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THE ROLE OF U.S. AGRICULTURE IN THE CONTROL AND ERADICATION OF AVIAN INFLUENZA

HEARING

BEFORE THE

COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

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THE ROLE OF U.S. AGRICULTURE IN THE CONTROL AND ERADICATION OF AVIAN INFLUENZA

THURSDAY, NOVEMBER 17, 2005

U.S. SENATE,
COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY,
Washington, DC.

The committee met, pursuant to notice, at 10:03 a.m., in room SR–328A, Russell Senate Office Building, Hon. Saxby Chambliss, chairman of the committee, presiding.

Present or submitting a statement: Senators Chambliss, Talent, Coleman, Harkin, and Stabenow.

STATEMENT OF HON. SAXBY CHAMBLISS, A U.S. SENATOR FROM GEORGIA, CHAIRMAN, COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY

The CHAIRMAN. The committee will come to order.

I want to welcome you all this morning to this hearing to consider the Role of U.S. Agriculture in the Control and Eradication of Avian Influenza.

I appreciate our witnesses who have traveled here today to present testimony on this important topic, and I welcome and thank those who are listening via our website.

The topic before us today is important to all of American agriculture, but holds particular significance to my home State of Georgia. Poultry is our largest agricultural industry, and the State of Georgia leads the Nation in poultry production. In fact, if the State of Georgia were a country, it would be the fourth largest producer of poultry in the world. In 2004 the total farm value of poultry and eggs produced in Georgia was 3.26 billion, and the statewide economic impact of the overall poultry industry was an estimated $13.5 billion.

In addition, Atlanta, Georgia is the home to the Centers for Disease Control and Prevention, which plays a critical role in protecting human health against disease threats such as avian influenza, and Athens, Georgia is the home of the Department of Agriculture Southeast Poultry Research Laboratory, which conducts critical research on avian diseases.

My interest in this topic is understandably high, not only for the Georgia poultry industry, but for the U.S. poultry system.

Recent media reports have discussed avian influenza and what many in the media have called an impending pandemic. While there is legitimate concern, there has also been a great deal of con-

fusion and misinformation. We must be clear: avian influenza is first and foremost an animal disease. The current outbreak in Southeast Asia and parts of Europe is affecting poultry and a limited amount of humans that have been in direct contact with infected animals. The virus has not yet demonstrated the ability to efficiently pass directly from human to human, and it is not clear at this time if this avian influenza virus will ever mutate to allow for a human pandemic, but the potential does exist. As such, it is very important that we pursue a sincere yet cautious approach in preparing to address potential outbreaks, both here and abroad.

The most effective way to combat a potential pandemic is to control and eradicate the virus in poultry before it has a chance to negatively impact humans. It is my hope that this hearing today will help the members of this committee and the public to better understand the topic and how it may impact U.S. poultry production.

We are privileged to have before us today some of the top experts on avian influenza, along with producers and processors with real-world experience. I hope they will help us cut through the noise and understand where we should and where we should not be focusing our concerns. One especially important point relates to the role of U.S. poultry in any future potential avian influenza outbreak. As I understand it, there is a great difference between the mostly weak strains of avian influenza occasionally found in U.S. birds, and the more potent H5N1 strain that is causing concern in Asia and Europe, a strain that has never been identified in the U.S.

In addition, it is my understanding that U.S. public health officials do not see U.S. poultry as a likely source of any significant potential human avian influenza outbreak. Rather, it seems that the travel of humans from affected areas to the U.S., not our domestic poultry, is what we most need to keep our eyes on. I look forward to clarifying that point today.

Second, I think it is important that we hear more about the safety and the biosecurity efforts of the Federal Government and the U.S. poultry industry. In recent conversations with USDA and industry officials, I have been encouraged to learn of all the measures that are taken to isolate U.S. commercial poultry from any diseases carried by wild bird populations. That is an important distinction between U.S. poultry production and the production systems in Asia. I look forward to hearing more about that topic as well.

As we move toward the Thanksgiving season, we are again mindful of all the ways that this Nation has been so blessed. The security and abundance of our food supply should certainly rank highly among those blessings. However, despite all the hard work and science-based measures that make U.S. poultry the safest in the world, we are always striving to do better. I hope that through this exchange today we can reassure consumers regarding the safety of U.S. poultry, and identify any additional actions that may be needed to further enhance the safety and wholesomeness of this important component of the U.S. food supply.

Again, I thank our witnesses for being here today, and I look forward to their testimony.

Our first panel today consists of Dr. Ron DeHaven, Administrator, Animal and Plant Health Inspection Service from the U.S. Department of Agriculture. Dr. DeHaven has been a leader in the area of animal disease, and, Dr. DeHaven, we certainly look forward to hearing from you this morning.

Also on the first panel is Dr. Julie Gerberding, Director, Centers for Disease, Control and Prevention, U.S. Department of Health and Human Services, headquartered in Atlanta. Dr. Gerberding has been at the forefront of any number of issues in her tenure as head of the CDC. She does just a wonderful job down there. She happens to be a very good personal friend, and somebody that I have great respect and admiration for with the job that she has done addressing the more difficult issues facing health care around the world, not just in the United States, certainly not just in Georgia, but literally around the world. Dr. Gerberding, we are glad you are here this morning also.

We will at this time hear from Dr. DeHaven. Any members, Senator Stabenow, that wish to make an opening comment, you have that opportunity right now or we can go straight to Dr. DeHaven.

STATEMENT OF HON. DEBBIE STABENOW, A U.S. SENATOR FROM MICHIGAN

Senator STABENOW. Mr. Chairman, I would just thank you very much for this hearing. I look forward to hearing from our witness today. Obviously, this is a critical issue, and we have talked about it from a public health standpoint, but not as much from an economic standpoint, and we need to be doing both.

My home State, Michigan State University, is very much involved as one of the leaders as it relates to what we need to be doing, and I welcome both of you to be with us today, and think that there is a lot we have to do.

[The prepared statement of Senator Stabenow can be found in the appendix on page 35.]

The CHAIRMAN. Thank you.

Dr. DeHaven, we look forward to your comments.

STATEMENT OF RON DEHAVEN, DVM, ADMINISTRATOR, ANIMAL PLANT AND HEALTH INSPECTION SERVICE, U.S. DEPARTMENT OF AGRICULTURE, WASHINGTON, D.C.

Dr. DEHAVEN. Mr. Chairman and members of the committee, thank you for the opportunity to testify regarding the Department of Agriculture's extensive efforts to protect the United States poultry from avian influenza.

In recent months, as you indicated, a highly pathogenic strain of H5N1 avian influenza virus has been spreading across poultry populations in several Southeast Asian and Eastern European countries. There have also been documented cases of the virus affecting humans who have been in contact, direct contact, with the sick birds. There is worldwide concern that this H5N1 virus might mutate, cross the species barrier, and touch off a human influenza pandemic.

It is with this in mind that USDA's poultry health safeguarding programs are more important than ever, and we have bolstered our

efforts across the board in response to the evolving disease threats from overseas.

We also believe that it is critical to effectively address the disease in poultry populations in these affected countries. Implementation of effective biosecurity measures in concert with control and eradication programs will go a long way toward reducing the amount of virus in these H5N1–affected countries, and thereby minimize the potential for this virus to spread to poultry in other parts of the world. These actions, if effectively implemented, would diminish the potential for a human influenza pandemic.

Last week I attended an international meeting on avian influenza, and I can report that there is indeed widespread concern regarding this disease, as well as a strong commitment to work through international organizations to address the disease and improve the animal health infrastructure in countries in the region. That is why it is imperative that the United States remains engaged and share resources and expertise with officials in these countries.

Here in the United States the National Strategy for Pandemic Influenza, announced by President Bush on November 1st, reflects the importance of these proactive measures on the animal health front. The President requested $91.35 million in emergency funding for the USDA to further intensify its surveillance here at home and to deliver increased assistance to countries impacted by the disease in hopes of preventing further spread of avian influenza.

With that introduction I want to touch on a few of the key points that I think will help to frame our discussion this morning. With regard to birds, avian influenza viruses are divided into two groups, low pathogenic AI or low path AI, as we say, and highly pathogenic or high path AI. Highly pathogenic viruses typically produce far more severe clinical signs and higher mortality in birds than the lower pathogenic avian influenza viruses.

Low path AI has been identified in the United States and around the world since the early 1900's. It is a relatively common finding to detect low path AI, just as human flus are a relatively common finding in people. However, most avian influenza viruses found in birds do not pose any significant health risks to humans.

Highly pathogenic avian influenza has been found in poultry in the United States three times, in 1924, in 1983 and again in 2004. The 1983 outbreak was the largest, ultimately resulting in the destruction of 17 million birds in the States of Pennsylvania and Virginia before the virus was finally contained and eradicated. In contrast, the 2004 outbreak was limited to a flock of 6,600 birds in Texas. That detection was fond very quickly and quickly contained and eradicated. There were no significant human health implications or reports of human health problems in connection with any of these outbreaks of highly pathogenic AI.

In domestic poultry the greatest concern has been infections with the H5 and H7 subtypes, which can be either highly pathogenic or low pathogenic. The low pathogenic H5 and H7 subtypes are always of concern because of their potential to mutate into the highly pathogenic form of the disease. Given these risks, APHIS safeguarding systems against avian influenza is robust, encompassing, among other things, trade restrictions on poultry and poultry prod-

ucts from overseas, anti-smuggling programs, aggressive targeted surveillance in commercial poultry operations, and the live bird marketing system in the northeastern United States, cooperative efforts and information sharing with States and industry, and outreach to producers regarding the need for effective, on-farm biosecurity measures.

The USDA and our partners, including the Department of Interior, have also been looking for signs of avian influenza in wild birds in the United States, particularly in the Alaska Migratory Bird Flyway. As we know, these birds can serve as a reservoir for the disease.

Our ability to respond to a detection of avian influenza is designed to be just as robust as our safeguarding system. For highly pathogenic AI, as well as for low path H5 and H7 subtypes, APHIS would work with States to quarantine affected premises and clean and disinfect those premises after the birds had been depopulated and properly disposed. Positive highly pathogenic AI flocks would be depopulated, and meat from the infected flocks would not enter either the animal feed or human food chains. Surveillance testing would also be conducted in the quarantine zone and the surrounding area to ensure that the virus has been completely eradicated.

On the trade front there is an important new world organization for animal health, or OIE, standard for avian influenza that obligates member countries to report any positive, notifiable avian influenza test result. This includes the reporting of all highly pathogenic avian influenza viruses as well as low pathogenic H5 or H7 subtypes that are detected in commercial poultry operations. The OIE does not recommend trade restrictions for non-H5 or H7 low pathogenic subtypes.

APHIS continues to work with its trading partners to promote application of this new OIE standard, and in the event of any avian influenza outbreak in poultry in the U.S., we would, of course, work to control and eradicate the disease, and also to demonstrate to trading partners that the measures put in place were effective in controlling and eradicating the virus. APHIS would then urge trading partners to regionalize the United States for the disease, effectively allowing for trade in poultry and poultry products to continue from the unaffected areas.

Even though no human cases of avian influenza had been confirmed from eating properly prepared poultry, I would still like to end by reinforcing a few key food safety messages. These are especially important as we look forward to the Thanksgiving holiday. The proper handling and cooking of poultry provides protection from all manner of viruses and bacteria, including avian influenza.

Important food safety steps include washing hands, utensils and surfaces that have come in contact with raw poultry, fish and meats simply with warm soap and water. Avoid cross-contamination of other foods with raw meat, poultry, fish and their juices.

And of course, cook meat thoroughly and use a food thermometer. Cook ground turkey and chicken to a temperature of 165 degrees Fahrenheit, chicken and turkey breast to 170 degrees Fahrenheit, and whole birds, legs, thighs and wings to 180 degrees Fahrenheit. Obviously, never consume raw or undercooked poultry

or poultry products, and all meat products and other perishables should be refrigerated promptly after serving.

With that, Mr. Chairman, I will end my statement, but I do look forward to answering any questions that may come up.

Thank you again for the opportunity to testify before the committee.

[The prepared statement of Dr. DeHaven can be found in the appendix on page 38.]

The CHAIRMAN. Thank you very much.

Dr. Gerberding.

STATEMENT OF JULIE L. GERBERDING, MD, MPH, DIRECTOR, CENTERS FOR DISEASE CONTROL AND PREVENTION, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, ATLANTA, GEORGIA

Dr. GERBERDING. Thank you. As a citizen of the poultry capital of the world, we are very grateful for your leadership and your interest in this issue, Senator, and thank you very much for including CDC in this hearing.

Dr. Lonnie King is a veterinary scientist who is now with CDC, but he was the Dean at the Michigan State School of Veterinary Medicine, and he has been very instrumental in helping CDC create linkages to APHIS and the animal health kingdom, so we are increasingly understanding that to protect human health, we also have to be very engaged with animal health protection. I think it is great that we are here with the Agriculture Committee, and that is a step forward for health protection in a number of fronts in the future.

What I wanted to do is to give a context of where we are with the avian epidemic today, so that we can think ahead about what are the additional steps that we need to take to protect animal and human health.

I think point No. 1 is illustrated on this graphic, which is a timeline of epidemics that have occurred over the past century. Three large ones most people are familiar with: the Spanish flu epidemic, and two smaller ones. But the point here is that pandemics happen. They happen periodically, many times over the past centuries, and sooner or later it is very likely that we will have another pandemic whether or not it is a pandemic caused by this particular H5N1 avian virus.

On the next graphic I have presented a snapshot of where the outbreaks are today in Asia and Eastern Europe. We have active outbreaks in 11 countries right now. Most of the countries that have surveillance, have detected at least some infected birds at one time or another. And we have some countries such as Burma or Malaysia where we have very little information about the status of infection in poultry, and because they lack surveillance systems and transparency, we are unable to really predict what the true state of affairs is in Asia.

I was able to travel to Asia with Secretary Leavitt in a U.S. delegation that included the Director of the World Health Organization, scientists from USDA and others, and we were impressed with the scope and magnitude of the challenge of containing this virus in birds in that region, in large part because of the cultural practices,

where you have the ducks and the migratory waterfowl that may be an important asymptomatic carrier of the virus, housed and transported to market next to the poultry that are used to provide a major source of protein and a major source of the economy in this region. There are people literally living in the water where these migratory birds are and having very close personal contact with infected animals.

The next graphic portrays, the point about how this disease is transmitted. This is a disease of birds, but people are exposed when they have intimate contact with the birds. One of the most compelling stories to me was a little boy who had a pet chicken in his yard, and the chicken acquired the H5N1 virus, and the little boy was nurturing the chicken, trying to bring it back to health, and of course he caught the virus from the chicken's droplets and died of a very, very severe case of this influenza. But it points out that it is the chickens that have the viruses, the ducks that have the virus, and that this is primarily a bird infection, not a people inflection, and you acquire it by having close contact with sick birds, not through the means that we would normally acquire influenza.

On the next graphic, just a reminder of the migratory bird flyways. We do not know if the H5N1 is going to move further than it already is traveling across Western Asia and into Eastern Europe, but certainly the overlapping flyways suggest that that could happen, and we need not be surprised if somewhere, someday, a bird carrying H5N1 enters the United States. We need to prepare people for this and have the confidence that APHIS and our Department of Agriculture and our Department of Interior are doing all the things that they need to be doing to protect our domestic bird populations, as well as the people who come in contact with those birds.

So the fear here is not arrival of a pandemic on the wings of a bird. It is here because of the potential for the virus to change and become more transmissible person-to-person. And as you pointed out in your remarks, Senator, it may be the arrival of a new virus strain from person-to-person transmission that we should be focusing our attention.

Where we are today in the WHO's list of steps that typically precede a pandemic. We have certainly seen widespread and spreading H5N1 infection in migratory and domestic birds with a broad host range.

We have checked off the box that indicates continued outbreaks among domestic poultry. These have not come and gone. They continue to crop up in the parts of the world that have these cultural practices that promote spread.

We know this virus can infect mammals and infect mammals with lethal infection, including cats, pigs; we have seen tigers in the zoos who are fed contaminated chicken meat, get sick and die, and the infection has high lethality.

We know the virus continues to evolve. The strain that we isolated from Vietnam and made the prototype vaccine to has evolved now into a new clade that has some different antigenic properties and may have some different biological properties.

We know this can infect humans, mostly young and healthy people, probably because they come in contact with the sick chickens. The case fatality rate is very high, and some recent work done in CDC's laboratories indicate that the reason for this is probably the virus itself. It has a very lethal configuration that causes a very severe invasion of the lungs, much like the 1918 virus that was so fatal in young and health people.

The box not checked here is the most important box. We have not seen sustained person-to-person transmission, although we have seen isolated cases where the virus has spread from one person to another, and it is the absence of that box that reassures us.

Finally, what is the big picture of the approach to dealing with this problem? I think the President spelled it out in his national strategy, and Secretary Leavitt has created a very comprehensive doctrine on our containment efforts.

First of all, we will assume that if there is a human outbreak anywhere, it is a threat everywhere, and we will proceed accordingly.

Second, if feasible, we will take every step to contain the problem. First and foremost, that is containment in animals as my colleague has pointed out. But if it emerges in people, we will act aggressively to quarantine, isolate, treat and prophylax anyone in the localized area of an outbreak that we can in an effort to quench the virus. If that proves to not be feasible, then of course we will move into a phase of trying to slow down its spread from one region to another or one community to another, and the antiviral and the vaccine production capability that the President has proposed and Congress has proposed are extremely important components of a broad pandemic preparedness, whether it is H5N1 or any other virus.

And finally, I think the most important issue here is the collaboration, communication and transparency. You are seeing evidence of how the Federal agencies are working together, and I think we are very proud of those connections, but we are also very actively engaged in collaborations with the World Health Organization, with the OIE and the FAO, with Ministers of Health and Ministers of Agriculture from around the world, and certainly business leaders, private sector leaders and citizens who have these concerns.

So with this network of preparedness, I think we have a good chance of being able to ward off a pandemic, and an excellent chance of being able to do more to contain this particular virus.

Thank you for your interest.

[The prepared statement of Dr. Gerberding can be found in the appendix on page 47.]

[The charts of Dr. Gerberding can be found in the appendix on pages 68-75.]

The CHAIRMAN. Thank you both for very strong statements and very informative statements.

Dr. Gerberding, there have been some recent press reports regarding the possible infection of individuals in Southeast Asia with the H5N1 virus. It is my understanding, from what you just said, and also, Dr. DeHaven, from what you said—and I want to make sure that this is absolutely clear—that there is no indication at this

point in time that there has been any human-to-human transfer of that virus. Is that correct?

Dr. GERBERDING. That is not entirely correct. There have been two or three examples where one person has transmitted the virus to another. In those cases it has been because of very close personal contact with a very sick and sometimes dying patient; so health care worker context or a family context where a family member is providing direct care to another family member. But we are convinced in the couple of cases that have been very thoroughly investigated that that has happened. It has not been efficient and it has not spread beyond those single next closest contact.

We would be worried if we saw person-to-person-to-person transmission. That would suggest that the virus was adopting to be more efficiently moved in that way.

The CHAIRMAN. There is a story in the Washington Post this morning where China has confirmed two bird flu cases. Does your office stay in contact with countries such as China regarding this situation?

Dr. GERBERDING. We are very pleased because we actually have one of our most senior scientists in China right now with the World Health Organization team, and she is investigating those cases alongside the Chinese scientists. So unlike previous situations, the Chinese asked for assistance early. They have opened up the scientific investigation to external experts and they have been very transparent in this particular province, in allowing us to understand what is going on. But we do believe that there have been three cases of avian influenza there, and the two deaths may not be officially reported yet, but we believe those are accurate reports.

The CHAIRMAN. Dr. DeHaven, I think I understand what you said is that if an outbreak of highly pathogenic avian influenza were to occur in the United States, our main priorities would be the swift identification, control and eradication of the disease. In order to effectively accomplish this goal, local, State and Federal authorities must pursue a coordinated detection and response plan. It is my understanding that APHIS is the lead agency in addressing a domestic outbreak of avian influenza, but that several other agencies are involved in a coordinated effort. Can you please describe how the detection and response plan for avian influenza is coordinated within the Department of Agriculture, and are you satisfied with the responsiveness and coordination from other Federal agencies to ensure the orderly and timely flow of information?

Dr. DEHAVEN. Mr. Chairman, thank you for the question. I think it is very timely in that APHIS has been dealing with avian influenza viruses for decades, and it is important to recognize that, given the context of the current H5N1 situation, that we in fact already have in place mechanisms for exclusion of avian influenza—if it does enter the United States—for early detection and rapid response, so we in fact have been in the avian influenza eradication business for decades.

Our response mechanism in fact is at the State level, where in any given State we have prepositioned people, prepositioned plans where our senior Federal veterinarian, our area veterinarian in charge, would work directly with the State veterinarian in co-directors in a State level response. We have created a animal laboratory

network. We currently have 36 State laboratories, for example, that have been trained to do PCR testing for avian influenza. So if we were to have a widespread outbreak, we would have the laboratory capacity needed for diagnosis. While our response would be at the State level, we virtually have that level of response in all States, so that we have the resources in unaffected States to divert toward those States that might be affected so that we can have a regional response.

FEMA has also recently identified an additional Emergency Support Function, No. 11, for food, agriculture and water, so just as all of the resources of the Federal Government would come to bear in a natural disaster, we similarly would have access to resources of all of the Federal Government in a widespread outbreak through this emergency support function for food, agriculture and water, in which APHIS is a lead agency. So I think we have a number of response mechanisms in place. We have had the opportunity to use those in real life situations very effectively, and we are constantly doing test exercises to test our preparedness.

The CHAIRMAN. Dr. DeHaven, you have certainly traveled extensively and dealt with any number of countries relative to this issue. What is your assessment of the veterinary capability of countries where this deadly strain of avian influenza is present and are there things that need to be done that are not being done?

Dr. DEHAVEN. I think it is prudent that we continue, as Dr. Gerberding has pointed out, to prepare for the potential for a human pandemic, and with the President's strategy there is lots of preparation that is ongoing. At the same time the President's strategy also provides resources for us to better attack the virus at its source, namely the birds, in countries that are affected with this particular virus. It would appear from the reports that I have received that in fact the ability of the various affected countries to respond varies greatly. Some countries in fact have the large commercial poultry operation capability, they have good veterinary infrastructure, and their ability to respond and eradicate this virus is quite good.

On the other hand, some of the lesser developed countries in fact do not have that infrastructure. Their commercial industry really is made up of individual producers who are raising poultry for their own consumption or very limited distribution of their product and they simply do not have the infrastructure. Part of what we need to do is work more effectively through international organizations and international partners to provide the expertise and to provide the resources to better attack this virus. Indeed, by reducing the virus load in affected countries, then we at the same time reduce the potential for this virus to mutate and become the pandemic virus that we are concerned about.

So again, I think the resources are there in the President's request for additional funding. Many of those activities that we would participate in internationally through international organizations would go toward just that effort, reducing the virus load in poultry in the affected countries.

The CHAIRMAN. Let me ask this question to both of you. You mentioned the funding that has been requested by the President.

In your opinion, is that level of funding adequate in the opinion of each of you?

Dr. DEHAVEN. I will address it from an animal health perspective. And indeed, there are some very important items in that strategy on the animal health side that would go a long way toward helping to reduce the threat. Of the $91.35 million that has been identified for the Department of Agriculture, for example, $8 million would be directed toward surveillance and diagnostic activities in wildlife, poultry and swine populations in the affected countries. We would envision placing consultants on a long-term basis in the affected countries, consultants that can provide expertise in diagnostics, in eradication and control efforts, in epidemiology.

So working collectively with the international community, with other like-minded countries who recognize the importance of attacking this virus at its source, but working through international organizations such as the WHO, FAO and OIE, we think that these resources collectively with those resources made available through the international community can go a long way toward reducing the virus load in those countries and reducing the potential for this to become a pandemic virus.

The CHAIRMAN. Dr. Gerberding?

Dr. GERBERDING. As a public health official who has struggled now for many years to try to deal with the problem of seasonal influenza and our vaccine shortages, I looked on these budget proposals for pandemic preparedness as amazing days in the history of public health, that we finally can imagine a situation where we could take the vaccine problem off the table, modernize the vaccine, build the production capability and rescue our vaccine manufacturers.

I also think it is important to recognize that what has been proposed as emergency supplemental investment comes on top of other money and resources that we are already spending, just as APHIS is already spending resources for influenza and pandemic preparedness, and we cannot look on it as a one-shot solution. It is going to take a sustained investment over time to really do this, but without the supplemental there is no way that we could make the kind of rapid-scaled progress that we need to achieve.

The last perspective, again from the public health domestic view, in a situation like this we are only as protected as the weakest link in our network, and that means that we have a shared responsibility with State and local health agencies, with health care organizations, with the business sector and with schools, and we have got to bring every single part of that network into our safety network to really deal with the problem of a spreading pandemic, particularly if it happened before we had a vaccine. So we really need to be using these investments and leveraging them to prepare the whole system, not just look at vaccine and antivirals.

The CHAIRMAN. I think you have in part answered my next question, which is, by having all this focus and attention right now on this particular strain of avian influenza in Southeast Asia and certain parts of Europe, are we distracting our attention away from other potential health threats that may be out there that could be an even bigger problem than this?

Dr. GERBERDING. From a human health perspective, I do not think so. Secretary Leavitt has pointed out several times how valuable these pandemic investments are in other ways. With these investments we will finally have a seasonal flu vaccine that could save 36,000 lives every year. We will have a surveillance network that will allow us to recognize and detect nationally and internationally when new viruses emerge, and we will have in some sense the peace of mind of appreciating that that is one set of threats that we have taken a giant step forward in being able to recognize.

I think a fourth component of that really is the intersection of animal and human health. I mean I just have to keep mentioning that so assertively because 12 out of the last 13 important new infectious disease threats in people have arisen from animals. So if we do not figure out how to connect our surveillance systems and how to work collaboratively in these infectious disease arenas, we will continue to have these emergences and these problems. So this pandemic environment gives us an opportunity to really create a new paradigm for human and animal health protection.

The CHAIRMAN. Last, because a week from today there are going to be folks all across America who are going to be eating poultry products, I want to make one thing absolutely clear, coming from two of the top experts in the world relative to this issue. Can you please tell the American people if there is a danger from avian influenza that could affect individuals who are going to be eating turkey, chicken and other poultry products next week? What do they need to do to make sure that there is no disease, whether it is this disease or something else, in their poultry products? Would both of you just comment on that for the record, please?

Dr. GERBERDING. Food safety generically is an important part of every household at holiday time or other time, and I think the common sense steps that my colleague pointed out in his opening testimony of attention to proper food preparation and the appropriate cooking temperatures, using a thermometer and just using the same common sense things that we practice at any time that we are focusing on food safety.

There is no special threat associated with eating turkey or chicken or any other good food on this holiday, and I hope everyone has a wonderful holiday time with their families.

Dr. DEHAVEN. I would just echo Dr. Gerberding's comment. First of all, we do have very good surveillance in place for the poultry in the United States, and there is absolutely no evidence that we have this Southeast Asian of H5N1 either in animals of humans in the United States, and indeed we have good surveillance looking for it. Even if it were here, simple good food practices, food sanitation practices in the kitchens are critical whether it is for avian influenza or any of the other bacteria that might represent a risk. So at the end of the day, there is no greater threat this Thanksgiving than any Thanksgiving with regard to avian influenza or other pathogens.

So I would hope that all Americans would feel comfortable enjoying the poultry over the Thanksgiving holiday.

The CHAIRMAN. Great.

Senator Harkin.

STATEMENT BY HON. TOM HARKIN, A U.S. SENATOR FROM IOWA

Senator HARKIN. Thank you very much, Mr. Chairman. I want to welcome our two witnesses, Dr. Gerberding and Dr. DeHaven, and thank you, Mr. Chairman, for having this hearing to take a look at the role of U.S. agriculture and this whole threat of a pandemic.

I do not think we have given enough attention to the threat of avian flu to agriculture. It is more highly likely that this will come to the United States via birds than humans because it is already widespread in flyways and can cross over from birds to poultry. I think avian flu in our poultry probably has the ability to instill a lot of fear in the American people, and that could be more devastating than the disease itself in poultry.

Obviously, for my State I have a great interest in this. We are the top producer of eggs. We are the 10th largest turkey producer. I know we have on our next panel, Gretta Irwin from the Iowa Turkey Federation to bring Iowa's perspective on this and how the industry is preparing for it. There is one other aspect, we are also the largest producer of hogs. And as Dr. Gerberding pointed out, avian flu has been found to cross over into swine, and the interesting thing about swine is swine can have both the avian flu and also human flu viruses can coexist in the same animal. So many experts have said that swine is sort of the mixing vessel that might lead to a pandemic since both of these can coexist in swine at the same time, transform it into a virus that can infect humans.

That may be a remote possibility right now, but, again, we need to buildup our surveillance capacity in general to make sure we keep on top of this.

The other point that I am concerned about is whether or not there is enough of, say with the Department of Agriculture and the Centers for Disease Control and Prevention, are you conversing, is there enough of a open system there so that you two are talking? I will have a question about that. I am concerned about the information sharing in both Department of Agriculture and the Centers for Disease Control and Prevention.

Mr. Chairman, I just ask that the remainder of my statement be made a part of the record.

The CHAIRMAN. Without objection.

[The prepared statement of Senator Harkin can be found in the appendix on page 34.]

Senator HARKIN. Dr. Gerberding, a couple of years ago I asked Under Secretary Hawks at a hearing here regarding the implementation of the national animal ID system if USDA was bringing in entities like the Centers for Disease Control for guidance, given that some animal diseases such as avian flu could someday cross over into humans. Under Secretary Hawks said they were open to comments from whomever, but was not seeking the CDC out while developing the animal ID system. This concerned me, so I followed up and wrote to then-Secretary Ann Veneman, and asked what USDA had done to seek out guidance from CDC. In response, a letter to me said there was ongoing coordination with agencies responsible for protecting public health and safety, including the CDC and Department of Homeland Security.

I guess I will just ask both of you. I will start with Dr. Gerberding. Are you aware of how frequently the USDA seeks out CDC's guidance while implementing an animal ID system, and what role has the CDC played to ensure that public health concerns are adequately addressed within this animal ID system?

Dr. GERBERDING. Senator, I am not familiar with the animal ID system, and I have not been involved in those conversations. But we do have a USDA scientist who physically works at CDC now. It is Tom Gomez, who is our USDA liaison, and he generally is the conduit that helps us connect those dots. This is a relatively new thing for us, so I will check.

Senator HARKIN. Let me ask Dr. DeHaven. Dr. DeHaven, how often do you consult with CDC?

Dr. DEHAVEN. As Dr. Gerberding mentioned, with Tom Gomez, one of our veterinary medical officers whose duty location is at the CDC in Atlanta, that dialog is ongoing on a daily basis involving animal ID and a number of issues. We can certainly check, Senator, in terms of what specific communication there has been and when with regard to animal ID, but I look at it as more of an ongoing dialog.

I can tell you though, for example, we both on the human health and animal health side are developing laboratory networks, networks that would need to communicate in the event of a disease outbreak situation that was zoonotic in nature, affecting both animals and humans, and through our linkages between those laboratory networks. So I think the communication is good. We recognize the need to continue to nurture that relationship and see it grow.

As Dr. Gerberding has pointed out, most of the new emerging disease threats are in fact zoonotic in nature. There is an animal and a human component. We recognize that communication is good, but needs to get better.

Senator HARKIN. I will ask a question. You might just respond on the record if you want later on, but does USDA's national animal identification plan, as currently envisioned, allow CDC to adequately coordinate and protect human health in the even of an animal disease outbreak if such a disease were to cross over to humans?

Dr. DEHAVEN. The network, as envisioned, would provide access to the Department of Agriculture for all of the disease tracking purposes that we need. To the extent that that information would be useful in a situation that also involved a human health component, I have no doubt that there would be that communication.

We can respond, Senator, for the record in terms of what formal discussions there have been as we develop the national animal ID system.

Senator HARKIN. I would like to follow up with that.

Two other questions. What is the current structure of animal disease surveillance in the U.S., Dr. DeHaven? I mean who is responsible?

Dr. DEHAVEN. The Animal and Plant Health Inspection Service is responsible for animal disease surveillance and——

Senator HARKIN. And you are in charge of that?

Dr. DEHAVEN. I am indeed, yes. We have created a National Surveillance Unit. In the past surveillance has been on a disease-by-

disease specific basis, so if we wanted to know about the prevalence of brucellosis in cattle, we have had a cattle brucellosis program. We recognize the need for a coordinated comprehensive surveillance program. Hence, the creation of this National Surveillance Unit. If we are taking a sample of blood from a swine, for example, and there is some concern about potential for swine to be affected with an avian influenza virus, then in fact let's use that sample for multiple disease purposes.

Senator HARKIN. What assurance can you give us that if a bird, a chicken, turkey, domestic duck, dies, that samples are taken of that to determine what it died of, that we would know right away whether or not it was caused by an avian flu?

Dr. DEHAVEN. We have a number of surveillance in place for poultry and other birds in the United States. Through our National Poultry Improvement Program virtually every breeding flock in the country is under surveillance. Any company that wants to export poultry to another country is required to test those birds of the birds from which that meat would be derived for avian influenza. We have required testing for birds going to our live bird markets in the Northeast, and hope to expand that to live bird markets everywhere else.

Because of the Exotic Newcastle disease situation a couple of years ago in the southwestern part of the United States, we have reached out to individual backyards of flocks. We have a network of laboratories that will do testing there.

I think it is also important to realize that this particular virus that is in parts of Asia and Europe, as well as any other highly pathogenic avian influenza virus, would be first notices because it does produce mortality. So our commercial industry, turkey, chickens, as well as the commercial duck industry, is acutely aware of any increase in mortality, any drop in egg production in laying flocks, and I feel confident that that kind of change would be quickly notice and diagnosed at one of our networks of laboratories.

Senator HARKIN. You have a high level of confidence that you would know rapidly.

Dr. DEHAVEN. Indeed. I think that situation in Texas in 2004 points that out, as we limited that outbreak to one flock.

Senator HARKIN. Right. In an article that the chairman referred to this morning, it said that China was getting ready to inoculate a billion birds. I do not know where they get all that vaccine. But you have how much, $18 million—well, it is 91 million for USDA avian flu prevention and control activities. If avian flu were to break out here, would that be a course of action we might want to take, like China is doing, to inoculate every chicken and turkey and domestic duck or whatever in the United States?

Dr. DEHAVEN. Senator, vaccination is one of the tools that we want to have in our toolbox. But if we were to have an outbreak of avian influenza, either low pathogenic or highly pathogenic, this H5N1 or another virus, our first course of action typically is going to be to depopulate, to eradicate that virus, rather than to vaccinate and control the virus.

Having said that, we do want to have vaccination as one of the tools. We currently have a bank of avian influenza vaccine, 40 million doses in the bank for just that purpose. Typically we would use

that vaccine to ring vaccinate, to try and contain an outbreak situation while we eliminated it. But typically because of trade implications of vaccination, as well as not wanting to live with the virus, our first course of action is to depopulate, to eradicate that virus completely. There may be instances where vaccination may be part of a broader eradication effort.

Senator HARKIN. You rely upon State veterinarians for a lot of your information, right, for surveillance?

Dr. DEHAVEN. We work in cooperation very closely with State veterinarians and State Departments of Agriculture, yes, sir.

Senator HARKIN. I just openly wonder if they have the funds they need in the State level to do an adequate job.

Dr. DEHAVEN. Some of the monies that are requested in the President's emergency funding request, $10 million in fact, would go toward additional cooperative agreements with the States. Of course we already have cooperative agreements in place with the States to help fund some of their activities in our disease programs.

Senator HARKIN. I see that $10 million.

Thank you very much, Mr. Chairman.

The CHAIRMAN. Senator Stabenow.

Senator STABENOW. Thank you, Mr. Chairman.

I am so pleased to hear that Dr. Lonnie King is working with you at CDC, and I know you are in good hands then with Michigan State represented.

A question on our emergency preparedness. Right now one of the questions that we have to resolve is to make sure that there is a clearly defined emergency preparedness plan with clear protocols relating to the Federal Government and the State Government. Do we have that now?

Dr. GERBERDING. What we have, first of all, is a national strategy that puts all of the components of Government on notice that they may have a role to play. Secretary Leavitt and CDC and others in the Department of Health and Human Services have the National Health Plan that was just presented a couple of weeks ago, which defines all of the components of preparedness that are necessary throughout our States and local communities.

What we are doing now is working directly with the leaders of those enterprises to translate sort of this hard copy of a plan into something that would actually operate in the context of an emergency, and Secretary Leavitt will be having a summit with leaders, and then we will be going out to communities all over the country to really translate a book of planning into some actual plans that make sense at the local level.

Senator STABENOW. So we are not there yet. So we are at a point where the intent is there, the statements about the fact the local communities and States may be involved and so on, but we are not there yet.

Dr. GERBERDING. What we have is the strategy, the doctrine. The roles and responsibilities have been clearly articulated, at least for the public health side of the house. But now we just have to get that knitted together in a network that does not have any gaps in it. That is a tall order, and we will do it as quickly as we can.

Senator STABENOW. Do you feel confident then that the State of Michigan, as an example, or any State, knows what their role is right now from the health standpoint?

Dr. GERBERDING. I hope they have read the plan, but we will be meeting. The State of Michigan has been invited to a summit with Secretary Leavitt and other leaders in the next couple of weeks, and we will be sitting down and walking through all of those roles and responsibilities in each element to be sure that the leaders really understand what we think needs to be done, and will learn something from that too because there are States that have already taken some important steps forward and we want to disseminate those advances that the leaders at the State and local level have already presented.

Senator STABENOW. What about from the USDA side of the equation?

Dr. DEHAVEN. We have in place in virtually every State a State level animal health emergency response organization. Most of what we accomplish in APHIS we do so in concert with the State Departments of Agriculture, so our State level response organization would be coordinated by the State veterinarian as well as our senior Federal veterinarian in each State. So whether it is preparation for an outbreak of avian influenza or foot and mouth disease or Africa swine fever, I think that we are well prepared.

Those State level response then would be coordinated regionally through our regional offices and then nationally. All of our employees are being trained in incident command systems, so I think that preparing for emergencies and in fact responding to emergencies is what we do.

We have taken our emergency plans and we are customizing them, if you will, for the specific threat that this H5N1 virus represents, so that I think we are prepared, but we want to make sure that our preparations include any unique requirements that might come from this particular virus.

Senator STABENOW. I understand that funds are being discussed as to States and also farmers directly in planning and becoming prepared. I am wondering are there currently available funds for on-farm biosecurity?

Dr. DEHAVEN. There are indeed, and I think that while we also re-partner with our State colleagues, we also partner very effectively with the poultry industry.

A couple of years ago, largely in response to an outbreak of Exotic Newcastle disease, another devastating poultry disease, we had a $4.4 million campaign called "Biosecurity for the Birds." It was directed at commercial poultry, but also backyard flocks, for the sole purposes of identifying that there are threats out there, educating producers as to what they might see if there a problem, and directing them to contact the appropriate officials, typically a State official, if they have a problem.

Part of the request that the President has made would include additional monies for outreach, but I think we could buildupon that Biosecurity for the Birds campaign that is already in existence and buildupon that.

I feel comfortable that the commercial industry in particular understands biosecurity. They understand that with a reservoir of

wild birds for avian influenza viruses, they are at threat all the time for the introduction of an unwanted pathogen. So by practicing good biosecurity, taking some very common sense easy measures to keep unwanted pathogens off the farm and out of the poultry houses, that they in fact have been very effective. There is certainly a heightened awareness right now with the current threat.

Senator STABENOW. One final question. Overall right now, do you feel prepared or how soon will you be prepared for what has been discussed here as a huge threat to us in terms of the kind of pandemic that we are talking about from a public health standpoint?

Dr. GERBERDING. I do not think any of us feel prepared for a pandemic at this point in time. I do not think anyone in the world is prepared for a pandemic right now. But we feel hope, and hope has come in the form of a lot of hard work that has been going on for several years, and certainly been escalating in the context of H5N1. But I think it has also been accelerated by the leadership, by the President's proposal, by Congress's awareness and willingness to take this seriously, to recognize the scope of investment that is necessary to accelerate what we are doing. And again, the single biggest advance, in my view, is the potential that we really will have a vaccine for flu that will ultimately allow us to take this problem off the table.

Senator STABENOW. The question is, though, how soon—I mean at this point it is great and I am hopeful, we are all hopeful, but are we fast enough moving on the track in providing the resources that we are going to be able to address what is coming?

Dr. GERBERDING. We hope we will have the resources we need. That has not happened quite yet. And we also recognize that even with those investments, we are not talking about something that is going to get fixed overnight. It will take several years to get the vaccine problem solved. It will take a couple of years to get an antiviral stockpile built up. We need new antivirals. We need a level of preparedness that is significantly beyond where we are today. But it is a big step, and I think we need to look on that as a challenge and make the very best use of these investments that we can.

Senator STABENOW. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Coleman.

Senator COLEMAN. Thank you, Mr. Chairman.

First, Dr. DeHaven, I understand the chairman asked a very pertinent question about Thanksgiving turkeys, and what folks know, we can all enjoy turkey over Thanksgiving. In your written testimony—I want to make sure I understand this—you indicate that no human case of avian influenza have been confirmed eating properly prepared poultry. And then you kind of go through a nice kind of litany of the right things to do, to cook the meat, poultry properly using proper temperatures, food thermometer check. Then you kind of go further then talking about always refrigerate perishable foods within 2 hours of taking it out of the refrigerator, et cetera, et cetera.

This issue of refrigeration, that is simply good food handling. That does not have to do with avian flu. In other words, once you kill it, if you have cooked it properly, you are not worried about if you do not chill it, refrigerate it. The issue is not about it regen-

erating, right, it is simply you do not want to get some other problem caused by improper handling of food.

Dr. DEHAVEN. You are exactly correct, Senator Coleman, the comments go toward just good food sanitation practices. This particular virus, all avian influenza viruses are quite susceptible to normal cooking temperatures, and so we are just espousing good food sanitation in the kitchen.

Senator COLEMAN. So it does not have any special regenerative qualities once you have killed the virus?

Dr. DEHAVEN. Absolutely not.

Senator COLEMAN. You indicated in response to my colleague's question about working with State veterinarians. Minnesota has a poultry industry that has a 25–year record of actively looking for various concerns including AI, specifically designed surveillance programs. Tell me, how USDA utilized lessons learned from existing programs? Are there things that we are doing on a State level that provides some insight or helping? I am just trying to understand the coordination between the stuff that appears to be working pretty solidly at the State level and what we are doing at the Federal level.

Dr. DEHAVEN. I am very proud of all of the accomplishments of APHIS in the disease, control and eradication front, and particularly with regard to some of our eradication of the introduction of foreign animal diseases. But I cannot say that in good faith without also recognizing that everything that we accomplish virtually in APHIS is done in concert with our State colleagues in the State Departments of Agriculture. So at the State level it is the State veterinarian working side-by-side with our Federal area veterinarian in charge that carries out all of our programs. Our emergency response mechanism is directed at the State level, here again directed by the senior Federal veterinarian and the senior State veterinarian in each State.

So the fact that we are now working with avian influenza, we have worked side-by-side in, in fact, avian influenza and Exotic Newcastle disease eradication efforts. This is just one more threat where we are working collectively to increase and bolster our ongoing efforts.

Senator COLEMAN. Dr. Gerberding, as Chairman of the Permanent Subcommittee, we did hearings on SARS and you came before us, and there was this great fear that SARS was going to be a pandemic and it did not happen. I note in the Reuters article that the Chinese Premier says, "In 2003 we defeated SARS. This will inspire us to victory over bird flu." What is the difference here? Did we miss something with SARS or did we overreact? Are we overreacting here? It is perhaps a two-part question. We have seen now cases, human cases. What is it going to take to trigger—how does this pandemic get triggered? It is already now in humans. What is going to happen that has not happened so far that we should really worry about?

Dr. GERBERDING. The feared change is that the virus itself will either evolve slightly and become more adaptable to person-to-person transmission, which is very inefficient right now, or as Senator Harkin pointed out, the avian virus would infect a swine or some mammal and that mammal would also be infected with regular

seasonal flu that already is easily transmitted person-to-person, the genes would be exchanged and we would end up with a hybrid that had the worst features of both. Those things have happened in the past, and we have no knowledge right now from a scientific perspective that would allow us to predict when and if they will happen again. We just know that it is possible, and that is why we are putting so much attention on this particular virus, hoping that this will not be the one that emerges, and that it will be some future virus that will give us more time to prepare for.

Senator COLEMAN. If you were in the habit of placing some odds, could you give us any measure of the possibilities; are we looking at something that is one in a million, or are we looking at something that is one in 30, one in 50?

Dr. GERBERDING. I wish I was a gambling woman, and I am not, and I really could not possibly speculate on the odds. I just know that it is not zero, and it is one of those dilemmas in public health where the statistical probability is either small or unknown, but the consequences are so enormous that we have to do what the Federal Government should do to prepare.

Senator COLEMAN. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Talent.

Senator TALENT. Thanks, Mr. Chairman, for this important hearing.

Dr. DeHaven, I am inclined to define success in this area as complete prevention, in other words, we just do not see a case of this in the United States. Would you agree with that?

Dr. DEHAVEN. Certainly.

Senator TALENT. I mean that is the ideal, that is success. Do you feel like the Department got enough of the President's proposal for money? I looked at it, and out of everything that he proposes, like 90 million—I do not want to be parochial on behalf of the Department—that just did not seem to me to be a lot of that funding. Did you get what you thought you needed? Maybe another way to approach that would be, discuss the top two or three things that you are doing to prevent this disease from reaching our poultry population, and if there was one area where you could get some money, of those two or three or four things, what would it be?

Dr. DEHAVEN. Senator Talent, I think we need to look at it in the context of what is already in place. We already have an animal disease emergency response mechanism in place. We already had an avian influenza program in place, and with a recent additional line item specifically for low pathogenic avian influenza, that infrastructure is what will help us in preventing the introduction, or should it be introduced, a response to any avian influenza virus, whether it be this H5N1 or any other virus.

We are currently going to, are in the process of bolstering our domestic program. We are going to increase wild bird surveillance in North America as well as in parts of Asia. That provides I think a very good early warning system.

But I think we need to do more in terms of attacking this virus at its source, specifically the birds that are being affected in the countries that have the virus. Part of what we would do would be to use the monies that the President is requesting to put in-country experts into those countries on a long-term basis to help them con-

trol and eradicate the virus, and do so in a way that is appropriate for the infrastructure and the industry in those specific countries. We need to work very closely in consultation not only with out public health colleagues within the United States, but work through organizations like the World Health Organization, the FAO and the OIE, who already have the contacts and the infrastructure in place, and so that the United States would be one country out of many participating in that international arena. So the monies that would be made available to the United States would only be part of the total resources available through the World Bank, through other developed countries, in attacking the virus at its source in those countries.

Senator TALENT. So what I am hearing you saying is that there already is an emergency response mechanism in place, which certainly ought to be your answer, because this is not the first potential disease that you have had to fight. You are pretty comfortable saying we need some more money for additional surveillance, and then beyond that you want to intensify your efforts to cut this off at the source.

Dr. DEHAVEN. That is a very good summation, and indeed, the resources that would be made available through the President's request for emergency funding allows us to do all of those things from enhancing domestic surveillance to working with the affected countries through international organizations to attack that virus at its source.

Senator TALENT. I am not going to argue with you about it, and I think that is actually comforting for you to believe that—yes, there is always more we can do, but this did not just spring on you, you have anticipated it and other things, and it is also good in the context of what we have had all said here, that our poultry supply is safe and people need have no concerns about that, precisely because we anticipate and prevent these kinds of outbreaks before they happen.

Dr. DEHAVEN. While I have no doubt about the safety of poultry in the United States, I think if we ever get to the point where we feel totally comfortable that we are prepared is a dangerous situation. We can always do more to prepare both domestically, and I think in this particular case there is more that we can do and will be doing to attack this virus at its source, and in doing so, we not only help those countries, we reduce the risk to the United States. There is always more that we can do.

Senator TALENT. Well, I will quote you, and I am sure we all will when we do our Thanksgiving interviews back home and we get the question, "Is the turkey safe?" And we will tell on your authority that it is, but that there is always more we are going to try and do. I appreciate your answers.

Thank you, Mr. Chairman.

The CHAIRMAN. Dr. DeHaven, from what I think we have gleaned from this, there is no question that the domestic poultry industry is healthy, but it appears that the easiest way that the domestic poultry industry could be infected is through the importation or smuggling of some bird into the domestic flock. Are you comfortable with the mechanisms that you have in place to prevent smuggling

from countries that have seen an outbreak of this particular strain, into the United States?

Dr. DEHAVEN. Mr. Chairman, we have taken a number of steps to address this particular situation. Back in 2003, when this H5N1 virus was first identified, we imposed restrictions on the importation of poultry, poultry products and birds from any affected countries. We put out alert to our colleagues in Customs and Border Protection to be especially vigilant, to look for poultry, poultry products from affected countries coming into the United States either accidentally or through smuggling type activities. We have a team of some 100 people within APHIS whose sole purpose is to look for smuggled product, and indeed, they have been looking specifically for poultry, poultry products being smuggled into the United States from affected countries, and indeed, they have in fact found some product that was being illegally brought into the United States.

I think we have all of those mechanisms in place. We have issued a number of alerts to our Customs and Border Protection colleagues. They are acutely aware of the situation, so I feel good that they are aware and addressing it as well.

To the extent that we can be comfortable, again, I am hesitant to say that we should ever feel comfortable. We need to be ever more vigilant and maintain our guard, particularly with regard to this new threat.

The CHAIRMAN. Likewise, Dr. Gerberding, are there appropriate methods in place from the standpoint of the CDC to prevent the introduction of disease into the United States from humans that may have contracted this disease in other parts of the world and travel to the United States?

Dr. GERBERDING. Senator, this is a very difficult challenge. This virus, if it is like regular flu, may be infectious before the individual has symptoms. So a person could actually be capable of spreading a flu virus to others that they come in contact with before they even recognize that they have it. Right now we have no evidence of this kind of sustained person-to-person transmission, so there are no travel advisories, no travel alerts, and no special precautions for returning people, other than advising people not to go to the wet markets and the poultry farms in the countries where the problem is in outbreak form.

But we are using the investments that Congress has made in our Global Disease Detection Program and our Quarantine Program to scale up our quarantine stations, so that at least if there was a sick passenger on a plane or someone recognized a potential case, that we would have the appropriate procedures and medical supervision at our airports and ports of entry to be able to help the problem.

In the last 2 years, because of our investments in global disease detection, we have been able to go from eight quarantine stations in United States airports to, I believe, 18 at this point in time. We will have 25 by the end of next year. We will have medical officers who have the knowledge and capability of quarantining a 747 full of passengers if that became necessary. We have been examining that and trying to scale this process for flu or any other problem, but it is very difficult.

That is why we are so concerned, that from the Secretary's doctrine the first step is to deal with the problem at its source in the birds internationally. The second step is if it does come more transmissible person-to-person that we collaborate with our international partners and do everything possible to quench it at its source by supporting access to antivirals, the technical support CDC has, the laboratory capability we have, and the overall public health infrastructure training and support that we can provide. So it is most important that we try to develop now in those regions that are lacking it so that we have at least a chance of seeing this as it emerges and can act aggressively there before it gets here.

There is no guarantee of that, and that is why we also have to prepare every community in this country to take the steps that it needs to take to do the same thing here in the domestic front, and that is a very, very big challenge.

The CHAIRMAN. Well, thank both of you again for being here today for this very informative testimony, and we look forward to staying in touch. If we continue to see other cases develop, particularly those cases that maybe move our way, we may want you to come back, and update us. But we thank you very much for being here today.

Dr. DEHAVEN. Thank you, Mr. Chairman.

Dr. GERBERDING. Thank you.

The CHAIRMAN. We will now move to our second panel, which is comprised of Dr. Don Waldrip, Director of Health Services, Wayne Farms, Oakwood, Georgia; Dr. Stan Kleven, who is a veterinarian. He is a Regents' Professor, College of Veterinary Medicine, University of Georgia, Athens; and Ms. Gretta Irwin, Executive Director, Iowa Turkey Federation, from Ames, Iowa.

Welcome to all three of you. We appreciate very much you being here today to provide additional information to the committee as well as to the American public about this very critical issue, and we look forward to your opening statements. Dr. Waldrip, we will start with you, and then Dr. Kleven and Ms. Irwin.

STATEMENT OF DONALD WALDRIP, DVM, DIPLOMATE, AMERICAN COLLEGE OF POULTRY VETERINARIANS, AND DIRECTOR, ANIMAL HEALTH AND LIVE PRODUCTION, WAYNE FARMS, LLC, OAKWOOD, GEORGIA, APPEARING ON BEHALF OF THE NATIONAL CHICKEN COUNCIL

Dr. WALDRIP. Chairman Chambliss and members of the committee, thank you for this opportunity to appear today on behalf of the National Chicken Council, which represents companies that produce, process and market about 95 percent of the chicken sold in the United States. I am Don Waldrip, Director of Animal Health and Live Production for Wayne Farms in Oakwood, Georgia.

Let me start by stating some facts that should be obvious, but somehow seem to get lost in the media hype and coverage, for the possibility of a worldwide flu pandemic.

First and most important, the H5N1 highly pathogenic strain of avian influenza, referred to as Asian flu, does not exist in the United States, and has never been present in chickens in this country. Avian influenza virus, capable of causing a pandemic with sustained human-to-human spread is not known to exist anywhere in

the world today. If the disease should enter the United States, it would be quickly detected through testing and surveillance. Disease would be eradicated by isolating the affect flocks, destroying all birds in the flock, and testing all birds in a controlled area.

Finally, if the H5N1 virus, now in Asia and Eastern Europe, should change and evolve sufficiently to become a direct threat to humans in the United States, it is logical to assume that the virus would be spread from human to human, rather than from birds to humans.

As referenced earlier, the United States has multiple lines of defense against Asian H5N1 highly pathogenic avian influenza. First, the United States has never imported any poultry products from the countries now affected. They have never been authorized to ship poultry products into the U.S. We already have extensive surveillance and testing programs in place for the commercial poultry industry, and anticipate the level of testing will continue to increase. The Federal Government, State Governments and the poultry industry work cooperatively in this area.

The U.S. Department of Interior routinely tests migratory waterfowl in Alaska and along the Pacific flyway, looking for any signs that wild birds might carry the virus to this country. Thus far they have found no H5N1.

The chicken industry has adopted a policy identical to that of the U.S. Government, that no one that has been to an area where the Asian flu is present should visit a U.S. poultry farm or hatchery for at least 7 days thereafter.

Perhaps the most important point I could make is that the poultry industry in the United States is structurally different, that is, extremely different, from the industry in those Asian countries where H5N1 has posed a major problem. Poultry production in the affected areas of Asia relies mostly on small farms and free-roaming backyard or village poultry of mixed species that come in frequent and close contact with people. The virus is present in wild birds, especially waterfowl, and there is often a commingling of several domestic and wild avian species. In addition, live bird markets are popular in most Asian countries. These markets create almost perfect conditions for the perpetuation of avian influenza viruses.

In stark contrast, chickens in the United States are mostly raised in enclosed houses, a practice which greatly reduces the risk of exposure to wild birds and predators. Good biosecurity practices are followed on the farms and throughout our production, our live operations, and the health status of the flocks are monitored throughout the grow-out cycle. We believe our commercial poultry industry and the U.S. Government have good practices in place to prevent the introduction of Asian H5N1 virus into this country. We also believe that our monitoring and surveillance programs, and good biosecurity practices will help us deal promptly and effectively with any mild form of AI that could occur in the future.

Despite all the media attention and talk of a possible human pandemic, no one can say with certainty there will be one. In its current form, H5N1 does not easily infect people. Perhaps the best way we can prevent a pandemic or keep the Asian flu from spreading to other countries including the U.S., is to step our efforts to deal with the problem and tackle the disease at its source. A top

official with a food and agriculture organization was quoted last week as saying, "The fight against bird flu must be waged in the backyards of the world's poor, where hundreds of millions of chickens dwell beyond the reach of vaccination or government scrutiny."

The resources needed to stamp out the H5N1 virus at its source are staggering. While no one knows for sure how much has been spent to date on trying to eliminate H5N1 from poultry worldwide, the World Bank estimates that on the basis of current programs and pledges, more will be spent on stockpiling flu drugs than on efforts to control the disease in poultry at its source.

We believe it would be a good use of resources for nations that can afford it to help those that cannot afford to eradicate H5N1 virus. That may be one of the most important weapons in our arsenal to prevent the spread of H5N1 virus to the U.S.

Thank you.

[The prepared statement of Dr. Waldrip can be found in the appendix on page 76.]

The CHAIRMAN. Thank you very much.

Dr. Kleven.

STATEMENT OF S.H. KLEVEN, DVM, PhD, REGENTS' PROFESSOR, COLLEGE OF VETERINARY MEDICINE, POULTRY DIAGNOSTIC AND RESEARCH CENTER, UNIVERSITY OF GEORGIA, ATHENS, GEORGIA

Dr. KLEVEN. Thank you very much, Mr. Chairman. I really appreciate the opportunity to be here today. My name is Stan Kleven. I am a Regents' Professor at University of Georgia at the Poultry Diagnostic and Research Center. We are located in Athens, Georgia.

This is a unit that is very, very well-known worldwide. We obviously come from the largest poultry producing State in the United States, but we have an extensive teaching program. We have a training program for veterinarians to train them in poultry disease diagnostic and prevention. We have an extensive research program and also we have a diagnostic laboratory where we provide services to the poultry industry.

Risking a little bit maybe repeating some things that other people have said, I want to go back and talk a little bit more about some of the basic ideas around influenza viruses. For example, we have to remember that most influenza viruses are not pathogenic. There are quite a large host range of influenza viruses, but the most common species involved would be birds of pigs, horses, whales, seals and humans. One of the most important things to remember about influenza viruses is their ability to change, and their ability to surprise us, and this is constantly going on.

Occasionally mutations occur which increase the virulence or mutations occur which cause a virus to jump from one species to the other, and we really do not know a lot about exactly how this occurs or exactly what mutations need to occur. We do know that the so-called melting pot for development of new virus screens appears to be wild waterfowl, which are apparently infected with lots of strains and there is lots of different strains that occurs in wild waterfowl, and sometimes mutations occur, or sometimes contacts occur with domestic animals that allows the virus to jump into an-

other species. We think that the very common jumps from the other species are from the wild waterfowl into domestic poultry, or a lot of times it could be into pigs.

I would like to say a little bit more about the nomenclature also. We talk about the N types and the H types. That is only the beginning of the story. The designation H5N1, for example, tells us nothing about virulence. There are other H5N1s that have occurred many times in other places that are not virulent, and may even have infected species other than the chicken.

The term "high path" and "low path," I want to clarify some of the terminology there because highly pathogenic strains or the terminology "highly pathogenic" refers to chickens only. That is a designation based on challenge of chickens with the virus, and a strain which is high path in chickens, for example, may or may not be another species. We know, for example, over the years that there have been several devastating viruses that have occurred in turkeys that really, when you challenge chickens, they are not high path by definition. So we need to remember that "high path" refers to chicken only.

Dr. Waldrip reminded us that we are free of AI in the United States, and he talked about the surveillance. We have heard a lot about the surveillance programs that are going on here. I would just like to remind everybody that a lot of this is done by State laboratories and university laboratories, and there are a lot of poultry veterinarians around the poultry industry in the United States that are very, very familiar with this disease, and I think it is highly unlikely that any AI in the United States could pop up, especially anything that is highly pathogenic that would not be recognized almost immediately.

The low path strains, which may not cause much overt disease, I think we would pick them up also relatively quickly because of the surveillance programs that we have talked about already.

What are some of the consequences of an AI outbreak? Well, the mortality and a loss of production is obvious, but there is also the disruptions that would occur, the disruptions in the movement of birds to market, and movement of feed from the feed mill to the farms, the movement of birds to processing, all this may be highly disrupted, and obviously, the loss of international trade that would result from the cutting off trade with our trading partners.

A lot has been said about the asiatic strain. I do not think I am going to go into that to any extent except to say that I think it is clear to everyone that the longer that exists, the longer that problem exists in Southeast Asia or in Asian countries, the greater the likelihood that that virus is going to make that jump and start to spread from human to human. If we are really concerned about the human disease, we need to do what we can to get at the virus at the source.

A couple of words about vaccines. We have heard a little bit about those today. Vaccines can be very effective in preventing disease and preventing clinical signs. What the vaccines will not do is stop infection, and one of the reasons I think that vaccines are not part of the eradication programs is that vaccinated birds will test antibody positive, and it can be difficult to differentiate be-

tween vaccinated birds and birds that might actually carry the virus.

We have talked a lot about the danger to humans. I do not think I will go into that any more.I would like to say a few things about resources. We heard some words about resources this morning. For one, I have heard that—I do not know details, but I understand that a lot of the funding that is being proposed is for monitoring, surveillance and emergency programs. I think perhaps there is a danger that we might be neglecting to do some funding for research here. It is difficult for people at the university level, for example, to obtain funding to work with avian influenza, and it is difficult for many of us to actually propose to work with the highly pathogenic strains because there are very, very few laboratories that have the facilities that will allow this. One of the very few facilities in the United States that actually can work with the highly pathogenic strains is USDA's Southeast Poultry Research Lab. That laboratory is well-known around the world, with some of the most competent scientists in avian influenza you will find.

I do not know if you have ever visited that laboratory, but they are crowded. They do not have a place to put another person. Their animal care facilities are filled up. And as good as they are, I think they could do better if they had some better facilities and a better place for people to work because they are very, very crowded.

We have also heard about the National Poultry Improvement Plan and the program that has been set up. My understanding is that that plan is still in the rulemaking stage, and it is tied up. The plan was approved by the Biennial Conference almost a year and a half ago now. And my understanding is that it is still tied up in rulemaking changes or the rulemaking process, and it could be quite some time before the actual process is finished and the plan actually put in place. I think that anything that could be done to speed this along would be very, very helpful.

I have covered a lot of ground. I may have skipped over a few things, but I really appreciate this chance, and thank you very much for your attention.

[The prepared statement of Dr. Kleven can be found in the appendix on page 80.]

The CHAIRMAN. Thank you very much.

Ms. Irwin.

STATEMENT OF GRETTA IRWIN, EXECUTIVE DIRECTOR, IOWA TURKEY FEDERATION, AMES, IOWA

Ms. IRWIN. Good morning. My name is Gretta Irwin and I am the Executive Director of the Iowa Turkey Federation. I am testifying today on behalf of the National Turkey Federation, and we appreciate the opportunity of being here.

Iowa is the Nation's 10th largest turkey producing State, and we rank fifth in turkey processing. West Liberty Foods in West Liberty, Iowa, and the Sara Lee Foods facility in Storm Lake, Iowa process about 18 million turkeys between them, and nationally, the turkey industry will raise almost 270 million turkeys this year, producing more than 5 billion pounds of turkey meat.

Turkey producers and processors in Iowa, and across the United States, have been fighting avian influenza, or AI, long before it

started making headlines. For our industry avian influenza poses a triple threat. It threatens the health of our turkeys we raise. It threatens the economic livelihood of our processors and the family farmers who grow the birds. And it threatens to create a negative public health threat for our product. And so we want to keep that perception under control as well.

Fortunately, I am here bearing good news today. The U.S. turkey industry has been extraordinarily successful in fighting against avian influenza. The one fact that must be underscored at this hearing is that there has never been a single case in the United States of Asian type of avian influenza. We believe Iowa has played a role in this success story by developing a model program of industry and Government cooperation to control the disease and prevent significant outbreaks.

I had the privilege of being involved in the development of our emergency poultry disease plan, which again we started over 3 years ago. Since September of 2003, the State of Iowa has required that every turkey and every chicken flock in the State be tested for avian influenza. These are any turkeys that enter our State, and we do bring almost half of our processing kill capacity in from the States surrounding the State of Iowa, so we are testing those birds as well.

Iowa State University's diagnostic laboratory then tests all of the cases for us, and they also have a test that they can, within two to 3 hours, detect the highly pathogenic avian influenza strains. If a positive H5 or H7 is found, our program requires that the farm is quarantined by the State veterinarian for a minimum of 3 months after the last positive sample is found. We have procedures in place for the disposal of the manure, cleaning of the barn, delivery of feed, rescheduling the replacement flocks and pest control are outlined in this program. And again, our producers had an active part in producing this plan, and so its buy-in across the industry is very strong.

Iowa is not alone in preparing for this emergency. Similar programs have been designed in every turkey-producing region of our country. Programs like ours in Iowa have helped build this track record, but several other critical factors are at work as well. First, the modern production techniques used in commercial turkey, chicken and egg industries place a premium on biosecurity, not only with AI but with all diseases. So by not allowing our birds to come in contact with wild birds, we are helping control that spread of the disease into our flocks.

Second, the vertically integrated model of our turkey industry gives us a unique advantage to respond and to continue to contain any type of disease outbreak. Turkey companies have veterinarians that help monitor the flocks. The growers are in the barns every day, checking the health and well-being of their turkeys. So if a flock of turkeys begins to show a sign of any disease, those producers and the processors would do testing immediately to see if there is any serious problems that need to be taken care of.

Finally, as I noted earlier, special protocols are in place to detect and control any form of AI. This excess gives the turkey industry confidence, but it does not make us cocky. A series of isolated regional outbreaks of low path AI in 2002 and 2004 remind us of the

need for continued vigilance and underscore the challenge posed by live bird markets which were the source of these outbreaks. Surveillance of these markets is a key component to the new USDA program.

We have three specific recommendations for the way that this committee can help further enhance our preparedness. Continue to work closely with your colleagues on the Appropriations Committee to continue funding USDA's long term, low path AI control program at the maximum level necessary. In the rush to enhance our ability to protect human population from a possible pandemic, do not forget that prevention begins on the farm. While we commend President Bush for calling on Congress to provide the $7.1 billion in emergency funding, we are dismayed that less than $100 million is targeted toward USDA. Congress should make sure USDA's AI research programs are fully funded, and that the research facilities are modern and up to date and able to conduct the most sensitive research.

Finally, the United States should take the lead in the world in fighting against avian influenza in poultry. Too often AI has become a tool in trade battles. Countries like the United States that have successfully controlled H5 and H7 should be rewarded for their efforts, not forced to report harmless strains and punished for embargoes when these nonthreatening strains appear.

Thank you for the opportunity to testify here today. I look forward to answering any questions that you may have.

[The prepared statement of Ms. Irwin can be found in the appendix on page 82.]

The CHAIRMAN. Thanks to each of you for those very informative statements.

Dr. Waldrip, in your testimony you mentioned that the good biosecurity practices of the U.S. poultry industry are critical to preventing an outbreak of avian influenza in the United States. Can you provide more detail on the U.S. poultry industry's biosecurity practices and how they can effectively limit disease introduction and spread?

Dr. WALDRIP. Most companies have a staged biosecurity program: Normal business, normal procedures, more danger, increased biosecurity, and then in the state we are in now, we call it high level. In those higher levels we do the things that we might not have done earlier under normal circumstances that would protect us from the incursion of this disease or any other disease.

All the companies that I am aware of are stepping up their efforts in this area, that include restriction on people movement, increased clothing that would protect against the virus, increased things that would help prevent the incursion of any virus that might occur in the area. It is a threat to our business and we are responding appropriately.

The CHAIRMAN. Thank you. Again, Dr. Waldrip, on October 14, 2005, the government of Iraq announced a prohibition on imports of poultry products from all sources, citing concerns over the spread of highly pathogenic avian influenza. There was an immediate disruption in U.S. poultry meat exports and sales to the region. I understand that the U.S. Government has recently received a letter lifting the restrictions on poultry from countries not affected by

highly pathogenic avian influenza, officially allowing trade to flow from the United States. A specific concern was the flow of product across the Turkish border into Kurdish areas of Iraq. Do you have any additional information to report, and can you confirm that U.S. product is indeed moving across the border into Iraq?

Dr. WALDRIP. Our company is a moderate exporting company, and I do not think we export in that area, so as far as I know product is flowing.

The CHAIRMAN. Dr. Kleven, there has been much speculation on the role of wild bird populations in the spread of avian influenza from Southeast Asia to parts of Europe. There is also a concern that the disease may spread to the Middle East, parts of Africa and potentially the United States. Can you comment on the role of wild birds in disease spread and the measures we have in place to ensure that this disease does not reach the U.S. from wild birds?

Dr. KLEVEN. Most influenza viruses do not clinically affect wild birds. This is one that is different. This one has been reported to actually kill some wild birds or wild waterfowl. Fortunately, the natural flyways around the world are north and south, and with very little transfer from the Asiatic-European continent over to the Americas, but there is a little bit. And there are several agencies, State agencies, an agency in Athens, Georgia, for example, the Southeast Cooperative Wildlife Study, that have very active surveillance programs going on. And hopefully, and I think with some confidence, that if such an exchange occurs, that it will be picked up pretty quickly.

But in addition to just that virus, wild waterfowl are known to carry all kinds of influenza viruses, and as a matter of good practice, I think that our method of raising poultry by keeping birds confined is a very, very good barrier between the wild birds and the domestic birds.

I guess one other comment that I would make on this is the regulations on organic poultry raising. My understanding is that there is a requirement to label your product as organic poultry. These birds have to have the ability to gain access to the outdoors, and this is an absolute requirement, as far as my understanding, for the organic label. And I think that it would be a very, very good idea if we could do something to change that, to make that at least optional so that these birds could be confined and sheltered from wild birds.

The CHAIRMAN. In your testimony you cite concern with live bird markets. Can you clarify the situation in live bird markets for members of the committee and comment on the Federal Government's role in the monitoring and surveillance of these areas?

Dr. KLEVEN. The main concern with live bird markets in the United States is the New York/New Jersey market. That market, we are quite certain, was involved with exposing the commercial poultry industry in Pennsylvania back in—I do not remember, 1990 something—and caused that big epidemic. After that there has been a large State-industry-Federal effort made to increase surveillance in those wild bird markets, to institute a program for sanitation, periodic cleanup, and I think they have made a lot of good progress on that, but they are still making isolations of an H7N2 virus, which seems to be quite pathogenic and still remains, in my

view, just as big a risk to the U.S. poultry industry as the H5N1 from Asia.

I think we also should not forget that Mexico has an endemic H5N2 influenza virus and that we need to maintain surveillance from that direction also.

The CHAIRMAN. Ms. Irwin, I do not think we can overemphasize this enough, particularly with Thanksgiving coming up. One of the dearest traditions, obviously, is the gathering of folks to eat turkey on Thanksgiving Day. Mentioned in today's testimony, and a point I want to confirm and highlight for the American people is the fact that avian influenza is not in our food supply, and that even if it was, the proper handling and cooking of food would protect us as we gather around the table to eat and give thanks next week. Any comments that you would like to add to what has been said today relative to that?

Ms. IRWIN. As a home economist and working with consumers in the State of Iowa, I continue to emphasize on that as well, that our surveillance plans that we have in place and the monitoring that we are doing, and the knowledge of our producers to look for this, and the processors' concern and care for this as well, should ensure all consumers that the products that they will enjoy, any of the poultry products, including the turkey, is perfectly safe this holiday season.

The CHAIRMAN. You described in your testimony a comprehensive State response system to deal with potential introduction of AI. To what extent is Iowa's response plan integrated with neighboring States, and is there a marginal benefit to establish and implement regional response plans focused on protecting the agricultural sector?

Ms. IRWIN. The plan we have in Iowa was really modeled after a plan that Minnesota has been using for about 20 years, so as we continue to test birds, similarly they are doing the same thing in Minnesota and some of the surrounding States. And as I mentioned in my comments, almost half of our processing capacity comes in from those surrounding States.

So I know that in working with Dr.Schultz, our State veterinarian, that if there was something that showed to be a positive and that bird originated from one of those other States—which our processors would know that because when the tests come back we actually know which county anything would come through if there was something positive—that that State veterinarian then would in turn work with the other veterinarians in the other States, and the Federal veterinarian in charge of our region would be involved automatically as well.

So the communication has started and is really pretty well in place to help make sure that all of our surrounding States within that central region of the United States would communicate quite quickly and very effectively.

The CHAIRMAN. Well, let me again thank each one of you for being here today, and helping give comfort to this committee and the American people about this issue, and we look forward to staying in touch with you if there are additional problems that arise relative to this. We would like to have you available as a resource to help us work through the issues from a legislative perspective.

We will leave the record open for the remainder of the day. If there are any written questions, we will direct them to you, and we would appreciate your response right away. Thank you very much.

This hearing is concluded.

[Whereupon, at 11:48 a.m., the committee was adjourned.]

A P P E N D I X

NOVEMBER 17, 2005

http://harkin.senate.gov (202) 224-3254

Statement of Senator Tom Harkin on Avian Flu in Agriculture

November 17, 2005

Thank you, Mr. Chairman, for holding this hearing to look at the role of U.S. agriculture in the control and eradication of avian influenza. We're all aware of the human aspects of this disease, but there has not been as much attention to the threat of avian flu to agriculture. If this disease comes to the United States via birds – and not by humans, as some experts fear – we will still have a problem on our hands. A widespread avian flu outbreak in poultry will not only be costly to producers, states, and the federal government for control and eradication of the disease, but avian flu in our poultry has the ability to instill fear in American consumers. And in agriculture, that can be more devastating to the industry than the disease itself.

Poultry is an important part of agriculture in Chariman Chambliss's state of Georgia and my state of Iowa. Iowa is the nation's top producer of eggs and its 10th largest turkey producer. I would like to welcome Gretta Irwin from the Iowa Turkey Federation. She brings Iowa's perspective on avian flu and how the industry is preparing for it. Iowa produces the most hogs of any state. Pigs are another animal that factor into a discussion of avian flu because swine can contract both the avian flu virus and the human flu virus. Many experts have said that swine is the mixing vessel that can lead to a pandemic, as both viruses can co-exist in pigs and transform into a virus that can readily infect humans. Nevertheless, I would like this panel to address issues of surveillance between species and how we are linking that up. We need to build better surveillance capacity for animal health in general, and find the best way to inform producers of various animal species what diseases are where in order to avoid cross-species virus transmission.

Another concern I have is how we will help local and state officials in the event of a flu outbreak in poultry or any other animal disease or biosecurity crisis for that matter. State departments of agriculture play a critical role in controlling and eradicating a deadly animal disease such as avian flu. Funding is needed for surge capacity in laboratories for rapid diagnosis of large quantities of samples, to protect first responders from animal diseases that can be contracted by humans, and for interstate coordination of response plans. State and local officials also must be adequately informed about federal indemnification programs to make producers aware of resources available to them. All of these needs come at a time when the federal government does not provide enough financial resources to states.

Today's hearing will highlight the crucial role that agriculture plays in the management of this deadly disease. If we tackle the disease at its root, we may never have a human disease problem. However, should avian flu reach our shores via birds, we will have a serious economic problem on our hands, and somewhat greater risk to humans, although fear will be far greater than actual risk. Americans eat more chicken than any other meat. Our poultry industry is valued at over $25 billion, and our poultry exports are valued at over $1.7 billion. Other countries would quickly close their markets to our poultry and poultry products upon the discovery of this disease in the United States. But more frightening is the potential rejection of U.S. poultry by American consumers. Recently, Dr. David Swayne, a scientist at the U.S. Department of Agriculture's Southeast Poultry Research Laboratory, stated if the virulent H5N1 strain of avian flu was found in the United States, poultry demand would drop by as much as 50 percent. Yes, the United States has had some experience with avian influenza, but we have never had experience with an animal disease that can cause this much consumer fear. I hope that today we can cover issues that not only will help us prevent, control, and eradicate this disease, but that will also help us respond and recover from what could potentially be a tremendous blow to our economy.

Appendix

Suggested Statement of United States Senator Debbie Stabenow
Agriculture Committee Hearing
"The role of U.S. agriculture in the
control and eradication of Avian Influenza"
November 17, 2005

Thank you, Chairman Chambliss, for holding this important and timely hearing on the USDA's role in preventing an outbreak of Avian Influenza, more commonly referred to as "bird flu." I also want to thank Senator Harkin for his work on the Labor-HHS appropriations subcommittee. Senator Harkin along with Senator Specter have recognized the value of medical research and public health preparedness.

We all know how devastating a flu pandemic would be. Richard Falkenrath, a former Bush homeland security advisor, said, "A flu pandemic is the most dangerous threat the United States faces today. It's a bigger threat than terrorism. In fact it's bigger than anything I dealt with when I was in government."

Those are very chilling words, especially in light of yesterday's announcement by the Chinese government confirming three human cases of bird flu. Additionally, China has reported 11 outbreaks in chickens and ducks over the past month nationwide, prompting authorities to destroy millions of birds in an effort to contain the virus.

We all understand the threat to public health posed by a bird flu outbreak in the U.S., but today's hearing is extremely important because it highlights the economic risks of such an outbreak. The potential impact on jobs on the farm, international trade, and on the revenues generated by recreation is something we have not really talked about.

I tell you this because it is very important to understand the severe economic impacts and human health impacts of a bird flu outbreak for Michigan farmers and Michigan families. Consider that in Michigan, our poultry and egg industry is valued at approximately $164 million.

Michigan is also very fortunate to have a strong outdoor recreation economy. Wildlife watching, including bird watching, generates nearly $224 million for the state economy and accounts for over 3,100 jobs.

But we are getting ready, and much great research is being done in my home state of Michigan. For example, my alma mater, Michigan State University, is home to the Diagnostic Center for Population and Animal Health. I am very proud of this facility, which is the only "Biosafety Level III" containment facility in Michigan. Part of the university's College of Veterinary Medicine, the facility serves as Michigan's official diagnostic laboratory, providing animal health services to the state government, veterinarians, companion and farm animal owners, and state agencies across Michigan.

We need the same sense of urgency at the federal level because any outbreak will require federal resources. We have to work together on this issue. In October, I joined with 32 of my colleagues, urging the administration to work together to develop a strategic response to bird flu. I was pleased that the President responded earlier this month and included money for infrastructure improvements and medical research. I look forward to hearing from the witnesses how this money is being spent and how this plan will be implemented.

In our efforts to deal with this particular concern, I hope we are not ignoring the larger problem: the state of our public health infrastructure. Yes, we need a strategy of preventing a bird flu outbreak and containing one if – Heaven forbid—it happens. But we also need though to make sure our public health system can respond quickly and efficiently to potential threats.

Part of this response must involve providing assistance to and keeping an open dialogue with America's farms. Who knows if the outbreaks in southeastern Asia could have been averted or at least contained better had government worked with local farmers? By working together, I know we can do better to protect our farms and families. For example, I have cosponsored the Veterinary Workforce Expansion Act (S. 914) to expand the number of veterinarians in public health professions through grants and loan forgiveness.

We also need to increase research funding at NIH, CDC, and other health agencies. It is pennywise and pound-foolish to underfund these important agencies, but it looks like the Labor-H bill will have the smallest percentage increase in NIH funding since 1970. And we need to keep the politics out of science. In 2003, there was an effort in the House to target and strip projects relating to animal studies from the NIH's allocation in the Labor-HHS appropriations bill. Critics derided these projects as useless to human health, but in reality, this research helps us understand and watch for potential pandemics such as SARS and monkeypox. These diseases have roots animal populations.

Our farmers may be our first line of defense to prevent avian flu from entering the U.S. and decimating our poultry farms and, potentially, seriously threatening public health. Our farmers take their responsibility to biosecurity and food safety very seriously. We must help our farmers by providing them with technical and, where appropriate, federal grant assistance so that they can implement a coordinated national biosecruity plan. Together, we can do better.

Thank you, Chairman Chambliss, and I look forward to hearing from today's witnesses.

Testimony of Dr. Ron DeHaven

Administrator of the Animal and Plant Health Inspection Service

U.S. Department of Agriculture

Before the the Senate Agriculture, Nutrition and Forestry Committee

November 17, 2005

Mr. Chairman and members of the Committee, thank you for the opportunity to testify regarding the Department of Agriculture's (USDA) extensive efforts to protect U.S. poultry from avian influenza. Our efforts over the years, in cooperation with many Federal, State, and industry partners, have been highly successful in preventing serious incursions of this disease from abroad and, when necessary, taking swift action to control and eradicate discoveries in the United States.

As has been reported, H5N1, a highly pathogenic strain of avian influenza, has been spreading across poultry populations in several Southeast Asian countries, Russia and eastern European countries in recent months. There have also been documented cases of the virus affecting humans who have been in direct contact with sick birds. There is worldwide concern that the H5N1 virus might mutate, cross the species barrier and touch off a human influenza pandemic.

With this in mind, USDA's poultry health safeguarding programs are more important than ever. These programs are based on preventative regulatory and anti-smuggling measures designed to mitigate the risk of the virus entering the United States; targeted, aggressive disease surveillance in domestic poultry; and emergency response capabilities that ensure coordinated action with our partners in the event of detection. We take these responsibilities very seriously, and have bolstered all the components of our safeguarding program in response to the evolving avian influenza situation overseas.

We also believe it is critical to effectively address the disease in the poultry population in Southeast Asia. Implementation of effective biosecurity measures and control and eradication programs will go a long way toward reducing the amount of virus in these H5N1-affected countries and minimize the potential for the virus to spread to poultry in other areas of the world. These actions, if effectively implemented, would diminish the potential for a human influenza pandemic.

I have traveled extensively in Southeast Asia in an effort to evaluate the animal health infrastructure in Southeast Asia and determine what steps can be taken to improve disease safeguarding and surveillance programs in the region. I can report that there is widespread concern in Asia regarding avian influenza, as well as a strong commitment to working with the international community to address the disease and improve the animal health infrastructure in countries like Vietnam, Cambodia, Laos, Indonesia and Thailand. This is why it is imperative that the United States remains engaged and share resources and expertise with officials in these countries. I have also just returned from a United

Nations World Health Organization meeting on avian influenza in Geneva, Switzerland. It is clear this is an international effort.

Now let me turn to preparedness efforts here in the United States. The National Strategy for Pandemic Influenza, announced by President Bush on November 1, reflects the importance of these proactive measures on the animal health front. The President requested $91.35 million in emergency funding for USDA to further intensify its surveillance here at home and to deliver increased assistance to countries impacted by the disease, in hopes of preventing further spread of avian influenza.

On the international front, $18.35 million of the emergency funding for USDA is needed for additional bisosecurity, surveillance, and diagnostic measures. This funding would significantly advance USDA's efforts that build on the Food and Agriculture Organization's work to prevent, control and eradicate avian influenza where it currently exists in Asia.

To continue strengthening our domestic activities, $73 million of the USDA emergency funding is needed for stockpiling animal vaccine, surveillance and diagnostics, anti-smuggling and investigative efforts, research and development, planning and preparedness and staffing and management. The objective of all these efforts will be to prevent, control and eradicate any future findings of the H5 and H7 strains of avian influenza in the U.S. commercial broiler and live bird marketing system.

This is just a brief overview of what is an important request to Congress by the Administration. We appreciate your support of our efforts and look forward to working with the Congress as it considers the President's emergency funding request for pandemic influenza.

Now, I would like to turn to information on avian influenza necessary for our discussion regarding the disease, its potential effects on poultry in the United States, the steps USDA is taking to look for the disease and prepare for any detection, trade related matters, and some important food safety information of which we should always be aware.

Background on Avian Influenza

Avian influenza viruses are actually in the same family of viruses that cause flu in people every year. There is a flu season every year in birds, just as there is a flu season for humans. And as you would expect, some forms of avian influenza are more severe than others.

Avian influenza viruses can infect chickens, turkeys, pheasants, quail, ducks, geese, and guinea fowl as well as other varieties of birds, including migratory waterfowl. Transmission of the virus from one bird to another occurs through direct contact—typically through contact with respiratory secretions or feces.

Worldwide, there are many strains of the avian influenza virus, which again can cause varying degrees of illness in poultry. These viruses are characterized by two

different proteins on the surface of the virus. One is called hemaglutinin, or H for short, and the other one is a neuraminidase protein, or N for short. There are 16 known H proteins and 9 known N proteins, for a possible combination of 144 different characterizations of virus.

With regard to birds, avian influenza viruses are further divided into two groups—low pathogenic avian influenza, or low path, and highly pathogenic, or high path, viruses.

Pathogenesis refers to the ability of the virus to produce disease, with the highly pathogenic viruses producing far more severe clinical signs and higher mortality in birds than you would expect with the low pathogenic avian influenza virus.

Low pathogenic avian influenza has been identified in the United States and around the world since the early 1900s. It is relatively common to detect low pathogenic, just as human flu viruses are a common finding in people. However, most avian influenza viruses found in birds do not pose any significant health risk to humans.

Highly pathogenic avian influenza (HPAI) has been found in poultry in the United States three times—1924, 1983 and 2004. The 1983 outbreak was the largest, ultimately resulting in the destruction of 17 million birds in Pennsylvania and Virginia before that virus was finally contained and eradicated. By contrast, an isolated HPAI incident in a flock of 6,600 birds in Texas was quickly found and eradicated in 2004. There were no reports of human health problems in connection with any of those outbreaks.

In domestic poultry, the greatest concern has been infections with H5 or H7 strains, which are either highly pathogenic or low pathogenic avian influenza. The low pathogenic H5 and H7 viruses are always of a concern because of their potential to mutate to the highly pathogenic version of the disease.

Again, speaking strictly with regard to birds, only H5 and H7 subtypes of the avian influenza viruses have ever been shown to be highly pathogenic. The most recent outbreaks in the United States that I just mentioned both happened to be H5N2 viruses. The virus that is currently circulating in Asia is an H5N1 virus.

As I mentioned earlier, this particular H5N1 virus is also unique in that it has been transmitted from birds to humans, most of who had reported extensive direct contact with infected birds. I think it is important to emphasize, however, that there is no evidence at this time that the H5N1 virus that is currently circulating in Asia is in the United States, either in birds or humans.

Safeguarding Efforts

The Federal Government is actively engaged in the global effort to help eradicate highly pathogenic avian influenza (HPAI). The primary goal of this effort is to minimize any potential threat to human or animal health. USDA has been working closely with the U.S. Agency for International Development (USAID) to support animal health intervention in infected countries to establish safer, science-based agricultural practices in order to meet internationally accepted animal health standards and to facilitate trade.

Safer agricultural practices can result in greater food safety, food security, and public health improvement. By helping these countries prepare for, manage, or eradicate outbreaks, USDA can reduce the risk of high pathogenic avian influenza or other animal diseases spreading to the United States.

USDA is also engaged in an interagency working group with the Department of Interior that will use modeling to evaluate the role of wildlife in foreign animal disease threats. The initial diseases of focus will be foot and mouth disease and avian influenza.

Furthermore, USDA and other federal agencies are communicating and collaborating with federal public health agencies, including the Centers for Disease Control (CDC) in the Department of Health and Human Services, regarding avian influenza prevention, preparedness, and response activities and programs. Avian influenza demonstrates the need for increasing the links between animal and human health agencies, domestically and internationally, to respond to emerging infectious diseases at the animal/human interface.

There are other important efforts USDA has employed to keep the H5N1 virus and others out of the United States. As a primary safeguard, the Department's Animal and Plant Health Inspection Service (APHIS) maintains trade restrictions on the importation of live poultry, birds and unprocessed poultry products from all affected countries. Heat-treated poultry meat and eggs from countries with high pathogenic avian influenza (HPAI) are considered eligible for importation from countries with equivalent meat inspection systems. Imports of live birds, poultry and unprocessed poultry products, may resume after APHIS has completed a regionalization analysis that identifies the entire country or zone within the affected-country as disease-free.

APHIS' Smuggling, Interdiction, and Trade Compliance teams, as well as our colleagues with the Department of Homeland Security's Customs and Border Protection, have been alerted and are vigilantly on the lookout for any poultry or poultry products that might be smuggled into the United States from any of the affected countries.

Additionally, USDA quarantines and tests imported live birds from countries not known to have cases of infection to make sure that pet birds and other fowl do not inadvertently introduce disease into the United States.

We also have an ongoing surveillance program that targets avian influenza and other serious diseases in commercial flocks. The idea of surveillance is simply that if avian influenza is here, we want to find it very quickly and then respond to eliminate it. Early detection and rapid response are the keys to minimize the impact on our poultry production as well as minimize any impact with regard to trade restrictions.

APHIS conducts more than one million tests a year for avian influenza. USDA's Agricultural Research Service developed—and APHIS validated—a rapid test for avian influenza that has proven highly effective in screening for the disease. The test has been distributed to National Animal Health Laboratory Network labs all across the country.

The rapid test also supports our targeted surveillance efforts at live bird markets in the northeastern United States. USDA has also been working closely with the State Agricultural Departments and industry representatives to increase surveillance at these markets in recent years. This cooperative program is designed to prevent, diagnose and, if found, eliminate any of the H5 or H7 subtypes of virus in those markets.

I would be remiss if I did not mention the outstanding support of the U.S. commercial poultry industry in terms of producers' vigilance in applying and adhering to good biosecurity practices on the farm. Biosecurity simply means applying some very practical, common sense measures to keep from bringing unwanted germs onto the farm or into the poultry houses.

I also want to emphasize that for the last several years APHIS has conducted a major outreach campaign called "Biosecurity for the Birds." The campaign places informational materials directly into the hands of commercial poultry producers, as well as those raising poultry in their backyards. All of the brochures and fact sheets are available in several languages and emphasize the need for good biosecurity and disease surveillance programs to reduce the possibility of bringing any disease, not just avian influenza, on the farm or into their back yard.

The Department of the Interior is responsible for managing wildlife, including migratory birds under various laws such as the Migratory Bird Treaty Act, and for ensuring public health on the more than 500 million acres of land that it manages across the country. To carry out these responsibilities, biologists within the Department of Interior's Fish and Wildlife Service and U.S. Geological Survey have been strategically sampling migratory birds for H5N1 in the Pacific Flyway.

These efforts complement a series of ongoing avian influenza studies being conducted by USDA's Agricultural Research Service (ARS) and its university partners in Alaska where birds that regularly migrate between Asia and North America are known to congregate. The ARS seven-year collaboration with the University of Alaska has evaluated over 12,000 Alaskan samples and to date has found no evidence of high pathogenic avian influenza virus.

APHIS' Wildlife Services (WS) has also provided assistance to minimize threats to the public and animal health through its National Wildlife Disease Surveillance and Emergency Response Plan. Recently, WS has worked closely with Texas, North Carolina, New Jersey, Arizona and Nevada to conduct sampling of waterfowl, geese, and exotic birds for avian influenza.

Emergency Response

USDA has in place a robust emergency response program designed to complement our surveillance efforts. When we have unexpected poultry, or for that matter livestock, illnesses or deaths on a farm, we immediately conduct a foreign animal disease investigation. We have a cadre of specially trained veterinarians who can be on site within four hours to conduct an initial examination and submit samples for laboratory testing.

As the Committee knows, APHIS is not new to disease incursions and successful eradication efforts. In conjunction with our State colleagues, there are State-level emergency response teams on standby. These teams will typically be on site within 24 hours of a presumptive diagnosis of avian influenza or any other significant foreign animal disease. Destruction of the affected flocks would be our primary concern and course of action. We would also likely immediately work with State or tribes to impose State-level quarantines and movement restrictions.

For highly pathogenic avian influenza as well as for low pathogenic H5 and H7 subtypes, APHIS would work with States to quarantine affected premises and clean and disinfect those premises after the birds have been depopulated and disposed. All positive HPNAI flocks would be depopulated and meat from affected flocks would not enter the animal or human food chain. Surveillance testing would also be conducted in the quarantine zone and surrounding area to ensure that the virus has been completely eradicated. An essential part of a successful emergency response program is effective communication with the media and the public. This is especially important given the concern right now regarding avian influenza and potential risks to human health. To be prepared in the event of a detection—whether it be high pathogenic or low pathogenic avian influenza—USDA has been coordinating with its counterparts at other Federal agencies, State Agriculture Departments, and industry organizations to ensure consistent messages regarding the strain of the disease found, the steps being taken in response, and the potential effects to poultry and, if appropriate, human health. In fact, USDA will be participating in a government-wide tabletop exercise with a focus on avian influenza. Coordination will be vital to our ability to deliver important information, while maintaining public confidence in, among other things, the food supply and public health system.

USDA also maintains a bank of avian influenza vaccines for animals in the event that the vaccine would be a preferred course of action in any outbreak situation. I need to stress here, however, that wide-scale vaccination of poultry is not an effective safeguard against avian influenza. Rather, animal vaccination could be used in response to a detection of the disease in the United States to create barriers against further spread and assist with our overall control and eradication measures.

Funding included in the emergency request would augment the current animal vaccine bank by an additional 40 million doses. This expansion to the animal vaccine bank would be critical in the event of a large-scale avian influenza situation in the United States.

Trade Issues

As we know, outbreaks of significant foreign animal diseases are extremely costly in terms of domestic control and eradication efforts. However, we have seen that lost export markets can be even more damaging to the U.S. economy. As part of its planning to address avian influenza, then, APHIS has taken a lead role in facilitating international consideration of new trade standards for AI. For example, USDA actively supported the drafting of an improved World Animal Health (OIE) standard for avian influenza adopted

in May 2005. Under the recently amended OIE guidelines, OIE members are obligated to report any positive NAI...or Notifiable Avian Influenza (NAI) test result. This includes the reporting of all highly pathogenic strains of AI, as well as the H5 and H7 subtypes of low pathogenic AI detected in commercial poultry flocks.

Notifiable avian influenza-related trade restrictions on poultry products should be limited to the affected "zone", e.g. country, state, region, or "compartment," e.g. isolating commercial poultry from migratory waterfowl or wildlife. The OIE does not recommend trade restrictions for non-H5 or H7 low pathogenic subtypes.

Properly cooked meat and pasteurized egg products are considered safe-to-trade products and are safe for human consumption. Since heat has shown to destroy the virus, the OIE recently proposed draft guidelines for inactivating the virus using heat-treatments.

APHIS continues to work with its trading partners to promote the application of the new OIE standard. As just one case in point, intensive negotiations resulted in Mexico's recent agreement to lift all remaining import restrictions on States that have reported cases of low pathogenic avian influenza in recent years.

The detection of high pathogenic avian influenza in Texas in 2004 led to the closure of several export markets to U.S. poultry and poultry products. However, in that case APHIS worked to not only control and eradicate the disease, but to demonstrate to trading partners that the measures put in place were effective in controlling and eradicating the virus. APHIS urged trading partners to regionalize the United States for the disease, effectively allowing trade in poultry and products to continue from unaffected areas. These efforts were successful in reopening export markets.

Under prevailing international trade agreements, U.S. trading partners are obligated to consider a regionalization request from USDA, and countries must base their decisions on sound, demonstrable scientific grounds. The United States would certainly do this in response to a regionalization request from another country, and we expect—and will hold—other countries to this same standard should high pathogenic avian influenza be detected again in this country.

Food Safety

If high pathogenic avian influenza were to be detected in the United States, I want to emphasize that the U.S. surveillance system would find the disease, and our emergency response system would quickly contain the outbreak while eradication efforts begin. The chance that infected poultry would ever enter the human food chain would be extremely low. That is in part because we have inspection personnel from USDA's Food Safety and Inspection Service assigned to every Federally inspected meat, poultry and egg product plant in the United States. Poultry products for public consumption are inspected for signs of disease both before and after slaughter. The "inspected for wholesomeness by the

U.S. Department of Agriculture" seal ensures that this poultry is free from visible signs of disease.

No human cases of avian influenza have been confirmed from eating properly prepared poultry. In addition to proper processing in the plants, proper handling and cooking of poultry provides protection from viruses and bacteria including avian influenza.

I want to reiterate that proper food safety practices are important every day. USDA reminds consumers each day—and especially as we look ahead to Thanksgiving—that there are basic food safety steps to follow. It applies to any raw meat, poultry, or fish. That is clean, separate, cook, and chill.

By clean we mean always wash your hands with warm water and soap for at least 20 seconds. After cutting raw meats, wash cutting board, knife, and counter tops with hot, soapy water. By separate we mean do not cross-contaminate. Keep raw meat, poultry, fish and their juices away from other foods.

Cooking the meat and poultry to the proper temperatures using a food thermometer is the only sure way to know that you have cooked that product properly. A high enough temperature will destroy bacteria and viruses in poultry products. USDA specifically recommends cooking ground turkey and chicken to a temperature of 165 degrees Fahrenheit; cook chicken and turkey breasts to 170 degrees Fahrenheit; and whole birds, legs, thighs and wings to 180 degrees Fahrenheit. Obviously, never consume raw or undercooked poultry or poultry products.

And then chill meat products promptly after serving in the refrigerator. Always refrigerate perishable foods within two hours of taking it out of the refrigerator or having prepared it by proper cooking. Whole roasts, hams, and turkeys should be sliced or cut into smaller pieces or portions before storing them in the refrigerator or freezer. Turkey legs, wings, and thighs may be left whole. Refrigerate or freeze leftovers in shallow containers. Wrap or cover the food. And as a reminder, refrigerators should be at 40 degrees Fahrenheit or lower, and freezers should be at zero degrees Fahrenheit or lower.

You should also use cooked leftovers after Thanksgiving within three to four days to be safe.

Consumers with questions about the safe storage, handling, or preparation of meat, poultry, and egg products can contact the USDA Meat and Poultry Hotline at 1-800-MP-Hotline, that is 1-800-674-6854. The hotline is available in English and Spanish and can be reached from 10:00 a.m. to 4:00 p.m. Eastern Standard Time, Monday through Friday. Consumers may also check out our website at www.fsis.usda.gov to ask our virtual representative questions 24 hours a day.

Conclusion

Mr. Chairman and members of the Committee, thank you again for holding this hearing and allowing me to provide this important overview regarding avian influenza. I have covered a lot of ground in my remarks and will be happy to answer your questions.

Testimony
Before the United States Senate Committee on Agriculture, Nutrition, and Forestry

Agricultural Role in Controlling and Eradicating Avian Influenza

Statement of

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

Director

Centers for Disease Control and Prevention

U.S. Department of Health and Human Services

CDC

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INTRODUCTION

Mr. Chairman and members of the committee, I am pleased to be here today to describe the current status of avian influenza around the world; the consequences of a possible human influenza pandemic; and international and domestic efforts to prepare for, and respond to such a pandemic. Thank you for the invitation to testify before the Senate Agriculture, Nutrition and Forestry Committee on the human health impact of a pandemic influenza, as well as influenza pandemic planning and preparedness. Recent events affecting public health including SARS, Monkeypox and Avian Influenza have highlighted the potential adverse health effects of human interaction with animals. Outbreaks of zoonotic disease are occurring with increasing frequency, from all corners of the world. It is difficult to predict when and where the next event will occur. It is apparent, however, that the public health and agriculture sectors must seek new partnerships and new ways to detect these microbial threats.

The Department of Health and Human Services (HHS) Secretary Mike Leavitt has made influenza pandemic planning and preparedness a top priority. The Centers for Disease Control and Prevention (CDC) and other agencies within HHS are working together formally through the Influenza Preparedness Task Force that Secretary Leavitt has chartered to prepare the United States for this potential threat to the health of our nation. We are also working with other federal, state local and international organizations to ensure close collaboration.

As you are aware, the potential for a human influenza pandemic is a current public health concern with an immense potential impact. Inter-pandemic (seasonal) influenza

causes an average of 36,000 deaths each year in the United States, mostly among the elderly and nearly 200,000 hospitalizations. In contrast, scientists cannot predict the severity and impact of an influenza pandemic, whether from the H5N1 virus currently circulating in Asia and Europe, or the emergence of another influenza virus of pandemic potential. However, modeling studies suggest that, in the absence of any control measures, a "medium-level" pandemic in which 15 percent to 35 percent of the U.S. population develops influenza could result in 89,000 to 207,000 deaths, between 314,000 and 734,000 hospitalizations, 18 to 42 million outpatient visits, and another 20 to 47 million sick people. The associated economic impact in our country alone could range between $71.3 and $166.5 billion. A more severe pandemic, as happened in 1918, could have a much greater impact.

There are several important points to note about an influenza pandemic:

- A pandemic could occur anytime during the year and could last much longer than typical seasonal influenza, with repeated waves of infection that could occur over one or two years.
- The capacity to intervene and prevent or control transmission of the virus once it gains the ability to be transmitted from person to person will be extremely limited.
- Right now, the H5N1 avian influenza strain that is circulating in Asia among birds is considered the leading candidate to cause the next pandemic. However, it is possible that another influenza virus, which could originate anywhere in the world, could cause the next pandemic. Although researchers believe some viruses are more likely than others to cause a pandemic, they cannot predict with certainty the risks from specific viruses. This uncertainty is one of the reasons why we need to maintain year-round laboratory surveillance of influenza viruses that affect humans.

- We often look to history in an effort to understand the impact that a new pandemic might have, and how to intervene most effectively. However, there have been many changes since the last pandemic in 1968, including changes in population and social structures, medical and technological advances, and a significant increase in international travel. Some of these changes have increased our ability to plan for and respond to pandemics, but other changes have made us more vulnerable.
- Because pandemic influenza viruses will emerge in part or wholly from among animal influenza viruses, such as birds, it is critical for human and animal health authorities to closely coordinate activities such as surveillance and to share relevant information as quickly and as transparently as possible.

THE CURRENT STATUS OF H5N1 VIRUS IN ASIA

Beginning in late 2003, new outbreaks of lethal avian influenza A (H5N1) infection among poultry and waterfowl were reported by several countries in Asia. In 2005, outbreaks of H5N1 disease have also been reported among poultry in Russia, Kazakhstan, Turkey, and Romania. Mongolia has reported outbreaks of the H5N1 virus in wild, migratory birds. In October 2005, outbreaks of the H5N1 virus were reported among migrating swans in Croatia. In 2004, sporadic human cases of avian influenza A (H5N1) were reported in Vietnam and Thailand. In 2005 additional human cases have been reported in Cambodia, Indonesia, Thailand, and Vietnam. Cumulatively, 126 human cases have been reported and laboratory confirmed by the World Health Organization (WHO) since January 2004. These cases have resulted in 64 deaths, a fatality rate of approximately 51 percent.

Almost all cases of H5N1 human infection appear to have resulted from some form of direct or close contact with infected poultry, primarily chickens. In addition, a few persons may have been infected through very close contact with another infected person, but this type of transmission has not led to sustained transmission.

For an influenza virus to cause a pandemic, it must: (1) be a virus to which there is little or no pre-existing immunity in the human population; (2) be able to cause illness in humans; and, (3) have the ability for *sustained* transmission from person to person. So far, the H5N1 virus circulating in Asia meets the first two criteria but has not yet shown the capability for sustained transmission from person to person.

The avian influenza A (H5N1) epizootic (or animal) outbreak in Asia that is now beginning to spread into Europe is not expected to diminish significantly in the short term. It is likely that H5N1 infection among birds has become endemic in Asia and that human infections resulting from direct contact with infected poultry will continue to occur. So far, scientists have found no evidence for genetic reassortment has been found. Reassortment can occur when the genetic code for high virulence in an H5N1 strain combines with the genetic code of another influenza virus strain which results in easy transmission. However, the animal outbreak continues to pose an important public health threat, because there is little preexisting natural immunity to H5N1 infection in the human population.

HHS ROLE IN INTERNATIONAL PREPAREDNESS

In mid-October 2005, I accompanied Secretary Mike Leavitt when he led a delegation of U.S. and international health experts on a 10-day trip to five nations in Southeast Asia. The purpose of this trip was: 1) to learn from countries that have had first-hand

experience with avian influenza; 2) to emphasize the importance of timely sharing of information in fighting the disease; and, 3) to determine the best use of our resources abroad to protect people in the United States. We learned several important lessons. First, international cooperation is absolutely essential; an outbreak anywhere increases risk everywhere. Second, surveillance, transparency, and timely sharing of information are critical. The ability of the United States and the world to slow or stop the spread of an influenza pandemic is highly dependent upon early warning of outbreaks. Finally, it is vital to strengthen preparedness and response capabilities in Asian countries and other parts of the world. The delegation also concluded that pandemic preparedness and preparation must be both short– and long--term in scope. These critical elements form the basis of the Administration's diplomatic engagement strategy through the International Partnership on Avian and Pandemic Flu launched by the President in September, and drive our efforts with the international health community to effectively prepare for a pandemic. As I stated earlier, there is no way to know if the current H5N1 virus will evolve into a pandemic. However, we do know that there have been three pandemics in the past 100 years, and we can expect more in this century.

The Secretary's and my trip reaffirmed the value of several actions undertaken by HHS and its agencies over the last few years. It is vital to monitor H5N1 viruses for changes that indicate an elevated threat for humans, and we are continuing to strengthen and build effective in-country surveillance, which includes enhancing the training of laboratorians, epidemiologists, veterinarians, and other professionals, as well as promoting the comprehensive reporting that is essential for monitoring H5N1 and other strains of highly pathogenic avian influenza. In collaboration with international partners, HHS is also pursuing a strategy of active, aggressive international detection; investigation capacity; international containment; and laboratory detection support.

In the past year, working with the WHO and other international partners, HHS and its agencies has made significant progress toward enhancing surveillance in Southeast Asia. However, this initiative needs to continue at both national and international levels if we are to sustain our progress, expand geographic coverage, and conduct effective surveillance. These efforts to build international and domestic surveillance are essential for detecting new influenza virus variants earlier and for making informed vaccine decisions about inter-pandemic influenza. With the ever-present threat of a newly emerging strain that could spark a human pandemic, we need to know what is happening in commercial poultry farms and the family backyard flocks found in Southeast Asia, as well as migrating birds and animal populations elsewhere throughout the world.

Earlier this year, Congress passed and the President signed the Fiscal Year 2005 Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Tsunami Relief. This legislation includes $25 million in international assistance funds for HHS, the U.S. Department of Agriculture (USDA) and the United States Agency for International Development (USAID) to prevent and control the spread of avian influenza in Asia. With these funds, HHS and its agencies are working to assist in developing regional capacity in Southeast Asia for epidemiology and laboratory management of pandemic influenza. Strategies include developing and implementing an avian influenza curriculum for epidemiologists and laboratorians, training for public health leaders to develop a national network of public health field staff, and training for local allied health personnel to detect and report human cases of influenza. HHS staff are being assigned to Vietnam, Cambodia, and Laos to facilitate improvements in the detection of influenza cases and to provide technical assistance in investigating cases as well as in

developing national preparedness plans by the Ministries of Health, with the assistance of WHO and other partners.

We are also working with the USAID, WHO Secretariat, its Regional Offices and Ministries of Health in these countries to increase public awareness about the human health risks associated with pandemic influenza, and to advise countries concerning prevention or mitigation measures that can be used in the event a pandemic occurs.

HHS through CDC is vigorously working to increase laboratory capacity in the region and to provide laboratory support for outbreak investigations, including: testing clinical samples and influenza isolates; diagnosing the presence of avian influenza in humans by supplying necessary test reagents to the region and globally; and, developing vaccine seed stock to produce and test pandemic vaccine candidates. The HHS National Institutes of Health (NIH) and Office of Public Health Emergency Preparedness are also providing technical assistance to the Government of Vietnam as it proceeds with the development of a human H5N1 vaccine, including support for clinical trials

CDC is one of four WHO Global Influenza Collaborating Centers. In this capacity, CDC conducts routine worldwide monitoring of influenza viruses and provides ongoing support for the global WHO surveillance network, laboratory testing, training, and other actions. HHS also supports the WHO Headquarters in Geneva and the WHO Regional Offices in Manila and New Delhi for pandemic planning, expansion of global influenza surveillance, shipment of specimens, training, and enhancing communications with agricultural authorities. Several of the top flu specialists on the WHO staff are HHS personnel on loan, another demonstration of our strong commitment to international collaboration in the fight against the threat of a pandemic influenza.

In addition to our partnership with USAID under the Tsunami supplemental appropriation, HHS also partners with other U.S. Government departments in its international collaboration such as with the Department of Defense Naval Medical Research Unit Two (NAMRU2) in Indonesia and Naval Medical Research Unit Three in Cairo (NAMRU3). These collaborations support training, the expansion of influenza surveillance networks to countries where none exists, the enhancement of the quality of surveillance in other countries to enhance outbreak detection, seroprevalence studies in populations at risk for avian influenza such as poultry workers, and enhanced outbreak response.

WILD BIRDS, POULTRY, AND OTHER ANIMALS:

IMPLICATIONS FOR AGRICULTURE

Animal health officials carefully monitor avian influenza outbreaks in domestic birds for several reasons. There is the potential for low pathogenic H5 and H7 viruses to evolve into highly pathogenic forms. A rapid spread of highly pathogenic avian influenza can cause significant illness and death among poultry flocks, resulting in large-scale culling and trade restrictions that can have substantial economic impacts. In addition, the spread of avian influenza among poultry or other domesticated animals can increase the likelihood of transmission to humans.

The current poultry outbreaks of highly pathogenic avian influenza A (H5N1), which began in Southeast Asia in mid-2003, are the largest and most severe on record. Many countries have been affected simultaneously, and the loss of millions of birds has resulted in serious economic disruptions. The causative agent, the H5N1 virus, has proven to be especially tenacious. Despite the death or destruction of an estimated 150

million birds, the virus is now considered endemic in many parts of Southeast Asia, and control of the disease in poultry is expected to take years.

In the United States, USDA and the Department of the Interior coordinate most work on avian influenza viruses among birds and other animals. CDC collaborates with USDA and the Department of the Interior in critical partnerships for domestic preparedness for a possible avian influenza outbreak in the United States. CDC relies on USDA for domestic and wild bird, backyard bird, live bird market and poultry products surveillance as a way to detect threats to human health early on. Early detection will allow the US Government to have the most up-to-date and reliable information which will help to save human lives. CDC and USDA are also working together now to develop a plan for the prompt notification and coordinated interagency response to detection of strains of avian influenza that have human health implications. As one response to these outbreaks, CDC issued an order on February 4, 2004 for an immediate ban on the import of all birds from most Southeast Asian countries. This order complemented a similar action taken by USDA.

CDC also works extensively with the US Department of the Interior and its relevant agencies. For example, the National Wildlife Health Center, U.S. Geologic Survey (USGS), in conjunction with CDC, has created a wildlife health bulletin that provides bird-handling guidelines for the general public, hunters, and field biologists. A monitoring program for influenza among wild birds in Alaska began in 2005 and is coordinated by the University of Alaska with collaboration from the USGS's Fish and Wildlife Service, the Alaska Department of Health and Social Services, and CDC.

CDC also has created interim guidance for protection of persons with possible exposure to avian influenza during outbreaks among poultry, and guidance for persons involved in activities to control and eradicate outbreaks of avian influenza among poultry in the United States. Activities that could result in exposure to avian influenza-infected poultry include euthanasia, carcass disposal, and cleaning and disinfection of premises affected by avian influenza. The interim guidance, developed in cooperation with USDA should be considered complementary to avian population disease control and eradication strategies as determined by state governments, industry, and USDA.

CDC is also working closely with the Food and Drug Administration (FDA) and the agencies of the USDA to address potential human health issues related to the food supply, specifically the public's concern about consuming poultry and egg products. FDA, USDA, and CDC are coordinating their efforts and working with the food industry to ensure that the public receives accurate messages about avian influenza and the safety of the food supply. There is no evidence that any human cases of avian influenza have been acquired by eating properly cooked poultry products. Influenza A viruses, such as H5N2, H7N2, and H5N1, are destroyed by adequate heat, as are other foodborne pathogens. The U.S. government has notified consumers to follow safe food preparation and handling practices and to cook all poultry and poultry products (including eggs) thoroughly before eating. Raw poultry can be associated with many infections, including salmonella, and always should be handled hygienically. Utensils, surfaces, and hands that come in contact with raw or partially cooked poultry should be cleaned carefully with water and soap immediately. WHO has developed specific food safety guidance for the current situation in Asia.

SCIENTIFIC RESEARCH

Federal agencies have been very active in scientific research on avian influenza. Scientists at HHS and USDA, have collaborated to successfully reconstruct the influenza virus strain responsible for the 1918 influenza pandemic. The findings from this research will greatly advance preparedness efforts for the next pandemic. Previously, influenza experts had limited knowledge of factors that made the 1918 pandemic so much more deadly than the 1957 and 1968 pandemics. One of the most striking features of the 1918 pandemic was its unusually high death rate among otherwise healthy people aged 15 to 34. In reconstructing the virus, the researchers are learning which genes were responsible for making the virus so harmful. This is an important advance to strengthen preparedness efforts, because knowing which genes are responsible for causing severe illness can help scientists develop new drugs and vaccines that focus on the appropriate targets.

Additionally researchers at CDC have conducted studies on the incidence of adamantane resistance among influenza A viruses isolated worldwide from 1994 to 2005. Adamantanes are antiviral drugs that have been used to treat influenza A virus infections for many years. However, their use is rising worldwide, and viral resistance to the drugs has been reported among influenza A viruses (H5N1) strains isolated from poultry and humans in Asia. This data raises questions about the appropriate use of antiviral drugs, especially adamantines, and draws attention to the importance of tracing emergence and spread of drug resistant influenza A viruses. It is important to note that, although at present the H5N1 viruses isolated from people in Asia during the past two years appear to be resistant to adamantanes, they remain sensitive to neuraminidase inhibitors such as oseltamivir (Tamiflu®).

DEVELOPMENT AND MANUFACTURE OF VACCINE

Another important research area is vaccines: seeking improved strategies to enhance their development, manufacture, distribution and delivery. The development and role of a pandemic influenza vaccine is a principal component of the HHS Pandemic Plan, which I will describe later in the testimony. During an influenza pandemic, the existence of influenza vaccine manufacturing facilities functioning at full capacity in the United States will be critically important. We assume the pandemic influenza vaccines produced in other countries are unlikely to be available to the U.S. market, because those governments have the power to prohibit export of the vaccines produced in their countries until their domestic needs are met. The U.S. vaccine supply is particularly fragile; only one of four influenza vaccine manufacturers that sell in the U.S. market makes its vaccine entirely in the United States; one other makes some of its vaccine in the United States.

Another important factor is that public demand for influenza vaccine in the United States varies annually. Having a steadily increasing demand would provide companies with a reliable, growing market that would be an incentive to increase their vaccine production capacity. In FY 2006, CDC will direct $40 million through the Vaccines for Children (VFC) program to purchase influenza vaccine for the national pediatric stockpile as additional protection against annual outbreaks of influenza. These funds to purchase vaccine can be used if needed during annual influenza seasons or possibly in a pandemic situation. HHS has also signed a $100 million contract with sanofi pasteur to develop cell culture vaccines. The President also is requesting $120 million in FY 2006, an increase of $21 million, to encourage greater production capacity that will enhance the U.S.-based vaccine manufacturing surge capacity to help prepare for a pandemic and further guard against annual shortages.

Funds from the Strategic National Stockpile (SNS) have purchased approximately two million bulk doses of unfinished, unfilled H5N1 vaccine. This vaccine has not yet been formulated into vials, nor is the vaccine licensed by FDA. Clinical testing to determine dosage and schedule for this vaccine began in April 2005 with funding from NIH. Initial testing shows that, in its current form, a much higher volume of vaccine, up to 12 times as much as originally predicted, will be needed to produce the desired immune response in people. HHS therefore is supporting the development and testing of potential dose-sparing strategies that could allow a given quantity of vaccine stock to be used in more people. These strategies include developing adjuvants, substances added to a vaccine to aid its action, and the possibility of using intradermal rather than intramuscular injections. Such studies are currently underway, funded through the NIH. Additionally, HHS recently announced the award of a $62.5 million contract to the Chiron Corporation for the development of an H5N1 vaccine.

One of the main efforts by HHS in pandemic preparedness is to expand the nation's use of influenza vaccine during inter-pandemic influenza seasons. This increase will help assure that the United States is better prepared for a pandemic. Influenza vaccine demand drives influenza vaccine supply. As we increase annual production efforts, this should strengthen our capacity for vaccine production during a pandemic. We are also developing strategies to increase influenza vaccine demand and access by persons who are currently recommended to receive vaccine each year.

DOMESTIC PREPAREDNESS

HHS Pandemic Influenza Plan

On November 2, 2005, the HHS Pandemic Influenza Plan was released. The HHS Plan is a blueprint for pandemic influenza preparedness and response and provides guidance

to national, State, and local policy makers and health departments with the goal of achieving a national state of readiness and quick response. The HHS plan also includes a description of the relationship of this document to other federal plans and an outline of key roles and responsibilities during a pandemic. In the event of a pandemic and the activation of the National Response Plan, the CDC has a critical role to support the Department of Homeland Security in their role of overall domestic incident management and federal coordination The President is requesting additional FY 2006 appropriations for HHS totaling $6.7 billion in support of the HHS Pandemic Influenza Plan. In seeking this funding, the goals are: to be able to produce a course of pandemic influenza vaccine for every American within six months of an outbreak; to provide enough antiviral drugs and other medical supplies to treat 25 percent of the U.S. population; and, to ensure a domestic and international public health capacity to respond to a pandemic influenza outbreak.

In addition to outlining the federal response in terms of vaccines, surveillance, and planning, the HHS Pandemic Influenza plan makes clear the role of individual Americans in the event of an influenza pandemic. The importance of such ordinary but simple steps as frequent hand washing, containing coughs and sneezes, keeping sick children (and adults) home until they are fully recovered are widely seen as practical and useful for helping control the spread of infection. The plan also describes options for social-distancing actions, such as "snow days" and alterations in school schedules and planned large public gatherings. While such measures are, ordinarily, unlikely to fully contain an emerging outbreak, they may help slow the spread within communities.

State and Local Preparedness and Planning

All states have submitted interim pandemic influenza plans to CDC as part of their 2005 Public Health Emergency Preparedness Cooperative Agreements. Key elements of these plans include the use of surveillance, infection control, antiviral medications, community containment measures, vaccination procedures, and risk communications. To support the federal and state planning efforts, CDC has developed detailed guidance and materials for states and localities, which is included in the HHS Plan. CDC will work with states to build this guidance into their plans. CDC has taken a lead role in working with the Advisory Committee on Immunization Practices (ACIP) and the National Vaccine Advisory Committee (NVAC) to recommend strategic use of antiviral medications and vaccines during a pandemic when supplies are limited.

CDC is working to: (1) ensure that states have sufficient epidemiologic and laboratory capacity both to identify novel viruses throughout the year and to sustain surveillance during a pandemic; (2) improve reporting systems so that information needed to make public health decisions is available quickly; (3) enhance systems for identifying and reporting severe cases of influenza; (4) develop population-based surveillance among adults hospitalized with influenza; and, (5) enhance monitoring of resistance to current antiviral drugs to guide policy for use of scarce antiviral drugs.

Collaboration with the Council for State and Territorial Epidemiologists (CSTE) has considerably improved domestic surveillance through making pediatric deaths associated with laboratory-confirmed influenza nationally notifiable, and by implementing hospital-based surveillance for influenza in children at selected sites. CDC will continue to work with CSTE to make *all* laboratory confirmed influenza hospitalizations notifiable. Since 2003, interim guidelines have been issued to states and hospitals for enhanced surveillance to identify potential H5N1 infections among travelers from affected

countries, and these enhancements continue. Special laboratory training courses to teach state laboratory staff how to use molecular techniques to detect avian influenza have been held. In the past year, CDC trained professionals from all 48 states that desired training.

Healthcare System

If an influenza pandemic were to occur in the United States, it would place a huge burden on the U.S. healthcare system. Medical surge capacity may be limited, and could be vastly outpaced by demand. Healthcare facilities need to be prepared for the potential rapid pace and dynamic characteristics of a pandemic. All facilities should be equipped and ready to care for a limited number of patients infected with a pandemic influenza virus as part of normal operations as well as a large number of patients in the event of escalating transmission. Preparedness activities of healthcare facilities need to be synergistic with those of other pandemic influenza planning efforts. Effective planning and implementation will depend on close collaboration among state and local health departments, community partners, and neighboring and regional healthcare facilities. However, despite planning, in a severe pandemic it is possible that shortages in staffing, beds, equipment (e.g., mechanical ventilators), and supplies will occur and medical care standards may need to be adjusted to most effectively provide care and save as many lives as possible.

CDC has developed, with input from state and local health departments, and healthcare partners, guidance that provides healthcare facilities with recommendations for developing plans to respond to an influenza pandemic and guidance on the use of appropriate infection control measures to prevent transmission during patient care. Development of and participation in tabletop exercises over the past two years have

identified gaps and provided recommendations for healthcare facilities to improve their readiness to respond and their integration in the overall planning and response efforts of their local and state health departments. The healthcare system has made great strides in preparation for a possible pandemic, but additional planning still needs to occur.

Antiviral Drugs

A component of the HHS Pandemic Influenza plan is acquiring, distributing, and using antiviral drugs. To date, CDC has been working to procure additional influenza countermeasures for the CDC Strategic National Stockpile (SNS). Because the H5N1 viruses isolated from people in Asia during the past two years appear resistant to one class of antiviral drugs but sensitive to oseltamivir (Tamiflu®), the SNS has purchased enough oseltamivir (Tamiflu®) capsules to treat approximately 5.5 million adults and has oseltamivir (Tamiflu®) suspension to treat nearly 110,000 children. The SNS also includes 84,000 treatment regimens of zanamivir (Relenza®). WHO recently announced that the manufacturer of Tamiflu®, Roche, has donated three million adult courses. These will be available to WHO by mid-2006.

Enhancement of Quarantine Stations

CDC has statutory responsibility to make and enforce regulations necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the United States. This effort includes maintaining quarantine stations. Quarantine stations respond to illness in arriving passengers, assure that the appropriate medical and/or procedural action is taken, and train Immigration, Customs and Agriculture Inspectors to watch for ill persons and imported items having public health significance. Currently, CDC's Quarantine Stations are actively involved in pandemic influenza preparedness at their respective ports of entry. CDC's goal is to

have a quarantine station in any port that admits over 1,000,000 passengers per year. We are expanding the nation's Quarantine Stations; staff now have been selected for 18 Stations and are on duty at 17 of these Stations. HHS and the Department of Homeland Security (DHS) have recently concluded a Memorandum of Understanding setting out the roles and responsibilities of the two agencies. DHS will assist in keeping communicable diseases from entering the U.S. borders; HHS/CDC will be providing training and other necessary support and helping to prevent disease from entering the U.S.

Informing the Public

Risk communication planning is critical to pandemic influenza preparedness and response. CDC is committed to the scientifically validated tenets of outbreak risk communication. It is vital that comprehensive information is shared across diverse audiences, information is tailored according to need, and information is consistent, frank, transparent, and timely. In the event of an influenza pandemic, clinicians are likely to detect the first cases; therefore messaging in the pre-pandemic phase must include clinician education and discussions of risk factors linked to the likely sources of the outbreak. Given the likely surge in demand for healthcare, public communications must include instruction in assessing true emergencies, in providing essential home care for routine cases, and basic infection control advice. CDC provides the health-care and public health communities with timely notice of important trends or details necessary to support robust domestic surveillance. We also provide guidance for public messages through the news media, Internet sites, public forums, presentations, and responses to direct inquiries. This comprehensive risk-communication strategy can inform the nation about the medical, social, and economic implications of an influenza pandemic, including collaborations with the international community. We are working through the

International partnership on Avian and Pandemic Influenza, established by President Bush in September, and with the WHO Secretariat to harmonize our risk-communication messages as much as possible with our international partners, so that, in this world of a 24-hour news cycle, governments are not sending contradictory or confusing messages that will reverberate around the global to cause confusion.

CONCLUSION

Although much has been accomplished, from a public health standpoint more preparation is needed for a possible human influenza pandemic. As the President mentioned during the announcement of his *National Strategy* two weeks ago, our first line of defense is early detection. Because early detection means having more time to respond, it is critical for the United States to work with domestic and global partners to expand and strengthen the scope of early-warning surveillance activities used to detect the next pandemic. To monitor H5N1 viruses for changes indicating an elevated threat for people, we must continue to strengthen and build effective in-country surveillance. This must include continued enhancement of training for laboratorians, epidemiologists, veterinarians, and other professionals, as well as promotion of the comprehensive and transparent reporting that is essential to monitor H5N1 and other strains of highly pathogenic avian influenza.

The outbreaks of avian influenza in Asia and Europe have highlighted several gaps in global disease surveillance that the United States must address in conjunction with partnering nations. These limitations include: 1) insufficient infrastructure in many countries for in-country surveillance networks; 2) the need for better training of laboratory, epidemiologic, and veterinary staff; and, 3) the resolution of longstanding

obstacles to rapid and open sharing of surveillance information, specimens, and viruses among agriculture and human health authorities in affected countries and the international community. The International Partnership the President established is also looking at how best to solve these challenges.

During an influenza pandemic, the presence of influenza vaccine manufacturing facilities in the United States will be critically important. The pandemic influenza vaccines produced in other countries are unlikely to be available to the U.S. market, because those governments have the power to prohibit export of the vaccines until their domestic needs are met. The U.S. vaccine supply is particularly fragile. Only one of four influenza vaccine manufacturers selling vaccine in the U.S. market makes its vaccine entirely in this country. It is necessary to ensure an enhanced and stable domestic influenza vaccine market to assure both supply and demand.

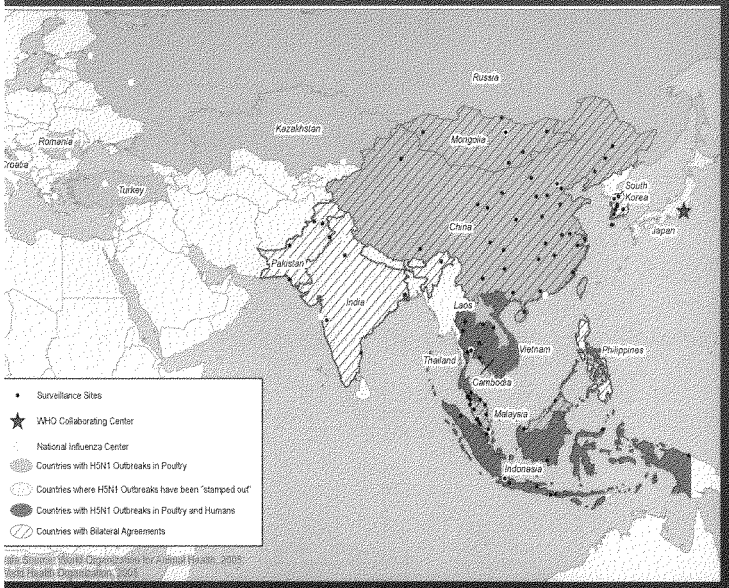
Although the present avian influenza H5N1 strain in Southeast Asia does not yet have the capability of sustained person-to-person transmission, we are concerned that it could develop this capacity. CDC is closely monitoring the situation in collaboration with WHO, the affected countries, and other partners. We are using its extensive network with other federal agencies, provider groups, non-profit organizations, vaccine and antiviral manufacturers and distributors, and state and local health departments to enhance pandemic influenza planning. Additionally, the national response to the annual domestic influenza seasons provides a core foundation for how the nation will face and address pandemic influenza.

Thank you for the opportunity to share this information with you. I am happy to answer any questions.

Pandemics Happen!
H9*
1998
1999
2003
H5*
1997
2003-2005
H7*
1980
1996
2002
2003
2004
H1
H3
H2
H1
1977
1918
Spanish
Flu H1N1
1957
Asian
Flu H2N2
1968
Hong Kong
Flu H3N2
* Avian Flu
CDC

Avian H5N1 Influenza: Wild Bird/Poultry Status

(8 November 2005)



Source: World Organization for Animal Health, 2005
World Health Organization, 2005

Confirmed Active Outbreaks

Vietnam	Kazakhstan
Thailand	Mongolia
Indonesia	Turkey
China	Romania
Cambodia	Croatia
Russia	

Prior Outbreaks

South Korea
Japan

Status Unknown

Malaysia
Laos

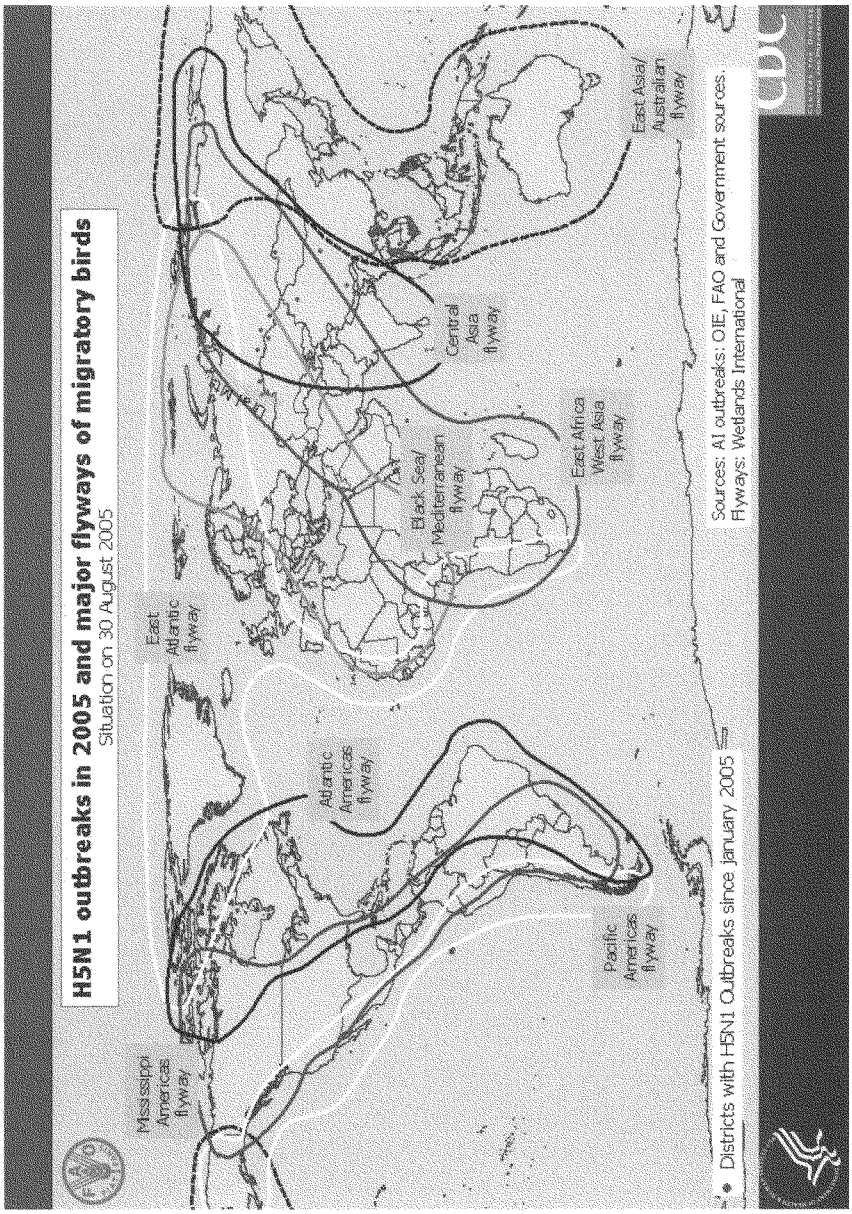
Other

Hong Kong (one infected bird)

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION


CDC


CDC


H5N1 outbreaks in 2005 and major flyways of migratory birds
Situation on 30 August 2005
Mississippi Americas flyway
East Atlantic flyway
Atlantic Americas flyway
Black Sea/ Mediterranean flyway
Central Asia flyway
East Africa West Asia flyway
East Asia/ Australian flyway
Pacific Americas flyway
Districts with H5N1 Outbreaks since january 2005
Sources: AI outbreaks: OIE, FAO and Government sources.
Flyways: Wetlands International

Situation Report: Avian Influenza

- Widespread and spreading prevalence in migratory birds; broad host range
- Continued outbreaks among domestic poultry
- Mammalian infection (cats, pigs, etc.) lethal
- Virus is evolving
- Sporadic human cases (>120 reports to date)
  - Most in young and healthy
  - Case-fatality 50%
- Sustained and rapid person-to-person transmission

HHS Pandemic Influenza Doctrine

- A threat anywhere is a threat everywhere!
- Detect and contain anywhere it emerges, if feasible
  - Frontline detection
  - Rapid response teams
  - Laboratory diagnosis
  - Isolation / quarantine
- Antivirals / vaccines
- Transparency
- Collaboration – WHO, FAO, OIE, USDA, USAID, DOD, bilateral / international partners
- Communication!

CDC's Global Health Protection Network
FY04
Quarantine Stations
Field Epidemiology
Laboratory Training Program
CDC Field Stations
International
Business Connectivity
New CDC Sentinel Sites
FY06
New Quarantine Stations
New International LRN Sites
New CDC Sentinel Sites
Global
Health Protection
Network
DATA EXCHANGE
Bio Sense &
Biointelligence
Center
FY04
Laboratory Response Network
(LRN
National Clinical La
Order
DoD/VA Dx & R
Record
Biowatch Data
OTC Drug Sale
Private Clinical Car
Expanded Real-Tim
LRN Dat
New Data Streams
FY06
CDC

NATIONAL CHICKEN COUNCIL
1015 FIFTEENTH STREET NW, SUITE 930
WASHINGTON, DC 20005
PHONE: 202-296-2622
FAX: 202-293-4005

Hearing
To Consider the Role of U.S. Agriculture
In the
Control and Eradication of Avian Influenza

Statement
Of the
National Chicken Council

To the United States Senate
Committee on Agriculture, Nutrition and Forestry

Presented by
Donald Waldrip, DVM
Diplomate, American College of Poultry Veterinarians
Director of Animal Health and Live Production
Wayne Farms, LLP

Thursday, November 17, 2005

Chairman Chambliss and Members of the Committee, thank you for this opportunity to appear today on behalf of the National Chicken Council which represents companies that produce, process and market about 95 percent of the chicken sold in the United States. I am Don Waldrip, Director of Animal Health and Live Production for Wayne Farms, LLC. We are headquartered in Oakwood, Georgia, and have production and processing facilities in Georgia, Alabama, Mississippi, Arkansas, and North Carolina.

It is my understanding that the committee is seeking information on the role of U.S. agriculture in the control and eradication of avian influenza. I will specifically address the role of the U.S. chicken industry.

Let me start by stating some facts that should be obvious but somehow seem to get lost in the media coverage and hype over the possibility of a worldwide flu pandemic.

- First and most important, the H5N1 highly pathogenic strain of avian influenza, referred to as "Asian flu" does not exist in the United States and has never been present in chickens in this country.
- An influenza virus capable of causing a pandemic with sustained human-to-human spread is not known to exist anywhere in the world today.
- Chicken produced and sold in the United States is safe to eat. Even if the avian influenza virus should ever be present, there is no danger of acquiring influenza from cooked food. Viruses are destroyed by the heat of normal cooking.
- The U.S. poultry industry and our government have in place measures that are intended to prevent the entry of H5N1 AI into the United States. I will discuss these measures in more detail.
- If the disease should enter the United States, it would be quickly detected through testing and surveillance. Infected flocks would be quickly destroyed. The disease would be eradicated by isolating the affected flocks, destroying all birds in the flock, and testing all flocks in the control area.
- Finally, if the H5N1 virus, now in Asia and Eastern Europe, should change and evolve sufficiently to become a direct threat to humans in the United States, it is logical to assume that the virus would be spread from human to human rather than from birds to humans.

As referenced earlier, the United States has multiple lines of defense against Asian H5N1 Highly Pathogenic Avian Influenza.

- The United States has never imported any poultry products from the countries now affected by AI. They have never been authorized to ship poultry products to the United States. In addition, USDA quarantines and tests live birds to make sure that pet birds and other avian species from anywhere in the world do not inadvertently introduce diseases, including AI, into the United States.
- We already have extensive surveillance and testing programs in place for the commercial poultry industry and anticipate the level of testing will continue to increase. The federal government, state governments and the poultry industry work cooperatively.
- The U.S. Department of Interior routinely tests migratory waterfowl in Alaska and all along the Pacific flyway, looking for any signs that wild birds might carry the virus to this country. They have found no H5N1 to date.
- The chicken industry has adopted a policy, identical to that of the U.S. Government, that no one who has been to an area where the "Asian flu" is present should visit a U.S. poultry farm or hatchery for at least seven days.

Perhaps the most important point I can make is that the poultry industry in the United States is structurally different -- extremely different -- from the industry in those Asian countries where H5N1 has posed a major problem.

Poultry production in the affected areas of Asia relies mostly on small farms and free roaming backyard or village poultry of mixed species that come in frequent and close contact with people. The virus is present in wild birds, especially water-fowl, and there is often a commingling of several domestic and wild avian species. Live bird markets are popular in most Asian countries, and these markets create almost perfect conditions for the perpetuation of avian influenza viruses.

In stark contrast, chickens in the United States are mostly raised in enclosed houses, a practice which greatly reduces the risk of exposure to wild birds and predators. Good biosecurity practices are followed on the farms and throughout our production or live operations, and the health status of the flocks are monitored throughout the growout cycle. As mentioned earlier, the coordinated surveillance and testing program conducted by industry and government in this country simply does not exist in Asia. If testing and flock surveillance should result in a positive finding of an H5 or H7 strain of AI in the United States, it would be the policy of our industry and government to eradicate the avian influenza as quickly as possible after detection. We would immediately destroy the infected flock or flocks and institute quarantines and testing on other flocks in that area.

The United States has not had a major outbreak of highly pathogenic avian influenza in over 20 years. About four million broilers and 11 million laying hens

died or were destroyed in a 1983-84 outbreak in Pennsylvania. The strain was H5N2, and there were no human health implications. Since the early 1900's milder forms of avian influenza have occurred occasionally in the United States and in other countries. The U.S. poultry industry and government have learned from experience that the best policy is to eradicate avian influenza outbreaks as quickly as possible after detection.

We believe our commercial poultry industry and the United States government have good practices in place to prevent the introduction of the Asian H5N1 virus in this country. We also believe that our monitoring and surveillance programs and good biosecurity practices will help us deal promptly and effectively with any mild form of AI that could occur in the future.

I can further assure this Committee that the U.S. chicken industry is looking beyond the status quo to determine what else we should be doing. We are reviewing our testing and surveillance procedures as well as our biosecurity practices. We are developing educational and training materials. In short, our industry takes the subject of avian influenza seriously.

Despite all the media attention and talk of a possible human pandemic, no one can say with certainty that there will be one. In its current form, H5N1 does not easily infect people. Perhaps the best way we can prevent a pandemic or keep the Asian flu from spreading to other countries, including the United States, is to step up our efforts to deal with the problem and tackle the disease at its source.

A top official with the Food and Agriculture Organization was quoted last week as saying "the fight against bird flu must be waged in the backyards of the world's poor, where hundreds of millions of chickens dwell beyond the reach of vaccination or government scrutiny."

The resources needed to stamp out the H5N1 virus at its source are staggering. While no one knows for sure how much has been spent to date on trying to eliminate H5N1 from poultry worldwide, the World Bank estimates that on the basis of current programs and pledges, more will be spent on stockpiling flu drugs than on efforts to control the disease in poultry at its source.

We believe it would be a good use of resources for nations that can afford it to help those that can not afford to eradicate the H5N1 virus. That may be one of the most important weapons in our arsenal to prevent the spread of the H5N1 virus to this country.

Role of U.S. Agriculture in the Control and Eradication of Avian Influenza

S. H. Kleven
Regents' Professor
University of Georgia
Poultry Diagnostic and Research Center
Athens, GA 30602-4875

Nature of Influenza Viruses:

- Most influenza viruses are non-pathogenic.
- Influenza viruses have a wide host range. Infections occur commonly in birds, pigs, horses, whales, seals, and humans.
- Influenza viruses have high mutation rates and are constantly changing.
- Most flu viruses tend to be confined to a single host species.
- Occasionally, mutations occur which increase the virulence or cause a "jump" to another host species.
- Wild waterfowl, gulls, and terns harbor unapparent infections and are the "crucible" of numerous new influenza strains, a few of which may jump to other species.

Nomenclature:

- There are 16 hemagglutinin (H) types and 9 neuraminidase (N) types, which can occur in any combination. i.e., H5N1, H5N2, H7N9, etc.
- This designation does not predict virulence. (For example, the current Asiatic H5N1 strains are highly pathogenic, but many H5N1 strains are not pathogenic).
- Strains can be further characterized by sequencing of the genome. This allows detection of lineages of related strains, and allows detection of continuing mutations.
- The designations, low pathogenic and highly pathogenic refer to virulence in chickens, not humans or any other species. Strains of H5 or H7 are the most likely to be highly pathogenic, but most H5 and H7 strains are low pathogenic.
- Low path strains may mutate and become high path.

Avian Influenza (AI) in the United States:

- **Commercial poultry production in the U.S. is free of AI.**
- Sporadic outbreaks have occurred from time to time. All have been controlled. Most have been low pathogenic strains.
- We have effective diagnostic tests and competent diagnostic laboratories.
- Surveillance in poultry and wildlife is ongoing.
- We have world class research and diagnostic laboratory support
- Emergency plans are in place to handle outbreaks.
- Vaccines are being stockpiled.
- We continue to be concerned about live bird markets in New York and New Jersey, their potential for circulating low path AI viruses, and the threat they pose for the commercial industry.

- **What are the consequences of AI outbreaks in the U.S.?**
- Losses due to loss of production efficiency and mortality.
- Disruptions due to disease control measures.

- Interruptions in interstate commerce and international trade.
- Potential (but low) risk to humans.

The Asiatic H5N1 situation:

- A highly pathogenic strain that has existed in chickens since 1997 or before.
- The virus is spreading across Asia, and has been detected in Eastern Europe and the Middle East.
- The primary means of spread is via human traffic, and wild waterfowl are also disseminating virus.
- There have been instances of human infections, with several deaths, but there has been little or no human-to-human spread. Infection is associated with close contact with infected chickens.
- Veterinary infrastructure is poor and production methods are primitive in many affected regions. The prospects for eradication any time soon are poor.
- No one knows if a mutation will occur which enables human-to-human spread, possibly resulting in a highly lethal pandemic in humans.
- **The longer the Asiatic H5N1 strains remain uncontrolled, the higher the risk that it will mutate to a strain causing pandemic human disease!!!.**

Vaccines:

- Vaccines are highly effective in preventing clinical disease.
- The vaccine strain must be a close match to the existing field strains.
- Vaccines do not prevent infection, but reduce the amount of virus produced.
- Vaccinated birds are antibody positive, complicating efforts in detecting infection.
- Quality of H5N1 vaccines used in Asia has often been poor.

What is the danger to humans?

- **The Asiatic H5N1 strains do not exist in the United States.**
- Low path AI does not infect poultry meat.
- High path AI strains may infect the meat, but are highly susceptible to inactivation by cooking.
- We do not import poultry or poultry products from affected areas of the world. We are a poultry exporting country.
- It's highly unlikely that any outbreak in poultry would go undetected. Any outbreak of highly pathogenic AI in U.S. poultry will be handled aggressively.

What are the needs?

- Maintain and increase surveillance in poultry and in wild waterfowl.
- Sustain and improve diagnostic and veterinary infrastructure.
- Continue the development of plans, programs, and capability for early detection and rapid eradication measures.
- Effective border security.
- Encourage research for improved methods of detection, improved vaccines, and other control measures.
- An H5N1 vaccine for poultry workers and eradication teams.

NATIONAL Turkey FEDERATION

TESTIMONY OF GRETTA IRWIN

Executive, Director
Iowa Turkey Federation

on behalf of
The National Turkey Federation

at the Senate Agriculture Committee Hearing
On Avian Influenza

November 17, 2005

Good morning, Mr. Chairman, Senator Harkin. My name is Gretta Irwin, and I have served for the last 11 years as executive director of the Iowa Turkey Federation. I am testifying today on behalf of the National Turkey Federation, and we appreciate the opportunity to be here.

Iowa has a robust turkey industry. We are the nation's 10th-largest turkey producing state in the nation, raising about nine million turkeys on family farms, and Iowa ranks fifth in turkey processing. The West Liberty Foods processing plant in West Liberty, Iowa, and the Sara Lee Foods facility in Storm Lake, Iowa, process about 18 million turkeys between them. Turkey production in our state has increased 17 percent in the last five years alone. Nationally, the turkey industry will raise almost 270 million turkeys this year and produce more than five billion pounds of turkey meat.

Turkey producers and processors in Iowa and across the United States have been fighting avian influenza (AI) long before it started making headlines. For our industry, avian influenza poses a triple threat: it threatens the health of the turkeys we raise; it threatens the economic livelihood of processors and the family farmers who grow birds for them; and it threatens to create a negative public health perception about our products.

Fortunately, I am here today bearing good news. The U.S. turkey industry has been extraordinarily successful in the fight against avian influenza. The one fact that must be underscored at this hearing is that there has never been a single case in the United States of the Asian-type of avian influenza. We believe Iowa has played a role in this success story by developing a model program of industry/government cooperation to control the disease and prevent significant outbreaks. I had the privilege of being involved in the development of our Emergency Poultry Disease Plan, and it contains the following critical components:

- Since September 2003, the State of Iowa has required that every turkey and chicken flock in the state be tested for avian influenza.
- The state has a trained poultry pathologist with more than 25 years' experience, Dr. Darrell Trampel, at the Iowa State University Veterinary Diagnostic Laboratory to handle any poultry case that might arise. The Iowa State laboratory also has available a real-time test that will detect the two most serious strains of AI – H5 and H7 – within three to four hours.
- Any positive samples are sent to the National Veterinary Services Laboratories in Ames for specific typing. If a positive H5 or H7 is found, the farm is quarantined by the state for a minimum of three months after the last positive sample is found.
- Procedures for disposal of the manure, cleaning the barn, delivery of feed, rescheduling the replacement flocks and a pest control program are all outlined in the program.
- County emergency management officers in the state currently are in the process of developing local plans for handling any infectious animal disease emergencies.
- Our State Veterinarian, Dr. John Schiltz, has created an Iowa Veterinary Rapid Response Team that has more than 280 members in place to assist him should the need arise. In addition, the State of Iowa employs additional full-time veterinarians strategically located around the state to handle poultry and livestock disease issues.

This is a plan that is constantly being reviewed and updated as needed. The most recent revision of the plan was made in August 2005.

Most importantly, Iowa is not alone in preparing for this emergency. Our plan is modeled from the Minnesota AI plan, and similar programs have been designed by industry and government in every turkey producing region of the country. In addition, Congress and USDA

recently have joined forces to create what we hope will be a strong federal control program as well.

These efforts have combined not only to keep the lethal Asian strain of AI out of the United States, but it actually has been more than 20 years since there has been a significant outbreak of any strain of Highly Pathogenic AI in this country.

Programs like ours in Iowa have helped build this track record, but several other critical factors are at work as well:

First, the modern production techniques used in the commercial turkey, chicken and egg industries place a premium on biosecurity. As any of you have visited a poultry farm know, there are strict controls as to who can come onto a farm where poultry is being raised, and protective clothing is mandatory for anyone entering a poultry house. Contrast this to the situation in the Asian nations where lethal outbreaks have been reported. In those countries, most poultry is raised in "backyard flocks," and people and their birds co-exist in close quarters. No biosecurity system is in place, access to these areas is not controlled and no protective clothing is worn. I have attached to my written statement an article from Monday's *USA Today* that provides excellent background on standard poultry production practices.

Second, the vertically integrated model used in the turkey industry gives us a unique advantage in responding to and containing any type of disease outbreak. Turkey companies and their veterinarians monitor flocks on a constant basis, tracking their movement from the hatchery all the way through to the processing plant. Growers, veterinarians and processors respond immediately at the first sign of any disease in a flock, taking care to cure the disease where possible and to ensure that the disease does not spread to other flocks in the area.

Finally, as I noted earlier, special protocols are in place to detect and control any form of AI. The U.S. industry will know immediately if any form of AI appears, and it has an array of tools available – including euthanizing a flock if necessary – to prevent the spread of the disease.

Interestingly, we can measure our success in part by following Congress' own appropriations process. Last year, USDA began the process of implementing the first national program to control Low Pathogenic AI. The rationale behind the program is that if Low Path AI, which is not harmful to humans, is properly controlled then our chances of a Low Path strain mutating into a lethal strain of AI is dramatically reduced. Congress gave USDA $23 million for the program in Fiscal Year 2005, and $12 million of it was set aside to indemnify growers whose flocks had to be destroyed because of a Low Path AI outbreak. Not one penny of that $12 million had to be used in FY 2005, which is a sign that the industry and state programs, along with the emerging federal effort, are all working.

This success gives the turkey industry confidence, but it does not make us cocky. As recently as 2002, there was a significant outbreak of Low Path AI in Virginia. Nearly four million turkeys and chickens had to be destroyed, and the episode cost that state's poultry industry more than $150 million. Because it was not a strain that is harmful to humans, the headlines were confined to the local newspapers; most Americans were not even aware there was a problem. But, that incident led all of us in the industry to review and further enhance our control programs, and it was the event that convinced the federal government to move forward with a long-term control program.

The Virginia incident also served to underscore the unique challenge posed by Live Bird Markets. These markets exist in almost every major urban area of the United States and serve those customers who prefer to purchase their poultry live and dress the birds themselves at home.

Until recently, these markets have operated with a minimum of government supervision and have been reservoirs of Low Path AI. The Virginia outbreak and almost every other incident of Low Path AI can be traced back to the Live Bird Markets. Birds that are sold in these markets are raised in the same areas as commercial poultry, and these growers often return from the markets – traveling through regions with heavy commercial production – having been exposed to Low Path AI.

One of the most critical components of the new USDA program is its increased surveillance of the Live Bird Markets. The USDA program calls for periodically closing and cleaning the markets, and funds are available to compensate the market owners for their downtime. Some might argue that these markets should be closed entirely, but those of us who work in the commercial industry would strongly disagree. We live in a diverse, multicultural nation, and there always will be a demand for live birds. If we were to close the markets, we simply would drive them underground. We will be far more effective in combating AI if we make Live Bird Markets our partners in this effort, and USDA's program is helping us do that.

There is more, of course, that can be done, and we have three specific recommendations for this Committee:

- Work closely with your colleagues on the Appropriations Committee to continue funding USDA's long-term Low Path AI control program at the maximum level necessary. We are pleased Congress provided additional funds for the program in Fiscal Year 2006, and we would urge you to continue doing so as needed in the future.
- In the rush to enhance our ability to protect the human population from a possible pandemic, do not forget that prevention begins on the farm. While we commend President Bush for calling on Congress to provide $7.1 billion in emergency funding,

we were dismayed that less than $100 million was targeted for USDA. The Agricultural Research Service includes some of the world's foremost experts on avian influenza, and Congress should make sure their programs are fully funded and that their facilities are modern, up-to-date and able to conduct the most sensitive research.

- Finally, the United States should take the lead in uniting the world in fighting avian influenza in poultry. Too often, AI has become a tool in trade battles, and this distracts from efforts to control the disease globally. USDA did a very good job in working for revisions to the Organization for International Epizootics (OIE) guidelines on Low Path AI. Those guidelines now state that a country is obliged to report AI only if an H5 or H7 strain of the disease has appeared, as these are the only strains that have the potential to mutate into a deadly form of the disease. Countries like the United States that are successfully controlling H5 and H7 should be rewarded for their efforts, not forced to report harmless strains and punished with embargoes when these non-threatening strains appear.

Thank you for the opportunity to testify here today. I look forward to answering any questions you may have.

DOCUMENTS SUBMITTED FOR THE RECORD

NOVEMBER 17, 2005

Senate Committee on Agriculture Nutrition, and Forestry
Hearing

November 17, 2005

Statement of Senator Thad Cochran

Mr. Chairman, thank you for convening this hearing. We appreciate your leadership and the leadership of the President to defend against an outbreak of avian influenza. The President has made a proposal which deserves the support of Congress, our nation's research facilities, public health officials, private industry, and the awareness of our citizens.

An avian influenza outbreak in the United States could have far reaching implications, the most serious being the risk to the health of our citizens. In addition, an avian influenza outbreak would be devastating to our nation's $23 billion a year poultry industry. The poultry industry has an economic impact of over $2 billion annually for the State of Mississippi.

Waterfowl recreation is an important part of many states economies. I have heard from many waterfowl hunters in my state of their concerns of infected migratory waterfowl. In a few weeks, duck season will open in Mississippi. It is important that the Department of Interior and the United States Department of Agriculture provide the hunting community with the most up to date information regarding avian influenza and waterfowl migration.

I am confident that this Committee and the Senate Appropriations Committee will work with the Administration to support measures that protect the country against an avian influenza pandemic.

Committee on Agriculture Hearing:
The Role of U.S. Agriculture in the Control and Eradication of Avian Influenza
Opening Statement of Senator Kent Conrad

I'm glad that the Agriculture Committee is holding a hearing on the avian flu. We all acknowledge that an avian flu pandemic would have disastrous consequences for our country.

It could devastate our agriculture industry and take the lives of thousands of Americans, and impact our economy. The World Bank recently estimated that the U.S. could see between $100 and $200 billion in losses if an avian flu pandemic hit this country.

But we all know that it's not a matter of "IF." We've been told by experts in the Department of Health and Human Services that it's "WHEN." When will our country be faced with a bird flu pandemic and how will we respond?

That is why this hearing on the role of U.S. agriculture in controlling and eradicating avian flu is vitally important. North Dakota is not a major poultry production state. In fact, our total poultry production is not much larger than some individual operations in other parts of the country.

But North Dakota is a major source – or in the flight path – of wild birds such as pheasants. And many of these wild birds, such as ducks and geese, are migratory. This is of particular concern as it relates to the spreading of avian flu across the U.S.

I am pleased that USDA is working with CDC and other agencies to address the possibility of avian flu entering the U.S. poultry population. But much more needs to be done.

We need agriculture and medical research to provide for rapid identification and diagnosis of infected poultry. We need to invest more in control and eradication measures such as vaccines. And we need expanded public and veterinary health initiatives to identify problems and provide increased public education to assure Americans that our food supply is safe.

Finally, we need greater coordination to stop the spread of the flu – not only on the domestic, but also international level. We need better methods of communicating so that public health agencies, agriculture producers and health care providers can efficiently detect and treat an avian flu pandemic.

I have authored a proposal that would help in this effort, and would encourage my colleagues to consider it as we look to address avian flu. The National Emergency

Telemedical Communications Act, or NETCA, would create telehealth networks to address biosecurity threats.

It would allow real-time coordination between first responders and public health experts to immediately assess a biological threat. In the case of bird flu, it would allow local veterinarians and producers to connect with experts in the detection of avian flu to jointly assess and diagnose a case of bird flu.

My proposal would also help first responders and public health agencies to address human cases of bird flu quickly, limiting the threat of a pandemic outbreak.

Clearly, our nation must do more to protect against and prepare for an avian flu pandemic. We know that it is only a matter of time before the bird flu spreads from Eastern Europe and Asia into Western Europe.

I look forward to hearing more about the CDC and USDA's plans to address a pandemic and how we can help protect our borders.

Written Statement Submitted by Senator Pat Roberts
Senate Committee on Agriculture, Nutrition, and Forestry
Hearing on Avian Influenza Preparedness
November 17, 2005
Washington, DC

Mr. Chairman, thank you for holding the hearing today on this most important topic. This issue is at the top of the list of our agriculture and human health concerns today, due the potential threat that the H5N1 Avian Influenza virus could mutate and be spread through human to human contact.

Back in 1999, I held the first congressional hearing regarding the threat of agroterrorism. During that hearing, and since that time, I have repeatedly discussed the need to make sure that we are prepared to respond to any disease outbreak, whether intentional or naturally occurring, that could negatively impact our agriculture economy. The need for preparedness is even more important due to the threat of zoonotic diseases – those that could impact both animal and human health. Since 1999, and more importantly since September 11, 2001, we have made significant strides in our detection and response efforts.

While the threat from avian flu may not necessarily be terrorist in nature, there is no doubt that the threat to human health is real. With a fatality rate of nearly 50 percent in all human cases in Asia, we cannot simply wait to see if the disease reaches our shores. We need to act now. That is why I am pleased that we are holding this hearing today, and it is why we must support the Administration's supplemental request to address needs related to this disease. We must also take steps here in Congress to ensure we make available every possible tool of defense necessary to fight avian flu.

Mr. Chairman, that is why I have been pleased to work with you in developing an Agriculture Bioshield Bill that will help to further increase our preparedness and detection capabilities, while also creating incentives for the development of additional animal vaccines and disease detection technologies. I look forward to continuing to work with you in developing this legislation, and I hope we can get broad support for it in this Committee and the Senate early next year.

The need to have all the tools available to fight this disease is also why I joined Senator Hillary Rodham Clinton in introducing legislation to provide a better framework for vaccine development on the human side. The Influenza Vaccine Security Act, S. 1828, will strengthen the underlying public health infrastructure in order to heighten our ability to respond to both seasonal and pandemic flu. First and foremost, our legislation ensures vaccine manufacturers and health care providers are not held liable in the event of a public health emergency involving pandemic influenza. Without this necessary liability protection, the ability to develop or deliver a vaccine during an outbreak could be significantly hampered.

Our legislation also encourages improved technologies for influenza vaccine development by providing additional funding for NIH research into alternative methods of vaccine

development, such as cell-based cultures and a permanent flu vaccine. Currently, flu vaccine production takes several months, leaving us extremely vulnerable in the event of a large-scale outbreak and a subsequent need for a mass production of vaccines.

The Influenza Vaccine Security Act also requires CDC to create an electronic tracking database to track vaccine availability and distribution on a county-by-county basis so consumers and health professionals are aware of where to go to get a vaccine, including in the event of a public health emergency. And, finally, to build on the need for active and consistent involvement with health professionals, our legislation provides a framework to identify public health professionals that can provide services in the event of a public health emergency through the use of a medical personnel registry linked at the federal, state and local levels.

Mr. Chairman, thank you again for holding this hearing today. I appreciate your attention to this matter and all diseases that could negatively impact agriculture and human health, and I look forward to continuing to work with you on this front.

QUESTIONS AND ANSWERS

NOVEMBER 17, 2005

CDC Response to Senator Harkin
Follow-up questions from November 17, 2005 Hearing

Question:
I would like to know about surge capacity in US laboratories for diagnosing a large number of animals and humans. Do current state laboratories have the capacity – in terms of lab space, equipment, and personnel – to handle the diagnosis of extremely high quantities of potentially positive avian flu samples?

Response:

There are approximately 150 domestic and international laboratories in CDC's Laboratory Response Network (LRN). These laboratories are primarily responsible for testing human specimens and a subset of labs can test animal specimens. There are 39 laboratories in USDA's National Animal Health Laboratory Network (NAHLN). These laboratories are primarily responsible for testing animal samples. NAHLN laboratories have expertise in different sets of pathogens, and thus may not all be testing for the same pathogen at the same time.

There are a number of ways these laboratories can deal with surge capacity issues. During the anthrax 2001 events the LRN laboratories tested more than 125,000 clinical and environmental samples, allowing CDC to concentrate on its role as a National laboratory performing definitive characterization. Similarly, the NAHLN member laboratories have responded to recent animal disease outbreaks involving Exotic Newcastle Disease, Chronic Wasting Disease, and Bovine Spongiform Encephalopathy. The LRN and NAHLN laboratories would likely serve a similar function in a pandemic response, allowing CDC and the USDA National Veterinary Reference Laboratory to focus on more specialized testing.

Eight laboratories in the LRN are veterinary diagnostic laboratories. Of the eight laboratories, one is also a member of the NAHLN. Based on the availability of funds, CDC hopes to incorporate more veterinary diagnostic laboratories in the LRN in FY2006. This would increase the surge capacity of the LRN and ultimately benefit both laboratory networks.

Each laboratory has formal plans in place to accommodate surge needs. The magnitude and sustainability of surge capacity differs between laboratories. Laboratories can receive and process an increase in specimen load; however, sustaining large surge needs for extended periods requires utilizing additional staffing and shifts or requesting assistance from neighboring LRN and NAHLN laboratories with which the lab has surge agreements.

CDC Response to Senator Harkin
Follow-up questions from November 17, 2005 Hearing

Question:
Animal health care workers, especially veterinarians, are our first responders during agricultural emergencies. How are USDA and CDC coordinating response plans to ensure the health of both animal health care professionals and poultry industry workers in the event of an avian flu outbreak, or any other disease outbreak that is contagious in both humans and animals?

Response:

The CDC and USDA developed interim guidance documents regarding protecting personnel involved in controlling and eradicating avian influenza in U.S. poultry. The U.S. poultry industry provided review and comments on recent drafts of this guidance. These guidance documents, "Interim Recommendations for Persons with Possible Exposure to Avian Influenza During Outbreaks Among Poultry in the United States" and "Interim Guidance for Protection of Persons Involved in U.S. Avian Influenza Outbreak Disease Control and Eradication Activities" are available on-line at http://www.cdc.gov/flu/avian/professional/possible-exposure.htm and http://www.cdc.gov/flu/avian/professional/protect-guid.htm, respectively.

CDC's Strategic National Stockpile and the USDA National Veterinary Stockpile are coordinating efforts to ensure that sufficient quantities of seasonal influenza vaccine, avian influenza vaccine when it becomes available, antivirals, and personal protective equipment are available to protect government animal health care professionals in the event of an avian influenza outbreak. In addition, CDC has requested that the Advisory Committee on Immunization Practices (ACIP) Influenza Working Group consider updating the current seasonal influenza vaccination prioritization list to include persons who would be involved in avian influenza disease control and eradication activities to include poultry workers and others with comparable job tasks that would expose them to avian influenza virus for prolonged periods of time in closed settings. The rationale for this request is to reduce the potential for workers to develop dual infection with seasonal human influenza virus and avian influenza virus.

Similarly, CDC's National Institute of Occupational Safety and Health, at the request of USDA, provides occupational guidance for the protection of field personnel in other settings of concern regarding known and suspect zoonoses.

Questions for witnesses for the Nov. 17, 2005 hearing regarding avian flu from Senator Mark Dayton

To Dr. Ron DeHaven, APHIS Administrator:

The University of Minnesota is a national leader in surveillance of avian flu. The Minnesota Poultry Testing Laboratory in Willmar tests every flock in the state – more than 75,000 samples – each year. And yet they are starved for funding: they haven't had any new funds in 20 years. What do you consider to be the role of state programs like the one in Minnesota? Of the $7.1 billion requested by President Bush, how much will flow to the states through cooperative agreements with USDA?

To Dr. Ron DeHaven, APHIS Administrator:

The University of Minnesota also operates a Veterinary Diagnostic Laboratory in St. Paul. This lab offers a fee-based testing service to farmers who suspect infections in their poultry. However, I'm told that with the thin profit margins in the industry, it is becoming more and more difficult for farmers to pay for this service. This greatly increases the chances that an outbreak may go undetected. With a relatively small investment at the federal level, we could ensure that poultry showing signs of disease are detected and contained immediately. Would you agree that it's in our vital national interest that USDA support grassroots programs like the one at the University of Minnesota?

To Dr. Ron DeHaven, APHIS Administrator:

Over the past three years USDA has been developing a National Animal Health Laboratory Network. Since its establishment, the University of Minnesota Veterinary Diagnostic Laboratory has received roughly $65,000, of a nationwide total of more than $19 million. Other state laboratories including California and Texas have each received funding exceeding $2.3

million. Can you explain this discrepancy? What steps do you plan to remedy this imbalance?

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