

Washington Partners Respond to a Food Safety Emergency

Two days before Christmas in 2003, when many state and local public health workers were enjoying the holidays with friends and family away from the office, Washingtonians learned that a cow in Washington State had tested positive for bovine spongiform encephalopathy, known as BSE or Mad Cow Disease.

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The U.S. Department of Agriculture's (USDA) immediate concern about finding the first BSE-positive cow in the United States was the potential economic blow to the approximately 9,600 family farms and ranches in Washington involved in beef production and the state's 750 dairy farms. (Dairy products are the second largest commodity in Washington, and beef is fourth.) The effect on the food supply was also a concern, so the first call made from Governor Gary Locke's office, on notification by the USDA, was to the Washington State Department of Agriculture (AGR). AGR is the cabinet-level state agency that manages programs that support the agricultural community and promote consumer and environmental protection.

Even though BSE is considered an animal disease, the governor's office also recognized its potential effect on public health as a consumer food safety issue. So, the Washington State Department of Health (DOH) was the second call. DOH, also a cabinet-level agency, provides resources, technical assistance, and consultation in a variety of areas, including food safety, epidemiology, risk assessment, and technical and laboratory support.

Since the BSE event occurred in Yakima County, DOH quickly involved the Yakima Health District, which is one of 35 local health jurisdictions (LHJs)—county health departments, city-county health departments, and multiple county health districts—covering Washington's 39 counties. The LHJs provide frontline public health services and are major sources of public health information for their communities.

As events developed, more than 700 cows were killed and tested for BSE. Although none were found to be positive for the disease, the environmental threat from disposing of a large number of carcasses became clear, and the State Department of Ecology (Ecology) was called in. Ecology is Washington's principal environmental management agency, focusing on preventing and cleaning up pollution and supporting sustainable communities and natural resources.

The local health departments routinely

partner with DOH, but although DOH had previously partnered with AGR and Ecology to address health concerns, this was a complex issue with unclear health ramifications and potentially enormous economic ramifications. Despite the mutual focus on dealing with the infected cow, each agency brought competing values and organizational styles to the partnership. They had to find a way to balance the economic risk to farms against the potential risk to human health and the environment. Lack of clear federal communications and guidelines complicated the partnership's work.

The December holidays put food on everyone's mind, and as news reports about the BSE-infected cow continued, public concern reached an all-time high. Response to a health emergency, such as the BSE event, is usually handled by the Centers for Disease Control and Prevention, but in this case the USDA assumed the prime authority for response. As a result, AGR, now also in the lead at the state level, had to field questions from an anxious public about the risk to humans from eating beef. Was beef safe to eat and milk safe to drink? AGR turned to DOH for assistance, support, and coordinated information.

A Joint Information Center was established in Olympia at AGR, and staff was recruited from AGR, Ecology, and DOH to be relocated near the site or provide updates and communication from their normal locations. Local health officials were briefed and asked to provide public health information, with guidance from DOH's Division of Environmental Health, the Office of Communicable Disease Epidemiology, and the DOH Communications Office.

The three state agencies—and other entities when their input and guidance or decision making were needed—held daily coordinated phone conferences over the holidays and throughout the early weeks of January.

Managing public health issues

Public health concerns abounded. The effect on Latino communities, in particular, was a

serious challenge, since they have a tradition of preparing and eating brains and organ meats during the holidays. Public health communicators relied on their experience in working with Latino populations who had been exposed to other types of infectious agents, such as in homemade *queso fresco* (farm fresh cheese), to develop public health risk communication messages in Spanish. DOH staff worked with local public health staff and communications office staff from the state and local agencies to coordinate these public health and safety messages.

Another public health concern involved the disposal of the carcasses. Finding an environmentally safe disposal site brought Ecology into a leading role for recommending solutions and for coordination. Little scientifically valid information exists on the fate of prions (abnormally folded proteins) in the environment, and the agencies held many discussions about the relative merits—of burial versus burning. USDA, on the strong recommendation of Ecology, DOH, county officials, and the Yakima LHJ, decided to dispose of the carcasses in a state-of-the-art landfill located in an isolated site that met the environmental requirements for protection of the air, land, and water.

The owners and operators of the beef and dairy farms in the area bore the brunt of the economic effects of the event, although as time passed other areas around the state were also suspected of BSE contamination. Besides the economic effects on the farmers, they suffered psychologically, as a result of losing so many animals and being the center of media attention. Stress has well-known effects on health and is one of the public health concerns that must be considered in a health emergency such as this one.

The basic theme of the Institute of Medicine's report *The Future of the Public's Health in the 21st Century* is that ensuring the public's health requires action beyond the traditional public health agency. The report argues that to approach health from a broad perspective, public health must take into account the potential effects of many different factors—social, economic, natural, political—that can and do affect health. The success of the public health system depends on collaboration among all levels of government.

The response of Washington's public health and other state agencies to the BSE event demonstrates the power of this expansive model of modern public health, in which nontraditional partners work together, crossing boundaries of perspective, scientific discipline, and cultural norms to address emerging public health concerns. The groundwork laid in cross-departmental teamwork is a model the whole Washington public health system is embracing, as it prepares to meet the next unknown, but not unexpected, health emergency. 🐾

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Resources

Animal Health. Washington State Department of Agriculture. <http://agr.wa.gov/FoodAnimal/AnimalFeed/BSE.htm>.

For more BSE resources see the online resources at www.nwcphp.org/nph/.

Background on BSE

Bovine spongiform encephalopathy (BSE) is a progressive, fatal neurologic disorder that occurs in cattle. Related diseases (known as transmissible spongiform encephalopathies (TSEs)) occur as scrapie in sheep and chronic wasting disease in deer (*Odocoileus* species) and Rocky Mountain elk (*Cervus elaphus nelsoni*). These diseases in animals and humans are believed to be caused by infectious agents called prions. Transmission in animals primarily occurs by eating feed contaminated with prion-infected tissues from other animals or from a mother to calf during pregnancy.

Prion diseases also affect humans, and the classic human TSE is Creutzfeldt-Jakob Disease (CJD). Creutzfeldt-Jakob Disease is extremely rare (one case per million people annually) and has several forms, including sporadic (exact cause is unknown), familial (hereditary), and iatrogenic (following exposure to contaminated equipment for brain surgery or tissue transplants from infected donors). Recently, a new human TSE has been recognized in countries affected by BSE and is believed to be related to eating meat contaminated with the BSE agent. This disease is known as variant CJD, or vCJD.

Surveillance for Human TSEs

In March 1996, a United Kingdom advisory committee concluded that BSE had likely spread to humans, following the recognition of 10 people with newly described variant CJD. Surveillance in the United States began in 1996 when the Centers for Disease Control and Prevention (CDC) asked state and local public health agencies to begin looking for human TSEs through review of death certificates and investigation of suspected cases of TSE. As of August 2004, 150 people have died of definite or probable vCJD worldwide, most in the United Kingdom and France but with one case each in Canada and the United States. The vCJD cases in Canada and the US were long-term residents of the United Kingdom and are believed to have been exposed to BSE while residing there. The number of vCJD cases reported to date is relatively small compared with an estimated one million or more cattle infected with BSE in the United Kingdom alone, indicating that a species barrier may provide some protection for humans against vCJD.

Surveillance for human TSEs is being enhanced in Washington by educating health care providers and encouraging them to report suspected cases of human TSE, including CJD, to their local health jurisdiction. These diseases are difficult to detect, and an autopsy is usually required to obtain brain tissue for diagnosis. DOH, CDC, and the National Prion Disease Pathology Surveillance Center at Case Western University are working to improve the detection of TSEs by asking providers to discuss the possibility of an autopsy with family members of patients suspected of having a TSE. 🐾