

USDA Food Safety Initiatives

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It's a pleasure to have the opportunity to be here today to talk to you about food safety and in particular, President Clinton's initiatives on food safety. I commend you for your interest in, and attention to, the important relationships between animal health and public health.

As you well know, the veterinary profession has been involved in food safety for many years. The health of food animals is an important factor in the health of people who consume animal products. And the successes in the animal health area are plain to see. Animal diseases are well under control in this country, and residues of animal drugs are at their lowest levels in history.

But the world is changing rapidly. While animal diseases and chemical residues have been the primary concerns of the past, we now have public recognition of what many of us in public health have known for some time—the threat of microbial pathogens. Microbial pathogens certainly aren't new to science. As early as 1830, *Trichinella spiralis* was recognized as causing foodborne disease.

But many factors have forced us to place more emphasis on microbial pathogens as a health risk, including emerging pathogens that are resistant to traditional processing procedures, an increase in immune-compromised and elderly individuals who are more susceptible to foodborne illness, better estimates of the seriousness of foodborne illnesses and their costs to society, and rapid changes in the meat and poultry industries that offer more opportunities for contamination to occur.

Because of these factors, we are having to continually examine the old way of doing things to see what improvements can be made to improve the public health.

That applies to all of us, whether we are government officials operating regulatory programs, animal producers on the farm, owners of meat and poultry plants, or experts in veterinary medicine, pharmacology, and therapeutics. What may have worked in the past doesn't necessarily meet today's needs, nor can we assume it will work in the future.

At this conference, you are focusing on the treatment of food-producing animals with antimicrobials, which can potentially have a human medical impact. I know there are varying opinions about whether antibiotic resistance can be directly transferred to human pathogens, and about what should be done in general to address the problem. I'm not here today to provide a scientific opinion on these questions. I am confident that the experts attending this conference are more than qualified to address that area of public health.

But I can address this issue from a public policy perspective because it is similar to other public health issues facing us today. That similarity lies in the fact that in the field of science, we often have more questions than we have answers.

Certainly, this makes it difficult to make public policy decisions, but I don't believe it is impossible to make those decisions. We don't need scientific proof before we can take prudent action. We must design policies that are based on the best science available today and adjust those policies if needed when more information becomes available.

Looking back at history, we can find many examples where action on a public health problem has been taken before all of the answers are in. In 1849, a large waterborne outbreak of cholera occurred in London, and John Snow, a founding member of the London Epidemiological Society, set out to find the source. By studying the distribution of cases, he was able to conclude the problem was coming from a well in one part of town. To control the epidemic, he simply took the handle off of the well pump. It was not until some 34 years later, in 1883, that the cholera vibrio was identified, but he was able to make the association between the disease and the source--and end the epidemic--without knowing all of the details.

USDA Food Safety Initiatives

USDA has followed this philosophy in the food safety arena. We don't have all of the answers to the food safety questions of the day, but we are nevertheless making significant progress based on the information we have.

The final rule on Pathogen Reduction and Hazard Analysis and Critical Control Points (HACCP) is a good example. We published this landmark rule in July 1996, after a thorough public process. The rule requires all plants that slaughter and process meat and poultry to implement HACCP systems as a means of preventing contamination from pathogens and other hazards.

To make sure HACCP systems are working as intended, the rule also sets in-plant performance standards for *Salmonella*, and USDA is conducting testing to ensure these standards are met. This is a very significant step because it is the first time USDA has set a performance standard for broad range of raw meat and poultry products. Implementation of HACCP and *Salmonella* performance standards begins in large plants in just one week.

Because pathogens are associated with fecal contamination, the rule also requires slaughter plants to routinely test carcasses for generic *E. coli*, an indicator of fecal contamination. And the rule requires all plants to have in place standard operating procedures for sanitation. These two provisions have been in place since January 1997, and implementation has been successful, thus paving the way for HACCP systems.

The *Salmonella* standards we have set are a good example of basing public policy on the best information available today. We do not know how much *Salmonella* it takes to make someone sick. That information is just not available. Therefore, we have set *Salmonella* performance standards based on the levels of the pathogen currently found in various product classes. As we get more information on infectious doses, and as companies are able to improve pathogen reduction activities, we will consider making the standards more strict.

In addition to these changes we are implementing within meat and poultry plants, we are pursuing changes outside of the plant as well, from farm to table.

We do not have all the answers to our food safety questions outside the plant, either. The animal production area is a good example of the data gaps facing us. Scientific information does not exist at this time to show what is effective and economically feasible at production stages to reliably eliminate--or at least substantially reduce--pathogens in carcasses. There are many complicating factors controlling microbial hazards before slaughter, including unknown reservoirs, the ubiquitous nature of some microbial pathogens, the lack of specific, sensitive, and inexpensive diagnostic tests, and the lack of an array of cost-effective, preventive interventions such as vaccines, competitive exclusion and other technologies.

Research is critically important at the animal production level. We need to know more about how management practices affect pathogens in live animals and how levels of pathogens in live

animals correlate with levels of pathogens within slaughter plants. USDA is committed to helping to fill these critical data gaps, and I will tell you more about this within the context of the President's Food Safety Initiative.

But despite the data gaps, but we are still seeing progress in implementing solutions. For instance, the State of California is encouraging producers to work with its Department of Agriculture to implement quality assurance programs addressing food safety. Other states, such as South Dakota, Nebraska, Colorado, and Idaho, are exploring beef certification programs addressing food safety and quality. FSIS has no regulatory authority on the farm but is working with producers and others to encourage the implementation of HACCP-type principles where appropriate.

President's Food Safety Initiative

We need to take advantage of the momentum that now exists to make food safety improvements. We are fortunate that food safety is receiving attention and support at the highest level of government. This year, President Clinton announced not one, but two, food safety initiatives. In January 1997, the President unveiled his ambitious Food Safety Initiative to improve the safety of meat, poultry, eggs, seafood, and fruit and vegetable juices. To build on these efforts, a second initiative, announced in October 1997, includes steps to ensure the safety of imported and domestic fruits and vegetables. Both initiatives emphasize the need for public-private partnerships to meet food safety goals.

Today, I would like to focus on the first initiative, because it addresses food animals. But please keep in mind that it is part of a much broader effort to address the safety of all commodities.

The President's Food Safety Initiative has seven components that work together to reduce the incidence of foodborne illness. The actions being carried out through the President's initiative are based on the principles that the public and private sectors should work together to reduce the risk of illness, that we should focus on hazards that present the greatest risk, and that we should make the best use of public and private resources. The initiative also builds on previous steps to modernize food safety programs, such as the implementation of HACCP and the foodborne illness surveillance program operated by the Centers for Disease Control and Prevention.

I would like to briefly review the seven components of the initiative.

Early Warning: System

First, it puts into place a new National Early Warning System to more quickly detect and respond to outbreaks of foodborne illness, and to provide public health agencies with the data they need to prevent future outbreaks. Stopping outbreaks of foodborne illness before they affect large numbers of people is a major goal. We need an effective early-warning system that can detect and stop outbreaks before they spread.

The initiative expands the existing foodborne disease active surveillance network, now called FoodNet, to identify, investigate, and control a broad spectrum of foodborne diseases. We are already seeing some interesting developments with this system. For instance, we are finding that *Campylobacter* is the number one cause of sporadic outbreaks in the United States. I guess the *Washington Post* must be following the progress of our FoodNet system because its list of what's "in" and "out" for 1998 indicated that *Salmonella* is out, and *Carmpylobacter* is in!

To complement the early warning system, the President's initiative calls for upgrading public health laboratory capabilities and creating a national electronic network for molecular fingerprint comparison. In addition, you will be interested to know that the initiative calls for expanding surveillance for antimicrobial resistance in *Campylobacter*, *Salmonella*, and *E. coli* 0157:H7 isolated in humans and encourages FDA and FSIS to take similar steps for those bacteria isolated from food-producing animals, which we both are doing in partnership with the Centers for Disease Control and Prevention and the Agricultural Research Service.

Outbreak Containment and Response

Second, the initiative strengthens coordination among Federal, State, and local food safety agencies in responding to outbreaks of foodborne illness. It used to be that most pathogens were pretty much confined to one commodity. It's not that way any more, and we need to work better together when outbreaks occur.

As recommended in the report to the President on his national food safety initiative, USDA, HHS and EPA have established a Foodborne Outbreak Response Coordinating Group to improve the approach to interstate outbreaks of foodborne illness. Under the initiative, one person has been designated as the outbreak coordinator for each department that has a role in outbreak response.

This is the first time there has even been a group at the policy level that has been created to communicate about foodborne outbreaks. It gives the individuals in the group the opportunity to know how we are handling a particular outbreak, what lessons we have learned, and how we can be more consistent in terms of the actions taken. Because Federal agencies work through state and local health departments to investigate outbreaks, we will provide assistance in terms of resources to these departments so they are better able to investigate outbreaks of foodborne illness.

On a parallel animal health track, APHIS is coordinating a national emergency response plan for animal diseases and public health risks. In keeping with the partnership theme of the President's Food Safety Initiative, animal and public health experts need to work together to be prepared for outbreaks involving animal populations, such as the recent bird-flu in Hong Kong or *Salmonella typhimurium* DT104 in cattle.

Risk Assessment

Third, the President's initiative emphasizes the importance of risk assessment as a means of focusing public resources on reducing those risks having the greatest consequences for human health. Risk assessment plays a central role in the development of any science-based system of preventive controls. It also provides essential information for estimating and analyzing the costs and benefits of policy alternatives.

Unfortunately, risk assessment is far less well developed for foodborne pathogens than it is for chemicals. Intensive commitment is necessary to develop critically needed risk assessment methods, and then to conduct risk assessments and characterize their uncertainties.

To meet these needs, a Risk Assessment Consortium has been established as part of the Joint Institute for Food Safety and Applied Nutrition, a collaborative activity of FDA's Center for Food Safety and Applied Nutrition, the Center for Veterinary Medicine, and the University of Maryland. The consortium will begin the process of establishing a clearinghouse that will collect and catalogue available methodology and research advances and prioritize research programs related to risk assessment.

Research

Fourth, the President's initiative supports the need for research to more quickly identify and characterize foodborne hazards, to provide the tools for regulatory enforcement, and to develop effective interventions that can be used to prevent hazards at each step from production to consumption. This research supports the needs not only of federal and state food safety agencies but food industries as well.

For instance, we need to better understand how pathogens develop resistance to traditional preservation technologies. This research will help guide the improvement of traditional techniques and the development of new interventions.

As I mentioned, we also need to better understand antibiotic drug resistance. We need research to identify and characterize the factors that lead to the development of antibiotic resistance and to investigate techniques for manipulating the microbial ecology of the intestinal tract of animals to prevent the develop of antibiotic resistance. We also need rapid and cost-effective test methods for a variety of pathogens such as *Campylobacter* and *E. coli* 0157:H7.

Improve Inspections and Compliance

Fifth, the initiative improves inspections and compliance farm to table by encouraging the adoption of HACCP for various commodities. In just one week, we will reach the first implementation date for HACCP in meat and poultry plants, and FDA has already reached its implementation date for HACCP for seafood. The future will involve exploring HACCP for other

We must also enhance the safety of foods in retail establishments and during transportation. USDA and FDA have been working to encourage adoption of the *Food Code* by all states and territories, and to develop standards governing the safety of foods during transportation.

Education

Sixth, the initiative strengthens food safety education for all those involved in producing and preparing food. It does so through the formation of partnerships to broaden the impact and scope of educational efforts, through the design of educational messages that are appropriate for the various audiences, and through the use of innovative outreach methods. We must provide

education to a variety of audiences, and we must create educational messages that address the risks relevant to each audience farm to table.

A new food safety education campaign, the result of a unique public-private partnership consisting of industry, government, and consumer groups, was announced in October. The campaign urges all Americans to fight "BAC,"--that's B-A-C, a green, slime--oozing bacterium. You will see this educational campaign gather momentum in the coming months.

"Fight BAC™" concepts can also apply to the animal production level. I challenge you as leaders to encourage common sense practices and to develop the partnerships necessary to address the education of producers in the HACCP era.

We also will use existing mechanisms, such as the Cooperative Extension Service and professional associations, to strengthen and implement programs to educate producers, veterinarians, and state and local regulators about proper drug use and HACCP. The veterinary community can help greatly in educating veterinarians and animal producers about minimizing and focusing the use of animal drugs, just as the Centers for Disease Control and Prevention, in its new newsletter C.A.USE (Careful Antibiotic Use to Prevent Resistance), educates physicians about the best use of antibiotics in humans. The United States is one of the few countries that allows over-the-counter drugs to be used by non-veterinary professionals. If we support such a policy, then we must also support education and record keeping to encourage the prudent use of those medications.

Strategic Planning

The last initiative establishes a strategic planning effort to consider how to make the best use of each agency' s limited resources. This process will involve all public and private stakeholders. Through the overall President's initiative, we have laid the groundwork for a strategic planning effort, and we believe it is essential to build on this initial progress.

Closing

In closing, through the President's Food Safety Initiative, a framework exists through which all of us can work together to improve food safety from farm to table. We have accomplished much already, but we have much farther to go.

Our future success will depend on many factors. It will depend on all us being willing to find solutions without necessarily knowing all the answers. It will depend on all of us taking our fair share of the responsibility for examining practices over which we have control, and looking for opportunities where education may be able to change practices over which we have *no* control. And it will depend on all of us working together through

I look forward to working with all of you to build the best food safety system we can.