



**Testimony
Committee on Foreign Affairs
Subcommittee on Africa and Global Health
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**U.S. Global Health Response to a Novel
2009-H1N1 Influenza Virus**

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Good morning, Chairman Payne, Ranking Member Smith and other distinguished members of the Committee. I am Dr. Anne Schuchat, Acting Deputy Director for Science and Program at the Centers for Disease Control and Prevention. I thank you for the opportunity to update you on current global efforts the U.S. government is taking to respond to the ongoing novel 2009-H1N1 influenza outbreak. Our hearts go out to the people in the United States, in Mexico, and around the globe who have been directly impacted. We share the concern of people around the country and around the globe; and are responding aggressively at the international, federal, state, and local levels to understand the complexities of this outbreak and to implement control measures.

However, I would like to first take a moment to recognize that our nation's current preparedness for both domestic and global public health threats is a direct result of the support of the Congress. In addition to the support for pandemic preparedness and planning, investments that this Committee has supported have been critical. This outbreak is a stark reminder that global public health is inextricably linked with the public health of the American people and investments in global public health have a direct benefit on our own public health.

Congressional investment in global public health programs such as the President's Emergency Plan for AIDS Relief (PEPFAR) and the President's Malaria Initiative (PMI), and international pandemic influenza preparedness plans has strengthened our global outbreak response efforts. These and other programs have improved health systems throughout the world by building capacity at ministries of health, strengthening disease detection, surveillance, response, and lab capacity, improving sustainability of public health programs, and training and deploying health professionals on the ground. As a result we are better equipped and prepared to handle these new and emerging outbreaks. For that, we thank the Committee and the Congress for your support.

It is important for all of us to understand that flu viruses – and outbreaks of many infectious diseases -- are extremely unpredictable. As with any public health investigation, our response has evolved as our investigation proceeds and we learn more about the situation. We have seen an increase in the number of cases and the number of states affected, and we can expect more. We are carefully monitoring the severity of illness caused by this virus – and while preliminary evidence is encouraging, we understand that this, too, could change. Our goal in our daily communication – to the public, to the Congress, and to the media – is to continue to be clear in what we do know, explain uncertainty, and clearly communicate what we are doing to protect the health of Americans. It has also been a clear priority to communicate the steps that Americans can take to protect their own health and that of their community. As we continue to learn more, these communications and our guidance to health care providers, schools, businesses, and the public has changed and will continue to evolve.

Influenza arises from a variety of sources; for example, swine influenza (H1N1) is a common respiratory disease of pigs caused by type A influenza viruses. These and other animal viruses are different from seasonal human influenza A H1N1 viruses. As you know, from laboratory analysis performed at CDC, we have determined that there is a novel 2009-H1N1 virus circulating in the U.S. and around the world that contains genetic pieces from four different virus sources. This particular genetic combination of H1N1 influenza virus is new and has not been recognized before in the United States or anywhere else worldwide. Additional testing is being done on the virus, and several isolates have undergone complete genetic sequencing. As a result

of our investment in pandemic preparedness, we have been able to move within two short weeks to identify a novel virus, understand its complete genetic characteristics, and compare the genetic composition of specimens from US patients to others around the globe to watch for mutations. We have also quickly developed and (working with FDA) deployed test kits for use in a widening network of laboratories. These steps, along with capacity in place as a result of effective planning, have allowed for the rapid diagnostics and epidemiology that have contributed to a clearer understanding of the transmission and severity of illness caused by the virus. These scientific accomplishments have provided the basis for an evolving set of responses that greatly enhance our nation's ability to address this threat.

CDC has determined that this virus is contagious and is spreading from human to human. It appears to spread with similar characteristics as seasonal influenza. Flu viruses are thought to spread mainly from person to person through coughing or sneezing of people with influenza. Sometimes people may become infected by touching something with flu viruses on it and then touching their mouth or nose. There is no evidence to suggest that this virus has been found in swine in the United States, and there have been no illnesses attributed to handling or consuming pork. In addition, the World Health Organization, the World Organization for Animal Health, the Food and Agriculture Organization, and the World Trade Organization have made it clear that there is no evidence that one can get this novel 2009-H1N1 influenza from eating pork or pork products. Of course, it is always important to cook pork to an internal temperature of 160 degrees Fahrenheit in order to ensure safety.

I want to reiterate that as we look for cases, we are seeing more cases. We fully expect to see not only more cases, but also more cases of severe illness. We have ramped up our surveillance around the country to try and get a better understanding of the magnitude of this outbreak. As we look to the future, we will be looking carefully (and are already providing assistance) to countries in the Southern Hemisphere where peak flu season is now beginning; both to help them respond, and for clues about the direction of this epidemic.

Let me provide for you an update in terms of the public health actions that are underway in the United States and abroad.

GLOBAL RESPONSE

On the investigation side, we are working very closely with public health officials around the world. As of May 3rd, CDC has deployed 16 staff to Mexico including experts in influenza epidemiology, laboratory, health communications, emergency operations including distribution of supplies and medications, information technology and veterinary sciences. These teams are working under the auspices of the Pan-American Health Organization / World Health Organization (PAHO/WHO) Global Outbreak Alert and Response Network and a tri-lateral team of Mexican, Canadian and American experts. The teams are working to better understand the outbreak, including clinical illness severity and transmission patterns, and answer critical questions such as why cases in Mexico initially appeared to be more severe than those that were first seen in the US. CDC's Emergency Operations Center is hosting liaisons from PAHO, the European Centre for Disease Prevention and Control (ECDC) and the China CDC to facilitate

coordination and collaboration. In addition, health communications support is being deployed to Guatemala.

We're providing both technical support on the epidemiology as well as laboratory support for confirming cases. We are also assisting Mexico to establish more laboratory capacity in-country; a critical step in identifying more cases on which to base our epidemiological investigation into the spread and severity of this new virus.

I would also like to use this opportunity to discuss CDC's Global Disease Detection Program, commonly known as GDD, which has not only been vital in dealing with the current situation but has also laid a foundation for the US to respond to infectious disease outbreaks globally. Established by Congress in 2004, GDD develops and integrates epidemiologic, laboratory, surveillance, veterinary, medical, and public health programs and resources. This integrated approach reduces the time it takes to identify and control public health risks. By working together, these programs are achieving greater results than any one program could alone. In coordination with a network of partners, GDD works globally within six core capacities: 1) Identifying and responding to emerging infectious diseases, 2) Improving pandemic influenza preparedness and response, 3) Strengthening capacity for zoonotic disease investigation and control, 4) Expanding training in field epidemiology and laboratory methods, 5) Focusing on health communication and information technology, and 6) Strengthening laboratory systems and biosafety.

GDD's Regional Center in Guatemala is providing evidence that this new virus is expanding south of Mexico. It is also serving as a regional laboratory for influenza A testing and is processing samples from suspected cases and identifying those that need further investigation, including additional testing at CDC laboratories. Other GDD Centers in Kenya, Thailand, Kazakhstan, Egypt, and China have increased their surveillance and laboratory testing activities for respiratory diseases and influenza-like illnesses and are sharing valuable surveillance information for those illnesses. These GDD Centers are also providing regional leadership.

Many countries lack the resources and health infrastructure to meet the World Health Organization's International Health Regulations (IHR), designed to develop the capacity and systems to detect, contain, and report health threats with the potential for international spread. GDD helps to close this gap by building and linking public health assets globally to contain emerging disease threats to support the WHO and uphold the IHR. Our six GDD Regional Centers function as members of the Global Outbreak Alert and Response Network during emergencies. When a CDC field response is indicated, the GDD Operations Center assists through access to CDC and world-wide resources. In non-emergency settings, the Centers work with country partners to implement disease detection and response trainings, protocols, and interventions.

In addition to GDD, in partnership with other agencies including USAID, CDC funds more than 30 countries in pandemic preparedness to improve countries abilities to detect and respond to pandemic influenza. Those investments have made us better prepared for an influenza pandemic than at any other time in history; though as always we have much more work to do.

CDC has over 2000 staff in more than 45 countries including contractors and locally-employed staff. These staff work side by side with staff of ministries of health to increase their public health capacity including high quality, sustainable laboratory infrastructure that is key to rapid detection and response to emerging infectious diseases. Over the past several weeks, CDC staff have been called upon repeatedly by embassies and ministry of health to provide emergency response leadership and coordination.

CDC's Global Health and Emergency Risk Communication Team is also responding to ongoing global requests for communication assistance, and providing daily updates, talking points and emergency risk communication materials to WHO, its regional offices, CDC field offices and counterparts in the Mexican and Canadian governments as requested.

In response to the current H1N1 situation, CDC is providing its real-time PCR protocol and kit for detection and characterization of swine influenza free of charge to any public institution anywhere in the world, and is providing laboratory testing of specimens which are not able to be characterized in their country of origin.

In addition to our close collaboration with WHO and affected country governments, CDC is working closely with other US government agencies. In this international response, we are working closely with the Department of Defense, Department of State and USAID. CDC has had staff assigned as a liaison to USAID working first specifically on influenza planning and now on response, and staff within CDC's Emergency Operations Center are in daily contact with USAID experts in Washington. Finally, CDC overseas field staff are sharing information and working closely with our embassies and USAID missions overseas in terms of preparedness and response in their host countries. As an example of our collaboration, CDC is hosting a visit tomorrow from our partners in the Department of State and USAID to discuss this outbreak.

In terms of travel advisories, CDC continues to evaluate incoming information from WHO, PAHO, and other governments to determine the potential impact of the outbreak on international travel. On Monday, April 27th, CDC issued a travel health warning for Mexico, and this remains in effect. With this warning, we recommend that travelers postpone non-essential travel to Mexico for the time being. CDC is also evaluating information from other countries and will update travel notices for other affected countries as necessary. As always, persons with flu or flu-like symptoms should stay at home and should not attempt to travel.

DOMESTIC RESPONSE

CDC has and will continue to develop specific recommendations for what individuals, communities, clinicians, and others professionals can do. It is important that people understand that there is a role for everyone to play during an outbreak. At the individual level, it is important for people to understand how they can prevent respiratory infections. Very frequent hand-washing is something that we talk about time and time again and that is an effective way to reduce transmission of disease. If you are sick, it is very important to stay at home. If your children are sick, have a fever and flu-like illness, they should not go to school. And if you are ill, you should not get on an airplane or any public transport to travel. Taking personal responsibility for these things will help reduce the spread of this new virus as well as other

respiratory illnesses.

The path of this outbreak may change; and we need to be prepared for a return of this virus in the fall. It is important that we (in partnership with state, local, tribal, and territorial officials) continue to think about what might be needed if this outbreak deepens in communities across the US. We have encouraged communities, businesses, schools, and local governments to make specific plans for how to manage this outbreak if cases appear in their communities, and advised parents to prepare for what they would do if faced with temporary school and child care center closures.

We also have additional community guidance so that clinicians, laboratorians, and other public health officials will know what to do should they see cases in their community. All of these specific recommendations, as well as other regular updates, are posted on the CDC web site – www.cdc.gov.

We continually monitor the path and severity of this outbreak, and have adapted our guidance accordingly. We are mindful that science is a critical component in decision-making about how communities respond – and that there are many other considerations that communities must evaluate in making appropriate decisions.

We will continue to provide support to states and communities throughout this outbreak. In addition to the epidemiologic and laboratory support that CDC provides, CDC maintains the nation's Strategic National Stockpile of medications that may be needed for this or other outbreaks. As part of our pandemic preparedness efforts, the US Government has purchased extensive supplies of antiviral drugs -- oseltamivir and zanamivir – for the Strategic National Stockpile. Laboratory testing on the viruses so far indicate that they are susceptible to oseltamivir and zanamivir. Acting quickly after we identified this virus and its potential impact on our population we have released one-quarter of the states' share of antiviral drugs and personal protective equipment to help them prepare to respond to the outbreak, and exercising emergency use authorities to facilitate their effective use. As of Sunday, May 3rd –within weeks of a new virus having been identified – this deployment of the stockpile was completed for all states and areas. Last week the Secretary announced that HHS will purchase an additional 13 million treatment courses of antiviral drugs which will more than replace those that have been dispensed from the SNS. States also have purchased millions of additional treatment courses of antiviral drugs with support from an HHS subsidy program.

Whenever we see a novel strain of influenza, we begin our work in the event that a vaccine needs to be manufactured. The CDC is working to develop a vaccine seed strain specific to these viruses – the first step in vaccine manufacturing. This is something we often initiate when we encounter a new influenza virus that has the potential to cause significant human illness. We have isolated and identified the virus and discussions are underway so that should we need to manufacture a vaccine, we can work towards that goal very quickly. HHS discussions to consider the needed pathways to provide rapid production of vaccine after the appropriate seed strain has been provided to manufacturers are currently ongoing. As this progresses, HHS operating divisions and offices including CDC, NIH, FDA, and ASPR/BARDA will work in

close partnership. Additionally, as a WHO Collaborating Center, CDC provides influenza vaccine seed strain, at no cost, to vaccine manufacturers.

That said, returning to global public health for a moment, in resource-limited settings, such a new vaccine is not likely to be widely available. This situation will require coordinated planning and efforts across the US Government and with other international and private sector partners to leverage new and existing global health resources to implement local community mitigation measures and provide other supportive measures as needed.

CONCLUSION

In closing, we are simultaneously working hard to understand and control this outbreak while also keeping the public and the Congress fully informed of the situation and our response. We are working in close collaboration with our federal partners including our sister HHS agencies and other federal departments, including those that have unique expertise that helps us provide guidance for multiple sectors of our economy and society, as well as our international partnership with WHO and ministries of health. While events have progressed with great speed, this will be a marathon, not a sprint. Even if this outbreak yet proves to be less serious than we might have initially feared, we can anticipate that we may have a subsequent or follow-on outbreak several months later down the road. Steps we are taking now are putting us in a strong position to respond.

The Government cannot solve this alone, and as I have noted, all of us must take constructive steps. If you are sick, stay home. If children are sick, keep them home from school. Wash your hands. Take all of those reasonable measures that will help us mitigate how many people actually get sick in our country.

Finally, it is important to recognize that there have been enormous efforts in the U.S. and abroad to prepare for this kind of an outbreak and a pandemic. The Congress has provided strong support for these efforts. Our detection of this strain in the United States came as a result of that investment and our enhanced surveillance and laboratory capacity are critical to understanding and mitigating this threat. While we must remain vigilant throughout this and subsequent outbreaks, it is important to note that at no time in our nation's history have we been more prepared to face this kind of challenge. As we face the challenges in the weeks ahead, we look forward to working closely with the Congress to best address this evolving situation.