TFAH OVERVIEW ON MAD COW DISEASE, FOOD SAFETY PROCEDURES

Washington, DC, March 2006 – The recent U.S. Department of Agriculture (USDA) announcement that a cow in Alabama has tested positive for bovine spongiform encephalopathy (BSE), better known as "mad cow" disease, highlights the danger of animal-borne diseases and the fragility of U.S. disease tracking and testing policies.

Mad Cow Overview
Mad cow is a fatal disease that strikes the central nervous system of cattle. Formally known as bovine spongiform encephalopathy (BSE), the disease was first diagnosed in Great Britain in 1986 and is now found in over 30 countries, including the U.S. and Canada. Humans can contract a related illness, variant Creutzfeldt Jakob disease (vCJD), by eating infected beef. While nobody in the United States has been known to die from disease, mad cow disease has killed over 150 people in the United Kingdom. There is no known treatment or vaccine to prevent the disease in animals or humans.

The origin of mad cow disease is not known definitively; however, evidence suggests that certain contaminated feed ingredients are the source of the illness in cattle. For instance, cattle feed can become contaminated when the inedible remains from cows and sheep already harboring the mad cow agent are used to create a high-protein supplement which is then added to cattle feed. The BSE agent then can be transmitted to additional animals that are in turn slaughtered, and the process repeats. Many scientists believe this is how BSE was spread through cattle herds in the United Kingdom.

Economic Impact
In addition to the loss of lives, the economic impact from a mad cow scare may be tremendous. In 2003, a single cow in Canada was diagnosed with mad cow disease, leading as many as thirty nations (including the United States) to place a ban on Canadian cattle and beef imports. To date only four Canadian cows have been diagnosed with the disease, and no person has been infected. However, the economic losses due to the import bans have been massive, as estimates range from $1.6 billion to $3.2 billion.

If a significant outbreak of mad cow disease in the U.S. occurred, the Food and Drug Administration (FDA) estimates that there would be a loss of $15 billion, resulting from a 24 percent decline in domestic beef sales and an 80 percent decline in beef and live cattle exports. Slaughter and disposal costs of at-risk cattle could be additional $12 billion. The experience of the cattle industry after mad cow disease was discovered in Britain and, recently, Canada, along with the import ban placed on beef after mad cow was discovered in four animals, show that trade losses can be substantial.

Public Health Response to Mad Cow Disease
Oversight and regulation responsibilities for detecting and preventing mad cow disease are diffuse. There are five federal Cabinet Departments, three offices within the Executive Office of
the President, and three agencies within HHS involved in mad cow prevention. Their efforts are
connected through an Interdepartmental Steering Committee for BSE/TSE Affairs. At least a
dozen federal agencies implementing more than 35 statutes make up the federal part of the food
safety system, which is tasked with controlling food-borne illnesses. Twenty-seven states are
also involved in implementing food safety regulations. Each agency has unique responsibilities
in carrying out the nearly three dozen federal laws.

The federal regulatory system for food safety evolved on a piecemeal basis, typically in response
to a particular health threat or economic crisis. As lawmakers address new threats, they typically
amend existing laws or enact new ones without updating previous statutes. The organizational
and legal patchwork results in divided jurisdictions for specific food items among different
agencies, which then have different authorities and responsibilities.

Food safety problems occur in part because responsibilities are still divided among several
agencies, and each of these agencies operates independently with different regulatory
approaches. For instance, FDA regulates frozen pizza. However, if the pizza is topped with
two percent or more of cooked meat or poultry, the USDA (Food and Safety Inspection Service)
regulates it. Inspections at pizza production facilities follow two sets of guidelines issued, one
from FDA and one from USDA.

A range of legislators, consumer groups, the U.S. Government Accountability Office (GAO),
and the Institute of Medicine (IOM) at the National Academies of Science (NAS) have called for
a change from the current Byzantine federal food safety system to a single, independent food
safety agency. Other countries, including Canada, Denmark, Great Britain, and Ireland each
have single agencies that are responsible for the full range of food safety activities.

To detect mad cow disease in U.S. cattle, the USDA implemented a surveillance program that
conducts post mortem tests for BSE in the brains of cattle that cannot walk and those with central
nervous system disorders. The Office of International Des Epizooties (the animal health
equivalent to the World Health Organization) sets recommended cattle testing levels based on
the size of the adult cattle population. Since 1994, the U.S. has complied with these levels.
However, because testing is not performed on healthy animals, the percentage of total animals
that are slaughtered each year is small. Only about 20,000 out of the 36 million

Recommendations
To address the current problems in controlling and preventing animal-borne illnesses such as
mad cow disease, TFAH offers the following recommendations to federal policymakers:

- **Designate a General in the War Against Animal-Borne Diseases**
  TFAH’s research on behalf of its 2003 report on animal-borne diseases found over 200
different government offices and programs engaged in the response to just five diseases,
which creates a literal public health maze. As many as six cabinet-level agencies are
involved in efforts to research, track, and manage the diseases discussed in this report.
Hundreds of state and local public health agencies, along with state departments of
agriculture and environmental protection agencies, also play critical roles. No one
agency has clear leadership to oversee the nation’s response to animal-borne diseases. This failure of leadership leaves federal, state and local governments without the direction, resources, and effective strategies necessary to protect the American public from these threats.

Authority should be consolidated and given to a reconstituted version of the Assistant Secretary for Health or the Surgeon General’s office to lead and coordinate our national response to animal-borne disease threats. This office should ensure that the various governmental agencies -- at the federal, state and local level -- are coordinated, well-functioning, and capable of responding rapidly across jurisdictional boundaries. Just as the Department of Homeland Security coordinates different aspects of national security, there must be a concerted effort to ensure that we, as a nation, attack animal-borne diseases in a high-priority, unified, coherent, streamlined, and well-managed way.

To perform these functions, the Assistant Secretary or the Surgeon General’s office requires the skills, means, and authority to bring together the range and depth of experts and resources needed to combat zoonotic diseases. This includes establishing a National Animal-Borne Disease Prevention and Control Committee. The Committee’s mission would be to coordinate disease research, surveillance, prevention, and control efforts, and to make recommendations for improving the nation’s rapid response to public health emergencies caused by zoonoses and systemic improvements to address ongoing needs. This group also should connect and apply lessons learned among different diseases, making recommendations for changes and improvements to all government agencies.

- **Create a Nationwide Disease Tracking Command Center at CDC**

Tracking an emerging health threat, like a new animal-borne disease, allows health officials to identify its origin, understand how to diagnose and treat patients, and find ways to contain its spread. However, most animal-borne diseases are tracked on an *ad hoc* basis, or at a state level without formal interstate coordination. For instance, CDC has established the independent ArboNET surveillance system that identifies cases of mosquito-borne illnesses, including West Nile virus. ArboNET, however, does not connect to other health tracking efforts, such as chronic diseases, including those that may be linked to similar vectors or environmental factors.

TFAH recommends Congress provide the mandate, resources and support to establish a centralized disease tracking center within CDC for nationwide health tracking. This would include tracking animal-diseases, chronic diseases, such as cancer, asthma, events related to bioterrorism, and environmental risks. The national tracking system could build, in part, from the new architecture being developed for electronic medical records.

---

4. Ibid.