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Before the House Government Reform Committee
On public health preparedness and the influenza season

February 12, 2004

Mr. Chairman and distinguished members of the House Government Reform Committee, my name is Dr. Robert Stroube. I am the State Health Commissioner for the Virginia Department of Health, and I am honored to be testifying before you today on behalf of the Association of State and Territorial Health Officials (ASTHO). I would like to thank the Chair and the subcommittee members for convening this hearing on a very important public health topic – emergency preparedness and our current capacity to respond to an influenza pandemic.

As State Health Commissioner I serve as the principal advisor to Virginia Governor Mark Warner, Virginia Secretary of Health and Human Resources Jane Woods and the Virginia General Assembly on a wide range of public health issues. I was appointed by Governor Warner in 2001. I have served Virginia in virtually every leadership position within public health at the state and local level during my career of nearly 30 years.

I earned a Doctor of Medicine degree from the Medical College of Virginia, a Masters in Public Health from the Johns Hopkins University, and an undergraduate degree from the College of William and Mary. I am a specialist in preventive medicine and certified by the American Board of Preventive Medicine.

Introduction

Public health has taken a dramatic turn since the Pentagon and anthrax attacks of 2001. Those events brought to light the long-time deficiencies within our nation's public health infrastructure for a rapid response to emergencies that impact the health of our citizens. Over the last several years funding and support for public health steadily declined leaving a system seriously lacking the capacity to manage emergencies in real-time.

The substantial congressional investment in preparedness for public health has significantly aided in our ability to not only rebuild Virginia's public health system but also transform the health department into an emergency response agency. The funding is being used to help prepare Virginia's public health and hospital system for a rapid and effective response to any event, whether it is bioterrorism, a naturally emerging infectious disease, such as SARS, a new strain of influenza, or a natural disaster, such as a hurricane. In order for Virginia to continue with this ongoing critical enhancement of our response capabilities, sustained funding from federal grants is essential.

Funding Allocations

In 2002, the Virginia Department of Health (VDH) received more than \$25 million in federal funding for public health and hospital preparedness. For the 2003-2004 funding period, VDH received \$37 million in federal grant support.

The federal grants include \$19.5 million from the U.S. Centers for Disease Control and Prevention (CDC) for public health preparedness and \$11.8 million from the U.S. Health Resources and Services Administration (HRSA) for hospital and health system preparedness, mental health services and to address the needs of special populations. The HRSA funds are helping to enhance hospitals' capacity to respond to mass casualty incidents requiring mass immunization, treatment, isolation and quarantine in the aftermath of bioterrorism or other outbreaks of infectious disease, provide mental health services and address the needs of special populations.

In addition, VDH received an estimated \$2.4 million from CDC for smallpox preparedness efforts, \$1.5 million from the U.S. Department of Homeland Security for the Strategic National Stockpile, and \$1.5 million to the state laboratory for enhancement of chemical agent testing capabilities.

The funding coming to VDH through the CDC has enabled Virginia to enhance public health preparedness and planning, improve infectious disease surveillance and investigation, advance the state's public health laboratory and communication technology capacity, provide education and training, and enhance health information dissemination. This year the funding also will address the continued development of the state's smallpox preparedness programs, and enhancement of the state's abilities to distribute the Strategic National Stockpile.

Despite uncertainty about the continuation of this level of funding, Virginia determined that the best use of these funds was to hire highly qualified public health staff at the state and local level to bolster our capacity to respond to any emergencies. In addition, Virginia decided from the beginning to take an all hazards approach with the use of the funding in order to enhance our ability to respond to any public health threat – not just bioterrorism.

To date, Virginia has hired more than 140 new public health and health care personnel with the funding including physicians, emergency planners, disease outbreak investigators, trainers, technical staff, laboratory specialists, hospital coordinators and public information officers throughout the state.

The new public health personnel hired with the grant funding are working on preparedness issues throughout Virginia at the local, regional and state level. Each of Virginia's 35 local health districts hired one emergency response planner and one epidemiologist for a total of 70 people contributing to local health department work force capacity.

In addition to hiring local public health personnel, Virginia established five regional emergency preparedness and response teams. Most of the teams include a physician consultant, epidemiologist, emergency planner, training coordinator and public information officer. The team's role is to facilitate regional coordination among the local health districts, hospitals and local jurisdictions and augment local resources during an event. The regional public health response teams are available to respond to any area of the state when an emergency event begins to unfold. This is a vital workforce resource that our health department would never have been able to establish without the federal funding.

Prior to the federal funding, our disease investigation unit was severely under staffed. The total team for the state's disease investigation division consisted of about 11 people who were responsible for monitoring in excess of 12,000 morbidity reports per year for Virginia. With the federal funding many new state office positions have been established including a medical epidemiologist, nurse epidemiologist, surveillance chief, statistical analyst, database manager, a bioterrorism surveillance coordinator, two senior epidemiologists, and a program support technician.

Increasing our epidemiologic capacity at the state level has resulted in an improved ability to: develop emergency response plans (e.g., for pandemic influenza, smallpox and SARS), develop disease guidance documents for healthcare providers, respond to disease outbreaks, assess morbidity and mortality from communicable diseases, enhance surveillance of reportable diseases, and provide strong guidance to local health departments regarding surveillance and investigation of diseases and emerging public health threats.

The hiring of an epidemiologists within each local health department has improved response time to disease reports, timeliness and completeness of disease reporting, and it has enabled health departments to respond better and faster to public health emergencies, such as the recent hurricane and the SARS epidemic. These are important roles that have allowed VDH to meet critical public health needs daily to control communicable diseases in our communities.

But the positions alone are not all that is needed to ensure a successful public health response. Providing continuous education and training to public health personnel and other health care providers is essential. The federal grant funds have provided for the development of specialized orientation sessions, new on-line education programs and collaborative instruction efforts. Our emergency preparedness training and education team is utilizing distance learning technologies such as video conferencing, satellite broadcast and the internet to provide public health personnel and health care professionals training on issues, including smallpox vaccination, management of newly emerging infectious diseases and incident command operations.

The federal grant funding has provided for greatly needed upgrades to many of the health departments' information technology systems, which are fundamental for an effective response to any emergency event. For example, all key public health emergency

preparedness personnel — from state planners and epidemiologists to key central office staff — are outfitted with sophisticated pagers and laptops for instant access and around-the-clock availability. The federal grants have supported purchase of this wireless equipment, as well as upgrades in e-mail systems and back up communication systems.

The health department's existing Health Alert Network is currently being upgraded to enhance the rapid relay of critical health care information to the health community and all levels of government. With the upgrade in place, a warning could be forwarded more rapidly from VDH to local health departments and health care providers across the state.

In addition, the health department's information technology team, supported with federal grant funding, is building a computer-based infrastructure designed to rapidly collect, analyze, and present data from a number of different healthcare sources to determine possible disease outbreaks, including bioterrorism.

State Laboratory

The state public health laboratory has had great difficulty hiring scientists to work in containment laboratories, both the biological safety level 3 (BSL-3) and the chemical terrorism laboratories. They also have had difficulty hiring highly qualified personnel to do the rapid and specialized molecular assays such as real time polymerase chain reaction (PCR) which can provide a diagnosis within 30 to 40 minutes versus the usual three to four days for bacteria and up to two weeks for virus cultures. We must improve efforts to recruit young people to enter the sciences, provide laboratory training to the most promising students, and then provide incentives for working in public health. A shining star is the Emerging Infectious Diseases Fellowship Program sponsored by CDC and Association of Public Health Laboratories (APHL) which provides young scientists with hands-on training in public health laboratories.

Public health laboratories offer a great training ground for scientists, but have difficulty paying the salaries necessary to retain the best and brightest. Without sustained federal funding, we would lose most of the personnel we have trained on the sophisticated laboratory methods needed for emergency preparedness testing in a public health laboratory. About 15 percent of our laboratory workforce is paid by federal funds, and as many as 30 percent of our highly trained technical personnel are federally funded.

Due to these difficulties in recruiting and hiring laboratorians and epidemiologists, some of the federal grant funding was available at the end of the grant year. Those carryover funds were not wasted. They were used to purchase much needed major equipment, including the laboratory equipment needed to safely contain potentially hazardous materials in unknown samples while they are being analyzed.

The recent onset of the highly pathogenic avian influenza virus H5N1 in several countries in Southeast Asia and the high mortality in associated human cases has raised awareness of influenza. Although the laboratory has some high containment facilities, it does not yet have the ability to diagnose H5N1 flu because it still does not have laboratories at the

higher bio-containment level needed to safely grow highly pathogenic avian flu or the SARS human coronavirus. Also, reagents to test specifically for the H5N1 virus using non-culture methods have not yet been made available from the CDC. Therefore, continued support for both the CDC and the state public health labs is necessary so that we can be “pandemic flu ready.”

The laboratory has developed strong working relationships with federal agencies (FBI, CDC, EPA, DOD, FDA, USDA, and others in the Capitol region). These relationships have benefited citizens of the Commonwealth and of neighboring states by providing quick access to laboratory services during an emergency, as well as safer working conditions for the people collecting and handling hazardous substances.

Importance of CDC State Preparedness Grant Funding

The President’s Fiscal year (FY) 2005 budget proposal includes a \$105 million dollar cut from the CDC Preparedness state grant funding. ASTHO opposes this proposal. Because no state or community is as yet fully prepared, direct funding to the states for preparedness activities must be maintained at least at the level of the current FY 2004 funding. The current proposed cut in funding would result in significant cuts in state and local preparedness activities. The Administration’s proposed cuts could jeopardize our ability to respond to a terrorist event, outbreak of an infectious disease or other public health threats or emergencies. At a time when states are being asked to expand their role in disease surveillance, and emergency preparedness, such a cut will jeopardize our ability to protect the public we serve.

In Virginia, such a cut in funding will reduce our current progress towards upgrading and enhancing our communication and information technologies. Public health technology infrastructure has faced serious neglect for many years due to lack of funding. The federal grant funding has enabled us to begin to rebuild our vital information technology system, which is a process that can not be completed within just two years. Our recent response to Hurricane Isabel, suspect cases of SARS, the recent anthrax scare and the early flu season demonstrated the importance of reliable and redundant communication systems. Once new information systems are established, they must be continuously maintained and upgraded as technology evolves. Such a funding cut also would impact our state laboratory, which is still in the midst of upgrading equipment to provide the most sophisticated methods available for rapid detection of biological and chemical agents. A federal funding cut also could impact Virginia’s ability to provide the best and most comprehensive training available for health care providers and emergency responders on biological and chemical agents. For a state the size of Virginia, new training technologies, such as distance learning are essential. In addition, funding cuts could impact the state health department’s ability to continuously provide education and training programs, which is necessary to ensure our response workforce is always knowledgeable about the latest science.

In regards to unspent grant funds, it is important to note that any delays in spending grant funding were due to the difficulties of hiring such a large quantity of highly qualified

staff in such a short period of time. In addition, large expenditures have now been obligated for upgrades in highly sophisticated technology equipment. Virginia went to great lengths to properly research available systems prior to making decisions about what to procure. We also worked closely with other state and local emergency responders to ensure that we made wise purchases. Virginia is ensuring that our funding is being utilized to purchase technology that will effectively serve multiple purposes and correspond with our local emergency response partner's communication systems.

Importance of HRSA Funds

The President's Fiscal year (FY) 2005 budget proposal includes \$476 million nationally for the bioterrorism hospital preparedness program under HRSA. The FY05 budget covers the fourth year of the hospital grant program. This represents a \$39 million reduction from the (FY) 2004 budget.

If funding from the HRSA grant for Virginia is reduced, progress in priority areas, such as surge bed capacity, clinical personnel augmentation, isolation capacity and hospital-based pharmaceutical caches will be adversely affected.

The funding is greatly needed to provide additional capacity in the event of a sudden surge in patient demand. Meeting this surge in patient demand requires enhancement of internal hospital plans including conversion of auxiliary areas and acquisition of portable cots and accessories; enhancement of hospital diversion and patient transport protocols utilizing Web-based resource tracking systems; identification of alternative care sites with costs of acquisition and/or renovation and equipping and recruitment of trained Medical Reserve Corps volunteers. A cut in funding would inhibit our efforts to maintain the expected level of reserve capacity.

Funding for acute care hospital increase of isolation capacity and upgrade of existing air handling and filtering is crucial. It is especially important in order to avoid hospital emergency rooms from being contaminated and prevent contamination throughout the hospital. A cut in funding would likely reduce the number of hospitals in which the emergency room could be isolated and contaminated patients could be examined and treated.

Protection of our hospital healthcare workers is one of our first lines of defense. If nurses, doctors and support personnel are incapacitated by the first wave of infected incoming patients or by direct exposure to an agent, the results would be catastrophic. Therefore, an adequate supply of prophylactic pharmaceuticals must be on hand or readily available for hospitals to use to protect staff and patients.

Exercising Plans

Both grants require regional and statewide exercises to test and evaluate health department and state emergency plans. Virginia made the decision to have a full scale statewide bioterrorism exercise that would involve a broad range of agencies and

organizations that may be involved in responding to a bioterrorism event. All of the state's 35 local health districts, state health department, state laboratory, Chief Medical Examiner, hospitals, the Strategic National Stockpile (SNS) team from the CDC, the state emergency management agency and multiple other state and local agencies participated in the exercise in October 2003.

While participating groups were aware of the general scenario and timing of the exercise, the biological organism and public event where exposure occurred were not known to most exercise participants. Patients with respiratory symptoms were first presented to hospitals statewide on October 19. Eighty-percent of the hospitals in Virginia participated in the exercise. Local epidemiologists throughout the state were contacted by their local hospital to report the occurrence of an unusual illness. The recognition of the outbreak immediately prompted a statewide epidemiologic investigation.

The exercises tested abilities to isolate cases at hospitals, collect and transport samples for testing at the state laboratory and coordination with the medical examiner who was managing a large number of mock casualties during the exercise.

The outbreak was identified as a college alumni dinner with alumni returning home to areas throughout the state. Once the outbreak was identified, the SNS push-pack was requested on day two of the exercise and it arrived on day three. The biological organism causing illness was identified as the *Yersinia pestis*, the bacterium that causes plague, and decisions about treatment and preventive treatment were made.

During the exercise the VDH Emergency Coordination Center (ECC) was opened. The SNS push pack arrived in Richmond and was transported to hospitals and dispensing sites in all six regions of Virginia. More than 2,200 volunteer patients presented at the dispensing sites to receive preventive medications or vaccinations.

The City of Richmond and the health departments in far southwest Virginia used this opportunity to test their capacity to provide mass vaccinations. In Richmond, buses brought in nearly 500 elderly people from public housing communities to provide them with an actual flu vaccine. In far southwest Virginia, 152 volunteers received the flu vaccine as they were processed through the dispensing site.

VDH partnered with various federal, state and local emergency partners to conduct this exercise and test communications between the agencies. VDH worked cooperatively with state agencies to manage the site in Richmond where the pharmaceuticals are received, broken down and then distributed statewide to our local health departments.

For example, the Virginia Department of General Services provided the warehouse for receipt of the SNS, as well as staff to unload, repackage and reload portions of the stockpile for distribution to the six regions by a private delivery service. State police provided security for the warehouse and local police provided security for each dispensing site. The CDC sent representatives to observe our processes during the exercise, and the management of the SNS was judged to be exemplary by the CDC.

Dispensing site activity was successful but issues of staffing, security and resources still need to be resolved.

The result of the exercises, which was funded entirely by our federal grant, provided a wealth of training for staff and identified strengths and weaknesses in our response plans. The cost for conducting this exercise was kept to a minimum (\$30,000) because all planning and most implementation was done by VDH, the state laboratory and other state employees, many of whom were funded through CDC and HRSA grants.

Exercising such events is the only way we can test our plans, identify our weaknesses and continue to enhance our systems. This was the first time VDH conducted a statewide exercise involving an infectious agent. Our grant funding will provide for annual statewide exercises and annual regional exercises, which will continue to strengthen our capabilities. In addition to the state exercise, five regional exercises were also completed last year, and health department staff also participated in other numerous local emergency responder exercises.

One particular local exercise that I would like to note was lead by Arlington Health Department. The exercise conducted earlier last year involved a smallpox mass vaccination clinic. This was the first real opportunity for local, state and federal partners to identify actual costs and workforce hours such a clinic will demand. The exercise was a huge success, and the lessons learned from the event were extremely valuable.

Real Events

Real events this past year have also tested our newly enhanced capabilities. For response to Hurricane Isabel, VDH opened its own Emergency Communication Center ECC within the agency to manage the flow of information and requests for public health resources coming to and from our state Emergency Operations Center. The increase in public health staff due to the grant funding enabled VDH to respond to the hurricane with a full staffing of the agency's ECC 24/7 to ensure rapid response to all public health needs.

VDH responded to a wide-variety of public health issues prior to, during and following Hurricane Isabel. The VDH Chief Medical Examiner's Office tracked 33 hurricane-related deaths in Virginia. The VDH Office of Epidemiology collected daily injury report information from 18 hospitals in the Northern, Eastern and Central regions 10 days prior to and following the hurricane. VDH also monitored hospital and life-line facility (e.g., acute care, nursing home) power restoration efforts, water and oxygen supply needs.

Following the hurricane, VDH in cooperation with the Virginia Department of Emergency Management and the Federal Emergency Management Agency conducted aerial spraying for mosquitoes from low flying aircraft in localities that were at increased risk for mosquito borne disease due to increases in mosquito populations.

In addition, hundreds of boil water advisories were issued by waterworks systems throughout the state due to power loss or flooding issues. Approximately 71 percent of restaurants in Virginia were impacted, about 16,700 restaurants. A significant amount of health department resources were utilized to visit or contact restaurants in areas where power failure occurred or where there were boil water advisories. Health department inspectors provided guidance on how and when restaurants could reopen for business.

Other areas in which health department resources were employed during the hurricane include our Emergency Medical Services (EMS) task forces, which were deployed to different areas to assist local EMS teams. The dissemination of timely and accurate health information to our citizens prior to, during and following the storm was also very important in order to inform citizens of the necessary steps needed to protect health.

Based on the lessons learned from both the hurricane and the exercise, a multidisciplinary committee has been established with a charter to develop changes to policy, training, planning, techniques, procedures, facilities, equipment, and communications. Recommendations from this committee will then be used to modify both the VDH and state Emergency Operations Plans. This process will be completed by August, 2004 when Virginia will be a major participant in the national Department of Defense exercise, Determined Promise 2004.

In addition, VDH has responded recently to infectious disease situations including the emergence of Severe Acute Respiratory Syndrome (SARS). Last year, VDH evaluated 69 persons reported with symptoms compatible with SARS. The evaluation of each of these cases requires an intensive investigation to determine relevant travel history, symptoms, and rule out diagnoses. If a case was considered suspect after this initial investigation, local health department epidemiologists hired under our federal grant worked closely with hospitals to insure the proper infection control procedures were being followed. For the patients, local public health staff had to give recommendations for isolation so that others would not be exposed and infected. Specimens also had to be collected for laboratory confirmatory testing. Public health staff also identified close contacts of the patient and monitored all contacts for development of fever or respiratory symptoms for 10 days. Monitoring the close contacts was very important to ensure that those exposed to the patient didn't develop symptoms consistent with SARS and further spread disease in the community.

A striking example of how the federal grant funding has provided Virginia with a dramatically increased ability to deal with unknown agents is the impressive service our state public health laboratory was able to provide during the SARS outbreak. CDC very quickly developed rapid diagnostic assays and provided the methods and reagents to the state public health laboratories. Thanks to the funding, our laboratory had the highly sophisticated instruments and trained personnel to implement these methods and provide rapid diagnostic tests for SARS within just a few months of the discovery of this completely new human pathogen.

Another example of an actual situation that tested our abilities to detect and respond was the unexplainable and sudden deaths of five children in a five day period last year in Virginia. The Medical Examiner's office quickly recognized this unusual occurrence and quickly notified myself and our disease surveillance and investigation division. A full-scale epidemiologic investigation immediately began in both the Hampton Roads and Richmond area to determine if there was any link among any of the cases.

VDH worked cooperatively during that incident with Homeland Security, Federal Bureau of Investigation, Secretary of Health and Human Services command center, U.S. Department of Agriculture, U.S. Environmental Protection Agency, and other federal organizations. Although VDH did not believe this incident was terrorism related, we went to great lengths to rule out terrorism. We even worked with our state laboratory to have scientific tests for biological and chemical agents run through the middle of the night.

In the end, some of the tragic deaths were determined to be due to influenza and none of the cases were connected. But had this been an actual terrorism incident or a naturally occurring outbreak of disease, we feel confident that we were prepared to meet that challenge due to our rapid detection and response to the situation.

Smallpox Preparedness

Another large effort this past year was developing Virginia's smallpox program. After 30 years of dormancy, the smallpox vaccine is now being provided to those that might respond to a smallpox case or outbreak. Launching this new program required a great deal of coordination and effort. Including the implementation of a statewide education and training program regarding smallpox recognition, containment and vaccination techniques to prepare healthcare professionals for swift and effective response to a potential outbreak.

Local public health staff dedicated many hours to organize and establish smallpox vaccination clinics to provide the vaccine to volunteer health care professionals. To date, Virginia has vaccinated 883 people including public health, hospital, emergency responders and federal law enforcement personnel.

A comprehensive Smallpox Response Plan was developed and is being incorporated into the VDH Emergency Response Plan. This year the smallpox vaccination program will expand to provide educational training to additional hospital staff and other health care providers that would be utilized during an event to provide vaccinations or care to the public.

Influenza

This recent influenza season was certainly a challenge for Virginia. VDH provided more than double the number of flu shots than is typically provided through our local health departments. This year VDH administered more than 160,000 doses of flu vaccine to members of the public. During a more typical year the health department provides about

70,000 doses of flu vaccine. It is important to know that public health provides a small percentage of the flu vaccine to the general public compared to the vaccine supplied in the private sector.

While the Advisory Committee on Immunization Practices recommended that over 185 million persons be vaccinated, only 87.1 million doses of vaccine were produced. This includes approximately four million doses of nasal vaccine (Flumist) which could not be used to meet the needs of high-risk patients. In a typical flu season this level of production may be adequate since fewer than half of the 185 million people for whom CDC recommends a flu shot usually get one.

However, this season we had an aggressive flu vaccination awareness campaign and an early flu season. The situation was enhanced by extensive media coverage, heightened public awareness and demand for flu vaccine which stretched well into December and January. The result was that the available supply was unable to meet this demand. Public health worked to promote vaccination and our efforts were undermined when the supply was inadequate.

In Virginia, many high-risk patients went without vaccine, parents could not get young children vaccinated, and healthcare providers could not vaccinate their staff. Attempting to prioritize vaccine to high-risk patients was a local health department nightmare. In some cases security was needed to maintain control of demanding patients.

VDH epidemiologists conducted surveillance for cases of flu-like illness and complications such as pneumonia, mental status changes, and death. VDH also worked intensively to provide information on means of preventing the spread of influenza and information on the vaccine supply to medical providers, schools, nursing homes, and citizens.

The present system of vaccine production and distribution was incapable of effectively responding to the demands placed on it during this past flu season. While CDC, Virginia and other states struggled to redirect vaccine supply, the reality was that people went unvaccinated.

Today, only three companies produce flu vaccine for the U.S., and only two of these companies produce only inactivated injectable flu vaccine. The third company produces the nasal flu vaccine, which cannot be used for high-risk patients. Congress needs to support the development of a more reliable vaccine production process. The current year-long process is incapable of meeting increasing vaccine demands or timely adjustment to vaccine formulation. A review of the nation's influenza program must include a comprehensive and critical look at all aspects of the system including production and distribution of vaccine.

The experience this past year managing an early influenza season does cause concern for possible occurrence of an influenza pandemic in the U.S. The CDC guidance on planning for pandemic influenza is good, but is still in draft form and has been for years.

A pandemic influenza planning checklist developed by the ASTHO has also provided a basis for state response plans.

Virginia developed a pandemic influenza plan in June 2002, but challenges for implementing the plan remain. More communication with the public and private healthcare community is needed to ensure the workforce is aware of the plan and the implications of its contents. Further training on the plan and exercising the roles of each individual are also essential.

In a pandemic influenza situation, hospitals would quickly be overwhelmed and would require additional resources, too. There would be a need for staffed beds; infection control supplies such as masks, ventilators, and negative pressure rooms; emergency department beds and staff; separate triage areas for patients with respiratory symptoms, etc. We can anticipate shortages in these areas. Shortages would also be expected in morgues and other post-mortem services. Laboratory resources would also be crucial.

In a pandemic, there would be a significant demand for public information and real-time statistics. It would require resources to devote to these items. For example, public health would be expected to know the number of persons ill, the number hospitalized, the number breathing on ventilators, the number experiencing complications such as pneumonia and confusion, and the number dying. Hospitals would likely be too short staffed to provide these data, so public health resources would be needed to gather the information on a daily basis. Gathering these data from multiple facilities and jurisdictions is a complicated process. This would divert the limited staff from other public health prevention and control responsibilities.

The data will also be vital for the difficult decision making processes, such as prioritizing who could receive the potentially limited supplies of vaccine and antiviral medications, and who could use the limited hospital beds and ventilators available. Making such complex decisions will depend on viable data concerning the population groups at risk for illness, complications, and death. Thus, we will have a valid policy reason to devote resources for collecting detailed information about the occurrence of illness and its complications.

The nation's infrastructure could be threatened in a pandemic situation due to worker absenteeism. This could occur not only in schools and healthcare settings, but also within utilities and other needed sectors. Businesses could also be threatened due to people avoiding public places, such as shopping malls and theaters.

It will be difficult, if not impossible, to have enough resources available to respond to such a large scale outbreak. This is why it is imperative that at a minimum we maintain the public health workforce currently supported by our federal grant funding.

Every day disease situations arise that give real-life experience to newly hired and veteran public health practitioners that will help them respond to occurrences on a larger scale. This infrastructure is critical to protecting our public's health.

In Virginia alone, we estimate that during an influenza pandemic we could have over 1.3 million outpatient visits, over 28,000 hospitalizations, and over 6,200 deaths in a 12 week period.

We will need about 180,000 hours of public health provider time to vaccinate the high-risk population alone. More time would be needed if the vaccine was not approved by the FDA or if more people than just those at high-risk were immunized. In addition, we would need to monitor for side effects of the vaccine, adverse events associated with antiviral medications, and complications of the illness itself.

Immunization Policy

In regards to immunization policies, the difficulties of providing a large scale adult vaccination program for a response to influenza are immense. Currently, the focus is on providing childhood immunization programs and coverage levels are at an all time high.

However, since 1999, the vaccine purchase appropriation has increased by 50 percent while the cost of immunizing a child for all recommended vaccines has increased by over 125 percent. This level of funding not only jeopardizes the gains made in childhood immunization, but has resulted in Virginia being unable to provide the Standard of Care to all children equally. Funds are currently not available for the provision of pneumococcal vaccine for children other than those eligible for the Vaccines for Children Program. The current level of funding minimizes the efforts that can be made at improving the delivery of immunization services to adults.

The (FY) 2004 Omnibus funding bill recently passed by Congress that further reduces domestic vaccine purchase by \$3 million will compromise the integrity of an already under-funded childhood immunization initiative and make it impossible for States to effectively expand adult immunization efforts, which includes influenza preparedness. Consideration should be given to amending the present Vaccines for Children Program (VFC) legislation to authorize the provision of VFC vaccine to underinsured children by all enrolled providers. The present law limiting the provision of VFC vaccine to the underinsured to Community Health Centers has resulted in the expenditure of limited State and 317 funds to meet the needs of this group. The \$3 million reduction in Section 317 funds from (FY) 2003 to (FY) 2004 and as recommended in the President's budget for (FY) 2005 will damage immunization efforts. Additional funds are needed to ensure that all states provide pneumococcal conjugate vaccine (PVC-7) in their immunization programs. Virginia along with 18 other states currently does not provide this vaccine. Additional funding is also needed to cover the pediatric influenza vaccine recommendations.

CDC leadership

Lastly, I would like to comment on the commendable leadership provided daily by CDC and during any infectious disease outbreak response. VDH depends on CDC for rapid, clear and concise communication and guidance. This communication is provided to the

state through conference calls, their continuously updated Web site, and publications such as the Morbidity and Mortality Weekly Report. CDC guides public health policy and provides a model for the creation of certain guidance documents needed at the state and local level. In addition, CDC provides routine and accessible updates on information during public health events as it becomes available and is a ready resource to States through their emergency operations center.

In closing, I wish to thank Congress for the preparedness funding it has provided in the last two years. It has been essential for the rebuilding of our public health infrastructure, but this cannot be seen as a short term investment. Decades of neglect of our nation's public health infrastructure make continued federal investments necessary. We are ready and eager to address any public health emergencies that emerge in the coming years, but we are looking to you to help ensure that we have the resource needed to protect the health of our citizens.

Thank you for this opportunity to speak with you today. I would be pleased to answer any questions you may have.

Appendix:

House Committee on Government Reform questions regarding influenza season and the Nation's preparedness to handle major public health threats.

- 1) What established planning procedures were in place at the state level to handle this year's influenza season or other communicable disease outbreak? Did state health officials need to take any additional actions or procedures to respond to the recent influenza season?

Answer: Local health districts predicted* flu vaccine needs and pre-ordered supply in January 2003. Vaccine was received and distributed to all health districts and VFC providers by mid-September.

As vaccine supply became depleted, the state health department rapidly identified under-utilized vaccine inventory and redirected supply to areas where needed.

VDH contacted CDC to gain authorization to redirect unused VFC flu vaccine to non-VFC eligible patients. In addition, VDH had to quickly change its recommendations to target the most high-risk patients.

- 2) What approach are state health officials taking to educate the general public on influenza and vaccines or major public health threats? Have the recommendations the CDC have developed to prevent the transmission of influenza and other disease outbreaks proven to be effective?

Answer: In Virginia, an extensive public awareness campaign has been underway to educate citizens about potential public health threats. VDH had an aggressive campaign to educate citizens about protecting against influenza by getting the flu shot. In addition, VDH has distributed information about public health

emergency preparedness to citizens through newspaper supplements, press release, media interviews and the Web.

CDC recommendations have been instrumental in educating and updating providers and sending one clear concise message. However, our vaccine campaign efforts were undermined when the supply was inadequate.

- 3) Which procedures were effective in preventing the spread of influenza among people who came into close contact with infected patients? Have you discovered any gaps in state planning and preparedness for an epidemic of a communicable disease?

Answer: Vaccination of the public prior to flu season is the best protection against influenza. Once flu vaccine was not available, VDH aggressively recommended respiratory etiquette tips, such as frequent hand washing, coughing into tissues, and staying home when sick.

The planning and preparedness gaps identified this year include our ability to handle patient surge capacity, the need for an enhanced healthcare provider alert system, and vaccine re-distribution procedures. Another challenge is the flow of useful and accurate information among federal, state and local agencies.

- 4) What are the potential resource needs of state public health systems for responding to communicable disease outbreaks, particularly airborne diseases and influenza? Does our Nation's public health system currently have the necessary resources to respond adequately to this type of public health threat?

Answer: Public health and hospital systems need a highly qualified and trained workforce in order to respond to communicable disease outbreaks. In addition, we need reliable and redundant communication technologies to support our response to any event. In Virginia, our public health system has made significant progress towards having adequate resources to respond to public health threats, but continued federal support of those resources through grant funding is needed to maintain this progress.

- 5) Has the federal government provided state jurisdictions with adequate guidance for planning and preparedness activities? Additionally, have federal, state and local jurisdictions developed mechanisms to evaluate and share best practices and strategies?

Answer: The CDC guidance on planning for pandemic influenza is good, but is still in draft form and has been for years. A pandemic influenza planning checklist developed by the ASTHO has also provided a basis for state response plans. More communication with the public and private healthcare community is needed to ensure the workforce is aware of the state's pandemic influenza plan and the implications of its contents. Further training on the plan and exercising the roles of each individual are also essential. In Virginia, best practices and evaluation procedures have been developed as a result of experiences from

Hurricane Isabel and our state exercise. Those best practices and lessons learned are being implemented into our plans and distributed to our partners.

- 6) What does our public health system's response to and readiness for the 2003-2004 influenza season say about the overall ability to respond to a pandemic?

Answer: The limitations of vaccine supply, the production process and the lack of flexibility within production process once a viral shift situation is identified all will make it very difficult to effectively respond to pandemic influenza. Although what is encouraging is that the public health system has proven this past year it can respond to the constantly changing dynamics of any situation if given the resources necessary.

- 7) Currently, how many states have developed an influenza pandemic plan? What is the status of these plans? What concerns exist at the state level regarding the federal role in funding and improving preparedness?

Answer: Since June 2002, Virginia has had an influenza pandemic plan. But in order to effectively implement the plan we need to continue our training, exercises and updating our plans. The biggest concern for state's regarding the federal role in funding is that level funding over a sustained period of time is necessary in order to keep public health agency's prepared and ready to respond.

- 8) What difficulties did state health officials experience in procuring influenza vaccines this year? How did state health officials handle the vaccine shortage? What steps and procedures can be taken now to avoid a shortage during the 2004-2005 year's influenza season?

Answers: The major difficulty in procuring flu vaccine this year was simply that there was not enough vaccine produced to meet demand. Virginia handled the vaccine shortage as best we could by ensuring that unused doses were identified and redistributed and that the restriction on unused VFC vaccine was lifted. Avoiding shortages again next year will require the production of more vaccine and the ability to response to changes in vaccine demand. The federal government needs to work with manufactures to manage the economies of scale issue that could arise if producing more vaccine results in un-purchased vaccine. In addition, we need more manufactures of injectable vaccine and existing manufactures need to be encouraged to maximize production.