weather alert radio. Many jurisdictions use their government cable channels, electronic notification systems that are accessed through the internet or hotline telephone systems to transmit local emergency information.

Jurisdiction Phone Numbers:

City of Alexandria

Emergency .....911, (voice and TTY)
Non Emergency:
Police.....703-838-4444, TTY 703-838-4896
Fire .....703-838-4660, TTY 703-838-4896
General Information.....703-838-4800, TTY 711
Other Government Services:
Health .....703-838-4400, TTY 711
Human Services .....703-838-0700, TTY 711
Web Site .....http://ci.alexandria.va.us
Gvt. Television .....channel 70
School Information .....703-324-6635, TTY 711
School Web Site.....www.acps.k12.va.us

Arlington County

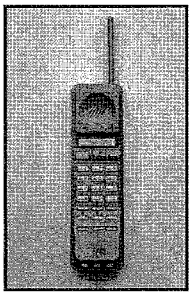
Emergency .....911 (voice and TTY)
Non-Emergency:
Fire & Police .....703-558-2222 (voice and TTY)
General Information.....703-228-3000, TTY 703-228-4610
Other Government Services:
Public Health .....703-228-4992, TTY 703-228-4611
Human Services .....703-228-1300, TTY 703-228-1398
Animal Shelter .....703-931-9241, TTY 711
Web Site.....www.co.arlington.va.us
Gvt. Television .....channel 31, Comcast
School Hotline .....703-228-8638, TTY 703-228-6178
School Information .....703-228-6005, TTY 703-228-6179
School Web Site.....www.arlington.k12.va.us
School Television .....channel 30, Comcast

Town of Dumfries

Emergency .....911 or 703-792-6500 (voice and TTY)
Non Emergency:
Police .....703-221-1111, TTY 711
Fire.....703-221-4242, TTY 711
ACTS Help Line .....703-368-4141, TTY 711
General Information.....703-221-3400, TTY 711
Other Government Services:
Health .....703-792-6300, TTY 711
Human Services .....703-792-7500, TTY 711
Animal Shelter.....703-792-6500, TTY 711
Animal Control .....703-792-6500, TTY 711
Web Site .....http://dumfriesvirginia.org
Gvt. Television .....channel 3
School Web Site.....www.pwcs.edu

City of Fairfax

Emergency:
Fire .....911 (voice and TTY)
Police.....703-591-5511, TTY 703-359-2480
Non Emergency:
Police.....703-385-7924, TTY 703-359-2480
Fire.....703-385-7940, TTY 711
General Information.....703-293-7120 (voice and TTY)
Other Government Services:
Health.....703-246-7100, TTY 703-246-7120
Human Services .....703-385-7894 (voice and TTY)
Animal Control.....703-385-7924, TTY 703-359-2480
News and Events .....703-273-1776, TTY 711
Web Site .....www.ci.fairfax.va.us
Electronic Notification System.....e-MAS, www.ci.fairfax.va.us
Gvt. Television .....channel 12, Cox
School Information .....703-385-7910, TTY 711
School Web Site .....www.ci.fairfax.va.us



Fairfax County

Emergency .....911 (voice and TTY)
Non Emergency:
Police & Fire.....703-691-2131, TTY 703-204-2264
Hotline.....703-817-7771, TTY 711
Public Information....703-324-3187, TTY 703-324-2935
Recorded Information 703-324-INFO (4636)
Other Government Services:
Health .....703-246-2435, TTY 711
Human Services .....703-324-7500, TTY 711
Animal Shelter.....703-830-1100, TTY 711
Web Site.....www.fairfaxcounty.gov
Gvt. Television .....channel 16, Cox and Comcast
School Information:
Hotline .....703-246-2500, TTY 711
Web Site .....www.fcps.edu
E-mail Message System.....www.fcps.edu
TV Emergency Message .....channel 21

City of Falls Church

Emergency .....911 (voice and TTY)
Non-Emergency.....703-241-5053, TTY 711
Fire.....703-228-0106, TTY 711
Police .....703-241-5050, TTY 703-532-4489
Citizens' Emergency Info Line .....703-248-5200, TTY 711
Employees' Emergency Info Line.....703-248-5198, TTY 711
General Information.....703-248-5001, TTY 711
Other Government Services:
Health .....703-534-8343, TTY 711
Human Services Info. & Referral.....703-222-0880, TTY 711
Animal Shelter.....703-248-5172, TTY 711
Transportation (GEORGE).....202-637-7000, TTY 202-638-3780
Web Site.....http://www.ci.falls-church.va.us
Falls Church Community Television.....channels 2/12
School Information .....703-248-5600, TTY 711
School Web Site.....http://www.fccps.k12.va.us/

Town of Herndon

Emergency .....911 (voice and TTY)
Non-Emergency:
Fire.....703-437-1233, TTY 711
Police .....703-435-6846, TTY 711
Family Services.....703-324-7500, TTY 711
Public Works Emergency:
Operations Center (Snow/Flood).....703-435-6860, TTY 711
Water & Sewer .....703-435-6853, TTY 711
After Hours.....703-435-6846, TTY 711
Web Site.....www.town.herndon.va.us
Electronic Notification System.....www.town.herndon.va.us
Gvt. Television .....channel 23, HCTV

Town of Leesburg

Emergency 911
Non Emergency:
Police.....703-771-4500, TTY 703-771-4560
General Information .....703-771-2700, TTY 711
Other Government Services:
Public Works .....703-737-7030, TTY 703-771-4560
After Hours .....703-771-4500, TTY 703-771-4560
Health .....703-777-0236, TTY 711
Social Services.....703-777-0353, TTY 711
Web Site .....www.leesburgva.org
Gvt. Television .....channel 2

Loudoun County

Emergency .....911 (voice and TTY)
Non-Emergency:
Police.....703-777-1021, TTY 711
Fire.....703-777-0333, TTY 711
Government Information.....703-777-0100, TTY 711
Public Information .....703-777-0113, TTY 711
Other Government Services:
Health .....703-777-0236, TTY 711
Social Services .....703-777-0353, TTY 711
Animal Shelter.....540-882-3211, 703-777-0406, TTY 711
Housing Services.....703-777-0389 (voice and TTY)
Web Site .....www.loudoun.gov
Gvt. Television .....channel 2, Adelphia
School Information .....703-771-6400, TTY 711
School Web Site.....www.loudoun.k12.va.us

City of Manassas

Emergency .....911 (voice and TTY)
Non Emergency:
Police .....703-257-8000, TTY 711
Fire .....703-368-6211, TTY 711
Rescue .....703-361-2030, TTY 711
City Government Information...703-257-8200, TTY 711
Other Government Services:
Health .....703-792-6300, TTY 711
Social Services .....703-361-8277, TTY 711
Animal Shelter .....703-792-6465, TTY 711
Public Works .....703-257-8529, TTY 711
After Hours Emergency .....703-257-8353, TTY 711
Safety Officer .....703-257-8282, TTY 711
Web Site .....www.manassascity.org
Gvt. Television .....channel 23
School Information .....703-257-8800, TTY 711
School Web Site www.manassas.k12.va.us

City of Manassas Park

Emergency .....911, TTY 703-361-1136
Non Emergency:
Police .....703-361-1136, TTY 711
Fire .....703-335-8845, TTY 711
General Information .....703-335-8803, TTY 711
Other Government Services:
Social Services .....703-335-8880, TTY 711
Web Site .....www.ci.manassas-park.va.us
Gvt. Television .....channel 23
School Information 703-335-8844
School Web Site .....www.mpark.net

Prince William County

Emergency 911
Non Emergency:
Police .....703-792-6500, TTY 703-792-6810
Fire 703-792-6800, 703-792-6810
Local Emergency Information...703-792-4636, msg 911, TTY 711
General Information .....703-792-6600, TTY 711
Other Government Services:
Health .....703-792-6300, TTY 703-792-4715
Human Services .....703-792-4300, TTY 703-792-4335
Animal Shelter .....703-792-6465, TTY 711
Web site .....www.pwcgov.org
Gvt. Television .....channel 3, Comcast
School Information...703-791-2776, TTY 703-791-7348
School Web Site .....www.pwcs.edu

Town of Purcellville

Emergency .....911 (voice and TTY)
Non Emergency:
Police .....540-338-7422, TTY 711
Fire .....703-777-0333, TTY 711
General Information .....540-338-7421, TTY 711
Other Government Services:
Health .....703-777-0236, TTY 711
Human Services .....703-777-0353, TTY 711
Animal Shelter ...703-777-0406, 540-882-3211, TTY 711
Transportation .....703-338-1610, TTY 711
Web Site .....http://town.purcellville.va.us
Gvt. Television .....channel 3
School Information .....703-771-6400, TTY 711

Town of Vienna

Emergency:
Fire & Rescue .....911 (voice and TTY)
Police .....703-938-4900, TTY 703-255-5730
Non-Emergency:
Fire & Rescue .....703-691-2131, TTY 703-204-2264
Police .....703-255-6366, TTY 703-255-5730
General Information .....703-255-6300, TTY 703-255-5735
Web Site .....www.ci.vienna.va.us

Utilities Serving Northern Virginia

Electricity:

City of Manassas Electric Utility (City of Manassas) ....703-257-8219, TTY 711
Emergency and after hrs. ....703-257-8353, TTY 711

Dominion Virginia Power (Arlington County, City of Alexandria, City of Fairfax, City of Falls Church, Fairfax County, Loudoun County, Prince William County, Town of Dumfries, Town of Leesburg, Town of Vienna, Town of Purcellville)....1-888-667-3000, 1-800-552-4015

Northern Virginia Electric Cooperative (Fairfax County, Town of Leesburg, Prince William County)....703-335-0500, TTY 711

Gas:

Columbia Gas of Virginia (City of Manassas Park, Fairfax County, Prince William County) ....1-800-543-8911, TTY 711

Commonwealth Gas (City of Manassas, City of Falls Church, Town of Dumfries) ....703-361-3181, TTY 711

Washington Gas (Arlington County, City of Alexandria, City of Manassas Park, City of Fairfax, Fairfax County, Town of Leesburg, Town of Vienna, Loudoun County ....703-750-1000, 1-800-223-9452 or 1-800-752-7520, TTY 711

Sewer:

Arlington County....703-228-6570, TTY 703-228-4611

City of Fairfax....703-385-7915, TTY 711

City of Falls Church....703-248-5071, after hrs. 703-248-5044, TTY 711

City of Manassas Park....703-335-8805, TTY 703-341-1136

Dale Service Corp. (Prince William County)....703-590-4495, TTY 711

Fairfax County Department of Public Works & Environmental Services (Fairfax County)....703-323-1211, TTY 703-239-8498

Loudoun County Sanitation Authority....703-248-5071, after hrs. 703-248-5044, TTY 711

Manassas City....703-257-8219, after hrs. and emergency 703-257-8380, TTY 711

Prince William County Service Authority (Town of Dumfries, Prince William County)....703-335-7900, TTY 711

Town of Leesburg Utilities....703-771-2750, after hrs. 703-771-4500, TTY 703-771-4560

Town of Purcellville....540-338-7421, TTY 711

Town of Vienna....703-255-6381, after hrs. 703-255-6366, TTY 711

Telephone:

Verizon Virginia (all jurisdictions) ....1-800-483-1000, TTY 711

Water:

Arlington County....703-228-6570, TTY 703-228-4611

City of Fairfax....703-385-7915, TTY 711

City of Falls Church (Fairfax County, City of Falls Church)....703-248-5071, after hrs. 703-248-5044, TTY 711

City of Manassas Park....703-335-8805, TTY 703-341-1136

Fairfax County Water Authority (Fairfax County)....703-698-5800, after hrs. emergency 703-698-5613, TTY 703-698-7025

Loudoun County Sanitation Authority....703-771-1092, 703-729-7878 after hrs. emergency

Manassas City....703-257-8219, after hrs. and emergency 703-257-8380, TTY 711

Prince William County Service Authority (Dumfries, Prince William County) ....703-335-7900, TTY 711

Town of Leesburg Utilities....703-771-2750, after hrs. 703-771-4500, TTY 703-771-4560

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Federal Emergency Management Agency: www.fema.gov

Virginia Department of Emergency Management: www.vdem.state.va.us

Virginia Health Department: www.vdh.state.va.us

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Chairman TOM DAVIS. Let me start the questioning with Dr. Goodfriend. When did the Federal Government inform the County Health Department of the potential threat of SARS?

Dr. GOODFRIEND. SARS as a syndrome? Well, we were aware of unusual pneumonias before the diagnosis of SARS came out——

Chairman TOM DAVIS. Right.

Dr. GOODFRIEND [continuing]. Through a variety of mechanisms.

Chairman TOM DAVIS. But specifically when they identified SARS, how long did it take them to get the word to you in Loudoun?

Dr. GOODFRIEND. When it came out in mid-March, actually we heard about it when the rest of the world heard about it as a syndrome. It was only in retrospect that we went back and looked at this case, when we saw what the case definition that the CDC and the World Health Organization had for SARS, and realized that this patient actually did meet the case definition for SARS.

Again, this patient became symptomatic in the beginning of February, and SARS as a syndrome didn't come out until mid-March.

Chairman TOM DAVIS. So you had this patient, you started treating them, and, frankly, as soon as it was identified the Federal Government did—you think was timely in terms of its response?

Dr. GOODFRIEND. Yes. At the time there was concern of unusual pneumonias in Guangdong Province, and particular concern of an influenza type called Avian Flu, and that was the main reason that we were very concerned at that time. The process we went through is we notified our State. The State talks to the CDC. And from our view the CDC did exactly what they should do for us.

Chairman TOM DAVIS. Great.

Dr. GOODFRIEND. They provided the expertise and offered bodies if we needed them, and in this case we didn't need them but they were willing to fly them up that night to us to assist in doing the contact investigations.

Chairman TOM DAVIS. After handling the SARS case, did your Health Department recognize any deficiencies in the coordination, the communication, and capacity at this point, or did everything go about as well as you could expect?

Dr. GOODFRIEND. I think as I said, the communication went very well. The patient came in on a Sunday afternoon. Both the head of the Emergency Department and our epidemiologist were notified that afternoon. The patient was isolated appropriately. We then had discussions with the State and with the CDC, and the good news is during all that time the patient was isolated, so there wasn't a concern of ongoing spread to patients in the hospital or staff.

Chairman TOM DAVIS. So from your perspective at least the dissemination of information on SARS to State and local governments, as it applies to you, at least, it was fine?

Dr. GOODFRIEND. Yes. And since then I have been very impressed with how the CDC has been getting information out. We all have a piece of this. The CDC, from our standpoint, has been doing a great job. Their Web site, if people haven't seen it, on SARS is tremendous, really targeted at different individuals. The general public, the health care community, public health community—all in different languages.

The key piece for us is getting that to the local level, since many people don't have access to the Internet.

Chairman TOM DAVIS. And how did you ensure the safety of your own health care workers? For a while you are kind of flying blind, not sure what's going on. It doesn't seem to have spread to anybody else. Once you found out the type of disease it might be or suspected that, obviously you took some steps to isolate.

Dr. GOODFRIEND. In this case fortunately we didn't find out it was a suspect SARS case until over a month after we came in contact with the person.

Chairman TOM DAVIS. Right.

Dr. GOODFRIEND. But we take the same precautions no matter what, whether it is a potential SARS case or a potential tuberculosis case. Our nurses are not going to visit someone who is coughing without wearing an M–95 mask.

Chairman TOM DAVIS. OK. Dr. Hamburg, you stated that micro-biothreats to health are global problems and really require global solutions. What can we do, the United States, to develop a worldwide mechanism and solutions that will be followed by the nations of the world?

Dr. HAMBURG. Well, I think that SARS represents an example of how progress has already been made. The World Health Organization I think has been providing critical leadership in response to SARS, and we need to continue to support them and help add to their capabilities for leadership and coordination of global efforts. Through various of our own Federal agencies, we can contribute—we have in the past but can do so more extensively in the future—to strengthening global disease surveillance, both in terms of helping to expand the cadre of trained personnel to do disease surveillance and epidemiology, to support expanded laboratory capacity around the world, and by efforts to better coordinate and integrate communication systems so we can both share information about emerging problems, we can analyze information as it is available, and we can have that important feedback loop as we gain new understandings, make sure it gets to where it needs to get for action, wherever that may be around the world.

Chairman TOM DAVIS. Well, let me ask both you and Ms. Heinrich, drawing from your experience with micro-biothreats, any feel for whether the SARS virus will continue to spread at the same rate, or do you think it will lose strength? Or is that an unwritten chapter and it depends how we handle it? Any inclination on that?

Dr. HAMBURG. Well, I think your characterization of it as an unwritten chapter is exactly apt. We are learning more every day. There are some encouraging signs in terms of dropoff, in terms of number of cases in certain areas, but we also are seeing ongoing spread and cases appearing in new countries and new areas, so I think we need to watch it carefully and we need to continue to implement some of the control measures that are in place, and certainly as we know more about the etiologic agent and can develop actual diagnostic tests and even perhaps better treatment strategies, we'll have new opportunities to enhance our control.

Chairman TOM DAVIS. OK. Ms. Heinrich, any reaction?

Ms. HEINRICH. We are really very dependent on infection control measures in our emergency rooms, our hospitals, and, as Dr. Hamburg says, it could get out of control. It's possible, because not all hospitals are as well equipped or as well trained as others.

Certainly in our extensive survey of hospitals we found a great deal of variability in how well hospitals are equipped.

Chairman TOM DAVIS. Great. All right. Thank you very much.

Mr. Shays.

Mr. SHAYS. Thank you. I think this is a great panel, and I am intrigued. We have Ms. Heinrich. You basically have looked at what our capacity is in surveillance right now and where we are at, and I want to get into it. Dr. Hamburg, basically you were the co-chair of this document. Was it completed this year or——

Dr. HAMBURG. It was released 3 weeks ago, I think.

Mr. SHAYS. I had—before I chaired the National Security Subcommittee of this full committee, I chaired the Human Resource Committee, and for 4 years we had oversight of HHS and CDC and FDA and so on, and I just found the committee fascinating. But your executive summary I think should be read by everyone in this. It is quite excellent, in my judgment.

Dr. HAMBURG. Thank you.

Mr. SHAYS. I want to nail down, to the best we can, where we are in the surveillance side of it. Dr. Hamburg, you should be able to add, and Dr. Goodfriend, as well. Should I feel comfortable right now that we have a real-time sense of what is happening all around the United States, or should I feel that we have a good sense what's happening maybe in New York City and maybe not, and maybe in Washington, and a few places? So tell me where do you think we are in that ultimate system, it would seem to me, of knowing every hour what the condition is in every area around the country. How far away are we from that.

First off, is that something we should want every hour or at least every 24 hours? What would be the model?

Ms. HEINRICH. I'll start with an initial response to the question. What we found again is that it is highly——

Mr. SHAYS. Before we know what we found, I want to know what the model should be. What is our target? What do we want to achieve ultimately. So tell me what you think we want to achieve, each of you, in terms of surveillance, monitoring, so on.

Ms. HEINRICH. If it were possible, you'd want to have very fast reporting from hospitals, emergency rooms to the State or local health department, and that would go quickly to CDC so that you could, in fact, analyze the overall picture.

Mr. SHAYS. So CDC should be the one to capture this information?

Ms. HEINRICH. Well, it should be captured at the State level, as well as at the CDC level.

Mr. SHAYS. Goes to State and then—and this should be able to happen, transmitted pretty instantly. So would we want to have an update every hour, every 3 hours, every 10 hours? First, Ms. Heinrich, what do you think? And if you don't have an opinion, that's fine.

Ms. HEINRICH. Yes. Well, it depends on what kind of electronic systems you have for reporting from the hospitals, and what you

don't have then in that equation is your private physicians or physician groups, and they are another component.

Mr. SHAYS. I don't want to know the obstacles yet. I want to know what we want to achieve and then I want to—Dr. Hamburg?

Dr. HAMBURG. Well, perhaps I can offer some perspectives. I think we need to recognize that disease surveillance serves many important purposes, and it needs to be done in a variety of different complementary and integrated ways to give us the best possible picture. We want to use disease surveillance to detect emerging problems as early as possible so that we can go in and investigate them and implement what needs to be done.

We also want disease surveillance to give us the tools to monitor trends over time in disease that allows us also to get a sense of whether our interventions are making a difference.

I think what we need to do—and it needs to be done on a regional as well as a national level, but I think that you are absolutely right that CDC must play an absolutely central role, and that we have to recognize that, especially with infectious disease threats, they don't respect State borders. We need to have harmonized disease tracking standards, data collection standards, etc.

Mr. SHAYS. But should the data collection be updated every hour, every——

Dr. HAMBURG. What we need is a system that will allow us to collect information in an ongoing way that reflects information about diseases in a community, but we also need a system that allows us to get that early warning about an emerging problem that may not yet even have a name.

Mr. SHAYS. Right.

Dr. HAMBURG. So we need to continue and strengthen traditional disease reporting, notifiable disease reporting. We need to enhance that with better diagnostics and information technology that will allow us to use electronic patient records and electronic laboratory reporting that can feed right into health departments at the local, State, and Federal level.

We also need to pursue new tools of surveillance, the so-called "syndromic surveillance," that allows us to really tap into various kinds of data bases to give us that early warning. It may be over-the-counter sales of anti-diarrheal medications to tell you something is going on in the community where people haven't even gone in to see their doctors. We need to monitor visits to emergency rooms, ambulance runs, etc., so that we can, if there's unusual symptoms or patterns emerging, we can catch them early.

Mr. SHAYS. I understand why we want to do that. I do. And I understand, just from reading your summary in the publication—you point out, for instance, AIDS is natural causes, not terrorist induced, 20 million people have died, many are infected. If we had a better surveillance system worldwide, clearly in the United States but worldwide, would we have been able to do so much more than we ultimately—would the condition of AIDS today be very different?

Dr. HAMBURG. I think AIDS is an interesting example because it speaks to the fact that it depends on not just collecting information but the appropriate recognition of the importance of that information and the response. I think, had we understood decades ago,

when the first cases of so-called "Slim Disease" were being reported out of Africa that this might have important international public health significance and really taken a greater interest in that, we might have gotten a huge head start on our understanding of HIV/AIDS. If you look at West Nile, it was a couple of astute clinicians who really triggered the investigation, not a fancy surveillance system. You need an infrastructure of systems in place, but you also need educated and trained personnel.

Mr. SHAYS. My time has run out times 10, and I know Mr. Waxman is—but with the indulgence of the Chair and Mr. Waxman I just want to nail down this one issue. I have a briefing that I have to go to at 1. I want to understand, one, is this a—and it doesn't take a long answer on this—is this a meaningful and absolute requirement that we have a nationwide surveillance system? And if we did, would we be able to protect the American people in a very significant way? And I'd like all of you to answer that question.

Dr. HAMBURG. Well, in my view the answer to your question is yes, but it is not one system, it is a system of systems that are integrated, coordinated, and harmonized.

Mr. SHAYS. Fair enough. Ms. Heinrich.

Ms. HEINRICH. And I do want to emphasize that there has been progress made in terms of our States, counties——

Mr. SHAYS. Right.

Ms. HEINRICH [continuing]. Moving toward an electronic system. But you keep use the term "real time." It is not real time. You're still—it's passive. You are depending on clinicians, hospitals voluntarily reporting.

Mr. SHAYS. Dr. Goodfriend.

Dr. GOODFRIEND. I agree with what has previously been said. From our view and our experience since we have been doing syndromic surveillance since September 12, 2001, it missed anthrax. It's not good at this point enough, with what we're doing, to pick up a sentinel event, one strange case. So we're attacking it on two fronts—one is making the surveillance better and removing to a better system so that we have one system for all the national capital region, and second is keeping people educated, as was said, so when they do see something strange, someone in pneumonia in a postal worker, they'll give us a call, and that's the best way they'll pick it up.

Mr. SHAYS. Thank you for the Chair's indulgence.

Chairman TOM DAVIS. Thank you very much.

Mr. Waxman.

Mr. WAXMAN. Thank you, Mr. Chairman.

Dr. Hamburg, the Institute of Medicine concluded just last month that the U.S. public health system is in a state of disrepair and is vulnerable to an emerging epidemic, and I asked Secretary Thompson about this finding this morning. He said that, while there is always more to be done, HHS has significant funding available to send to States and to patch holes in the system. I'd like to ask you your opinion. Do you think that the funds now available to States are sufficient to fix the public health care system and protect us to the maximum extent possible against SARS?

Dr. HAMBURG. Well, I think we have made progress, but it needs to be understood that our public health system has suffered from

years of underfunding and neglect. We have a great deal that needs to be done to build fundamental capabilities in many parts of our country, and certainly looking internationally it's even more true. So we have a need for a sustained investment of resources to build a set of critical needs. I think your concerns about the competing demands and priorities created by the smallpox immunization campaign and other things is a very real one. We have at the moment a fragile set of systems and we don't have adequate on-the-ground personnel to use all of that money and to put in place some of these programs. We're going to have to build this over time. It is going to be an incremental process.

I think we also have to recognize that, while there was a chunk of new money for bio-defense, and very important in terms of strengthening the public health infrastructure at the State and local level, there have been cuts in other critical components of CDC activity and other activity that is necessary to help support our public health system and our medical care system to respond to a naturally occurring or a bioterrorist threat, and there are very significant cuts, as I'm sure you know, severe fiscal constraints at the State and local level, which has caused the overall dollars available for public health at the State and local level to be compromised.

So I think we're moving in encouraging directions, and I am just astounded and delighted by the renewed appreciation of the importance of public health and the necessity to fund it, but we certainly are not there yet. We can't be complacent that we're doing enough. And I think Congressman Shays suggested we better use SARS as yet another wakeup call to make sure that we do the things that need to be done, and they can be done, and they will afford us broad health protection, greater public safety, and strengthen our national and international security.

Mr. WAXMAN. Ms. Heinrich, your findings on hospital preparedness are striking. It is startling to think that our Nation's health care system may have trouble handling a surge of severe respiratory illnesses. This morning Secretary Thompson expressed enthusiasm about additional funding that will be available or is already available to the States. Will the funding now available to States, localities, and hospitals significantly increase the capacities of hospitals to care for SARS patients?

Ms. HEINRICH. The money that is currently available to the States to work with hospitals is primarily for planning purposes, so what States reported to us is that they were planning to plan, if you will. So what they're beginning to do is identify the needs.

When we went out with our survey of hospitals, we found that the hospitals had planned or have plans in place, they were beginning to coordinate with other local agencies in that planning process. They have done some training, but they have not, in fact, expanded their facilities for isolation purposes, for example, and they had not invested in equipment such as ventilators.

Mr. WAXMAN. So we have funding for planning, but we don't have funding to deal with the actual demand that the hospitals are going to be placed under with an epidemic like SARS?

Ms. HEINRICH. Not so far.

Mr. WAXMAN. So far. And the House appropriated $95 million in the emergency supplemental for implementing the smallpox vaccination program. Will this money be sufficient to allow the States to carry out this vaccination program without forcing the States to sacrifice funding for other public health care functions?

Ms. HEINRICH. What we had found when we reviewed the progress reports of the States that we had visited for the report that we did on State and local preparedness, we found that at least two of the States had already committed their moneys, over 70 percent. By now it would be much higher than that. And most of the States we visited had committed over 50 percent. So I would suggest that from that Federal money many States and certainly the counties would not have the additional funds for the smallpox program.

Mr. WAXMAN. So they're going to have to take funds from what they'd spent on their core public health programs to help pay for the deficit in the money for smallpox?

Ms. HEINRICH. They'd have to find it from something. Maybe our county health officer can tell us how he has managed.

Mr. WAXMAN. I want to hear from him, but let me ask him the question maybe, then he can further elaborate on this issue. In your testimony you said the hospital system in Loudoun County might not be able to handle a large respiratory outbreak. How many critically ill SARS patients would you be able to handle without being overwhelmed, and would Federal support to increase the capacity to care for victims of an epidemic be essential because of the cutbacks at the State and local levels on funding for health issues?

Dr. GOODFRIEND. Well, Loudoun Hospital Center has two isolation rooms in their Emergency Department and five isolation rooms on the floor, and definitely we want SARS patients, if they are going to be hospitalized, to be in isolation, but there are other patients that also may need to be in isolation—active tuberculosis cases and others that may have unusual pneumonia—so you may not have all of those rooms available.

If there were multiple cases, we'd have to look elsewhere of where we would have those people separate from the rest of the hospital community. But, as you can see, with that small number of beds in our county—and it is probably a very similar answer in surrounding counties—it doesn't take many cases to overwhelm that system.

Mr. WAXMAN. So what we have is a public health infrastructure that has been neglected for some period of time. Federal Government has now appropriated money to deal with smallpox but not enough. The States are squeezed because of the recession and their lack of revenues, so they are cutting back on health care infrastructure expenditures. And we're looking at a new epidemic of SARS that could overwhelm the whole hospital system in your county and maybe the whole public health system throughout the Nation. Is that a fair statement of where we are?

Dr. GOODFRIEND. Well, if I could say it from my perspective——

Mr. WAXMAN. Yes.

Dr. GOODFRIEND [continuing]. One of the things we look for and why we do surveillance is to make that difference between 1 person with SARS in your community or 50 people.

Mr. WAXMAN. Sure.

Dr. GOODFRIEND. And so we want to get that one person not only identified and isolated as quickly as possible——

Mr. WAXMAN. Prevent it spreading. Sure.

Dr. GOODFRIEND [continuing]. But so that we don't have that problem. And so far the good news is that we haven't seen that as a problem here, and probably for various reasons in different communities. And I think from our community I think it was because the person was isolated quickly. And again it is the same thing that we do every day with tuberculosis—keeping the active person with tuberculosis away from others so we don't have 10——

Mr. WAXMAN. Tuberculosis we know about, SARS is new, and it is spreading rapidly. And while we certainly need to detect the one case to prevent others, we may not be able to control it because it is an international epidemic that is moving very rapidly. And my concern is whether you are going to be able to deal with that epidemic should it hit.

Dr. GOODFRIEND. And there are two related issues. The public health issue related to that is how do we identify them and make sure they're isolated somewhere, which is a little different from the hospital's capacity issue of where to put them. Hopefully, in theory if people are communicable but otherwise doing well, they don't have to necessarily be in a hospital and so don't have to use an isolation bed, because again, at this point, as far as we've been told, if people are doing pretty good there's not much treatment we're going to offer them anyway in the hospital aside from isolating them from others.

From our perspective we have been beefed up with bioterrorism dollars with two positions, and that has helped us with this because our epidemiologist, although she was hired to do smallpox and Ricin, has been very busy doing malaria and West Nile and SARS.

But, going to your point of the other functions, we have cut back on some of the other things we have been doing in order to meet this need, and that's what we always do in public health. Again, going back to tuberculosis, whether we need to take our nurses out of the clinic to do directly observed therapy on people in the community, whether it's investigating malaria, whether it is investigating SARS, that takes nurses out of providing care for pregnant women or providing immunizations to children, and that has happened to us in Loudoun County.

Mr. WAXMAN. Thank you.

Thank you very much, Mr. Chairman.

Chairman TOM DAVIS. Thank you very much.

Mr. Janklow.

Mr. JANKLOW. Thank you very much, Mr. Chairman.

Dr. Goodfriend, when I look at the symptoms of SARS—fever, chills, headache, body aches, and a dry cough—and at this point in time there's no test for it, I think those symptoms describe most maladies that people get at different times of the year. Historically, they tell you to take a couple of aspirin. As a matter of fact, the

aspirin bottle describes all of these as things that they can deal with. So, I mean, my question is: first of all, what percent of people—and maybe Dr. Hamburg, you or Ms. Heinrich know—what percent of the people so far that have contacted SARS have been hospitalized, because we're talking about overwhelming the system. What percent have had to be hospitalized? I know some have to be incubated and ventilated, but does anybody know the percentage?

Dr. GOODFRIEND. I don't know.

Dr. HAMBURG. I don't actually know.

Mr. JANKLOW. Pardon?

Dr. HAMBURG. I don't know. I apologize.

Mr. JANKLOW. OK. And when we talk about the surveillance system that we have in place, out there are an immense number of facilities—county health laboratories, city health laboratories, State laboratories, Federal through the military and other laboratories. We have a lot of laboratories. We talk about the collaboration that we have, and everybody has got regional associations. I mean, part of our problem is that we don't have a history in this country of serious outbreaks until of recent vintage. We have been able to stay on top of it, and I think you, Dr. Hamburg, talk about that in your presentation. In today's world where we have extraordinary increase in travel, the urban settings the way they are, agricultural practices, the continuing difficulties of translating existing medical knowledge—I mean, all of these things have changed the dynamic as they come together of these new emerging sicknesses, diseases, and weapons, if I can use it that way.

How do we really devise a system, given what we have today? And I'll ask all of you, how do we devise a system to really get the kind of surveillance and reporting that we need? And, Dr. Goodfriend, I think you highlighted it very well. I don't think anybody could question the competence of you and your organization, and as you said, "We noticed some additional pneumonia type things, but nobody had it figured out."

Obviously, you work off of clusters, but how do we really bring about this coordinative collaboration that is necessary for survival?

Ms. HEINRICH. Let me try to answer first. One of the things that is happening at the local level is that they are beginning to link their clinical laboratories with the State laboratories. One of the issues is not all laboratories are equipped and trained to be able to identify all kinds of biological agents.

Mr. JANKLOW. But there isn't enough money in America to equip all the laboratories——

Ms. HEINRICH. And so some of——

Mr. JANKLOW [continuing]. With all the equipment they have to have to deal with all the biological agents.

Ms. HEINRICH. Right, and so we are beginning to see some regionalization, and that's also where CDC comes in with their expertise and actually taking a real lead in having special laboratories and people that have special training. There's also then the linkages with a worldwide network, and I think we have seen that working especially well with SARS.

Mr. JANKLOW. If I can modify my question a little, if we were designing a system from scratch, would it look like what we're starting to work with today?

Ms. HEINRICH. I think that we are a very pluralistic society and our public health system is as pluralistic as other aspects of society.

Dr. HAMBURG. If I can make an attempt to answer your question, which is a big one, you are absolutely right: in the world we live in today, we need to expect that we are going to be facing a whole array of new infectious disease threats, the resurgence of old ones, and possibly the intentional use of biological agents as weapons, and so we need—and we have limited resources to make a difference. So we need to really try to build systems that will make us better able to prevent, detect, and respond to what is an uncertain but significant set of future threats.

I think the basic framework that we are trying to build on today is the right one—to strengthen disease surveillance, extend it, and also to bring new tools for better surveillance to give us new capacities for early warning. To support that, you have to have trained personnel, you have to strengthen laboratories, and on a regional basis you're right—not every laboratory can do each and every diagnostic test, but we need to have regional capacities that are significantly upgraded, and we need to have systems so that people know, when they see an unusual case, when they have a specimen that may require special attention, that they know how to feed into the system so that it will get the attention that it needs.

We also need to dramatically improve the ability of all the different levels of government and the private partners—because a lot of health care in this country is in the private sector, clearly—we need to enhance those communication systems and bring to bear, you know, the tools of the Information Age on our activities. We also have to support a short-term and long-term research agenda because we need better diagnostics, we need new drugs and——

Mr. JANKLOW. If I could, let me add one other factor. My time is up, but I need, if I could, add one other factor. Historically we have dealt with what I'll call the "normal progression" of sickness, illness, whether it starts in a village some place and moves slowly or, as you say, Dr. Hamburg, as you delineate here in your testimony, far more rapidly in a world where everybody is on an airplane. But we've got to add a new dimension to that now, and that is someone who gets on an airplane, or many someones, and travels the world to deliberately spread an illness will change in a phenomenal way the dynamic of how disease spreads and the number of people that are going to contract the illness at a particular point in time. That will overwhelm any system that anybody can devise.

What can we do? Is there anything we need to do in the law, other than funding—let's take funding and put it on a shelf for a second. Is there anything that we need to do in terms of national law—let me ask all three of you—that will better facilitate the investigation or the determination of a new illness that's circulating some place around the globe? What can we do? Is there anything we can do other than money? And I realize money is important, but, you know, is there anything else we can do, or is everything else fine?

Dr. HAMBURG. Well, certainly building greater global cooperation and collaboration is key, you know. If we had fuller disclosure of what was going on in Guangdong Province back in the fall, I think

the opportunity to much more rapidly understand what was going on and contain spread might have——

Mr. JANKLOW. No, but I mean we the Congress. Is there something we can do? Is there a law we can pass? Is there a hearing we can hold? Is there something we can do to facilitate the solution to this type of problem?

Dr. HAMBURG. Well, a lot of it does have to do with money. I mean, you know, we do know a lot about what needs to be done and——

Mr. JANKLOW. That's on the shelf.

Dr. HAMBURG [continuing]. And it needs to be done. I think, you know, that there are opportunities to look at other important components of the problem and controlling disease that are outside of some of the stuff we have been talking about now with respect to strengthening the public health infrastructure and the health care system to respond and the research base. For example, just one example, but Congresswoman Maloney mentioned about airplane travel, and you raised it again. And while, you know, we have not seen a lot of spread on the airplanes of SARS to date, it certainly is a concern, and we may learn more about it as time goes on, but, you know, a systematic look at some of the environmental conditions that may either help to reduce or help to foster spread is important.

When I was health commissioner in New York City, we were dealing with an epidemic of tuberculosis and greatly concerned about possible transmission on airplanes, and what I understood at that time was that we had actually reduced our protections in terms of how air was handled, making us more vulnerable to potential spread of disease on airplanes. Airlines don't need additional costs at the moment, that's for sure.

But, you know, I do think, you know, for example, looking at some of the environmental conditions, ventilation systems on airplanes and in buildings is important in terms of other protections that might be important, and there are other examples like that where you can look at where are some of our vulnerabilities and how can we shore them up. Public health and medical care is a critical component, but there are other elements, as well.

Mr. JANKLOW. Thank you very much. Thank you, sir.

Chairman TOM DAVIS. Thank you very much. I appreciate very much your testimony here today. It has been helpful to us. Let me just kind of ask a question. How can we upgrade our current health capacities at the local and the State level, where most of the response to bio-terrorism attack or infectious disease outbreak would occur? I mean, it is the local level that is going to have to respond. We have the Center for Disease Control. We can have outreach and everything else at the Federal level, and that's important. Is there anything else we can do at the local level? I mean, we're sending money. It is not all spent. Any of you have any thoughts on that?

We'll start with you, Ms. Heinrich, as you issued the report.

Ms. HEINRICH. Well, certainly one of the things that we found after doing our work and talking with local officials is they did say that they wanted more guidance from CDC. And the other thing that they said is that they really wanted to know about best prac-

tices. In other words, what have other communities done that really works well and how can we learn from that. And so I would think that focusing some resources to make that happen would be very helpful at the local level.

The other thing they need—and I don't know how, you know, we assure this, but to really make some of the big changes that they have to put in place, they need the sustained funding. Sorry about the dollars here, but they can't hire people if they can't guarantee the person that they will be employed for more than a year, and that's especially true for highly trained epidemiologists, nurses, across the board—laboratory technicians. And I think that's harder, the work force. The trained work force issue is harder for them than even upgrading a laboratory.

Chairman TOM DAVIS. Dr. Goodfriend, would you agree with that?

Dr. GOODFRIEND. I do agree. And one of the challenges in public health—and I've worked in various settings, in the military and Federal and State and rural before coming here—is every local health department is different, and what will help them is very different. There are many health departments who don't have a physician full time employed. They are contracted out to sign off on forms, which makes it very difficult to have those communications. And we know that smallpox can show up as easily in Washington, DC, as it can in southwest Virginia or in the midwest.

From my standpoint, the funding with the fewest strings attached is the best way that we can use it, and in our case in Loudoun County we would use that funding to improve training, to improve education with not only our local health care providers, but our fire rescue people who are at the front lines of all this, our school nurses who are maybe the first ones to find it in the student coming in to work, and our local officials, etc.

Chairman TOM DAVIS. All right. Well, thank you all very much. I want to thank all the witnesses for their testimony today. I'd like to thank the committee staff that worked on this hearing from the majority and the minority staff.

This hearing is now adjourned. Thank you.

[Whereupon, at 2:12 p.m., the committee was adjourned, to reconvene at the call of the Chair.]

[The prepared statement of Hon. Edolphus Towns and additional information submitted for the hearing record follows:]

Congressman Ed Towns
Government Reform Hearing: The SARS Threat
April 9, 2003

Thank you Mr. Chairman for holding this critically important hearing. As far as I am aware, this is the first hearing on Severe Acute Respiratory Syndrome, or SARS on the House side. I want to commend you for taking this action. This epidemic seems to be worsening everyday and we must take every step possible to ensure the public's safety from this emerging worldwide disease.

Fortunately, there have been no reported deaths from SARS here in the U.S. But throughout the world, the toll from this respiratory illness is mounting. Worldwide cases have surpassed 2,600 and the number of deaths have reached at least 100.

Here in the U.S., the number of suspected cases has climbed to 148 in 30 states. However, we should not rest on our laurels, believing that the bulk of the problem is in Southeast Asia. Just north of the border in Toronto, 10 people have died and 188 people have been stricken with

the disease. Until researchers can develop a diagnostic test or some form of treatment, we should take every precaution to limit the transmission of this disease. I would like to say that between 80 percent and 90 percent of patients get better on their own in about a week after getting SARS. So we the public should not panic. However, we do need to make sure that our public health infrastructure is ready.

I am told that the 16 million dollars included in the House and Senate supplemental bill for CDC was specifically included to deal with SARS. I am pleased that the appropriators took this beginning step. However, as the regular appropriation process unfolds, we must make sure that CDC and local public health departments have the necessary resources.

Most of our local and state health departments are already very strained to meet various bioterrorism needs not to mention their traditional public health services role. While Congress appropriated approximately $1 billion in federal funds to support state and local preparedness activities last year, this may inadequate. I have requested the GAO to look into whether public health departments are being

hampered in their ability to deal with traditional public health diseases and needs in order to meet the demands of inoculating emergency personnel against small pox. Treatment and detection of SARS is one of many public health issues that could be negatively affected. I hope today's GAO witness can shed some light on this issue.

Mr. Chairman, on that I note, I look forward to hearing from today's witnesses on what we can do to make sure we are prepared for this emerging public health threat.

1. The anthrax attacks in the fall of 2001 resulted in our nation's health care providers, specifically in metropolitan areas, being inundated with individuals who thought they may have come into contact with anthrax. Most of these individuals had, in fact, not been infected, however they continued to believe they had, regardless of what they were told. The SARS epidemic also has the ability to result in a mass hysteria in which individuals with as little as a common cold flood our hospitals and clinics in fear they have contracted this disease. What steps are being taken to educate the public on when it is appropriate to seek medical help? Have our health care providers been empowered with a definitive action plan for dealing with these types of situations?

2. Since we did experience the anthrax threat fairly recently, is there any evidence suggesting our health network was actually better prepared to respond to this latest threat? Would you say definitively that there has been a better response?

3. The University of Pittsburgh has developed the Real-Time Outbreak and Disease Surveillance (RODS) program which monitors data routinely collected by health care providers for trends and anomalies suggestive of disease outbreaks. RODS was utilized during the 2002 Winter Olympics and currently receives and monitors real-time data reported by emergency departments serving 50% of southwestern Pennsylvania, 100% of the Harrisburg, Pennsylvania, region and 80% of northwestern Utah. What steps have been taken to implement a similar system nationally?

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EDOLPHUS "ED" TOWNS
MEMBER OF CONGRESS
10TH DISTRICT, NEW YORK

ENERGY AND COMMERCE
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ENVIRONMENT AND HAZARDOUS MATERIALS
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April 10, 2003

Janet Heinreich
Director, Public Health Issues
United State General Accounting Office
441 "G" Street, N.W.
Washington, DC 20548

Dear Ms. Heinreich:

On April 9, 2003, you testified for the Committee on Government Reform's hearing on, "The SARS Threat: Is the Nation's Public Health Network Prepared for a Possible Epidemic?" I appreciate the insightful testimony you provided on this very important public health matter. Due to a legislative mark-up that I had to attend in another committee, I was not present for the question and answer session of the SARS hearing. I have included questions to which I would appreciate your prompt and full response. I plan to submit my questions and your responses as part of the official record of the SARS hearing.

Question 1
On March 19th, the General Accounting Office sent my office a letter stating that your agency had agreed to move forward on my request to investigate whether local health departments have reassigned funds from traditional public health areas to meet the demands of the small pox inoculation program. It seems that the answer to this question has become increasingly more important with the emergence of the Severe Acute Respiratory Syndrome disease or SARS, given that the treatment and detection of SARS is a traditional public health department service.

Would you agree that the SARS outbreak has made it more important to determine whether health departments are diverting funds to meet small pox inoculation needs? Do you think it may be necessary to move up the timetable for completing this study?

Question 2
If health departments are reassigning funds to inoculate public health and emergency personnel, how would this affect local health departments' ability to deal with SARS or perform their traditional services such as prenatal care, check-ups for low-income children or tuberculosis tracking?

Thank you for attention to this matter. I look forward to reading your responses to my questions.

Sincerely,

Ed Towns
Member of Congress

enclosure

United States General Accounting Office
Washington, DC 20548

May 19, 2003

The Honorable Edolphus "Ed" Towns
House of Representatives

Dear Mr. Towns:

Thank you for your questions regarding my testimony at the April 9, 2003 hearing of the Committee on Government Reform, "The SARS Threat: Is the Nation's Public Health Network Prepared for a Possible Epidemic?" Your questions concern the possible effects of the smallpox vaccination program on the ability of local health departments to manage SARS and their traditional services, and the status of your request to us that we investigate that issue.

In our recent work, we have seen reports that health departments have redirected resources to smallpox vaccination programs. For example, in our April 30, 2003 report, *Smallpox Vaccination: Implementation of National Program Faces Challenges* (GAO-03-578), we noted that a survey by the National Association of County and City Health Officials had found that more than one-half of its responding members said that resources had been redirected from public health services to smallpox and other bioterrorism efforts. We plan to begin work on your request as soon as our staffing limitations allow us to do so.

Sincerely yours,

Janet Heinrich
Director, Health Care –
Public Health Issues

United States General Accounting Office
Washington, DC 20548

March 19, 2003

The Honorable Edolphus Towns
Ranking Minority Member
Subcommittee on Government Efficiency and
Financial Management
Committee on Government Reform
House of Representatives

Dear Mr. Towns:

We received your letter dated March 11, 2003, requesting that the General Accounting Office review efforts to vaccinate health care workers against smallpox.

GAO accepts your request proposal to examine whether local health departments reassigned funds from other areas to meet the demands of the smallpox inoculation program. Your request has been assigned to Mr. William J. Scanlon, Managing Director, Health Care, whose staff will begin the work during the next few months. Mr. Scanlon or a member of his team will contact Ms. Cherri Branson to discuss the request, your needs, and the engagement objectives, scope, and methodology in accordance with GAO's protocols.

If you have any questions, please contact Mr. Scanlon at 202-512-4561 or Mr. Jerry Skelly, Assistant Director for Congressional Relations, on my staff at 202-512-9918.

Sincerely yours,

Gloria L. Jarmon
Managing Director for
Congressional Relations

cc: The Honorable Todd Platts
Chairman