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Summary of testimony by Michael Greger, M.D., on behalf of the Humane Society of the United States (HSUS) to the Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce, "Contaminated Food: Private Sector Accountability" hearing on February 26, 2008

Background: In fall 2007, an HSUS investigator accepted a job with Chino, CA's Hallmark/Westland plant. He drove cattle from trucks and pens into a chute that led to the kill floor. From his first day on the job, he witnessed blatant, commonplace cruelties inflicted on cattle by workers who ignored regulations meant to prevent the abusive torment of downers simply so they could get these crippled cows into the kill box, including: ramming downers with the blades of a forklift; jabbing them in the eyes; and torturing them with a high-pressure water hose to simulate drowning—all in attempts to force sick or injured animals to walk to slaughter. These were not isolated incidences, but heinous acts that happened routinely and were a part of the corporate culture.

Hallmark/Westland and USDA: From USDA's records, we found that in '07 Westland was the 2nd largest beef supplier to USDA's Commodity Procurement Branch, which purchases food for needy families, the elderly, and the National School Lunch Program, which distributed Westland beef to 43 states in the last two years. USDA named the plant '04-'05 "supplier of the year." A USDA veterinarian handling ante-mortem inspection was present only at 6:30 a.m. and 12:30 p.m.—predetermined times at which he approved for slaughter large groups of cattle if able to stand or walk.

USDA Knowledge of Illegal Animal Mistreatment: The abuses we documented are being downplayed as conducted by rogue employees, but there is a history of questionable behavior by the company. FSIS cited Westland in '05 for mishandling animals, and the Pomona Valley Humane Society and SPCA notified USDA three times about possible violations in '96 and '97. The USDA itself was not following its own stated policy of keeping downers out of the food supply. The USDA's Office of the Inspector General chastised USDA in '06 for its inconsistent and insufficient application of downer policies and regulations. The OIG sampled 12 plants in 10 months and found 29 downers were slaughtered for human food, and the audit noted the lack of documentation on the animals' fitness for consumption.

Human Health Concerns: Downed cattle may be at higher risk of contamination with conventional foodborne pathogens such as *E. coli* and *Salmonella*, and unconventional pathogens that cause mad cow disease and intestinal anthrax. In 2003, a USDA-funded study found downers more than three times *more likely* to harbor the potentially deadly *E. coli* O157:H7 strain than walking culled dairy cows. According to FDA: "Experience has shown that nonambulatory disabled cattle...are the population at greatest risk for harboring BSE." The FDA cites Swiss data showing a 49-58 times higher chance of finding BSE in downers than in cattle reported as BSE-suspect under passive surveillance. Of the 15 cases of BSE discovered in North America, 12 have reportedly been downers.

Unacceptable Loophole: The 2004 no-downer rule was weakened in July 2007, allowing inspection personnel to "determine on a case-by-case basis the disposition of cattle that become nonambulatory after they have passed antemortem inspection," which is an unrealistic, impossible expectation. Injury and illness are often interrelated, as we saw in at least three of the documented BSE cases in North America, in which downers were identified as nonambulatory due to injury, not illness.

Next Steps: We urge Congress to swiftly pass H.R. 661, the Downed Animal and Food Safety Protection Act, which would implement a comprehensive ban on processing downed animals, which the USDA has so far failed to do on its own, and H.R. 1726, the Farm Animal Stewardship Purchasing Act, which would set basic animal welfare standards for producers who sell food to the National School Lunch Program and other federal programs. USDA needs to revamp its inspection procedures, providing for more random ante-mortem checks and a greater presence of personnel in

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the handling areas. USDA should also require video cameras in the ante-mortem inspection area and allow for viewing of the tape by the inspectors and by independent 3rd parties.

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Testimony by Michael Greger, M.D., on behalf of the Humane Society of the United States

February 26, 2008 Hearing: "Contaminated Food: Private Sector Accountability"

Subcommittee on Oversight and Investigations

House Committee on Energy and Commerce

Mr. Chairman and members of the subcommittee, thank you for the opportunity to testify about the horrendous animal cruelty and the many food safety gaps we exposed during a recent hidden-camera investigation of a dairy cow slaughter plant in southern California.

My name is Dr. Michael Greger and I serve as the Director of Public Health and Animal Agriculture for the Humane Society of the United States. You have just seen a video narrated from the perspective of our undercover investigator who worked at the Hallmark/Westland Meat Packing Company for approximately six weeks at the end of 2007. The investigator witnessed and documented egregious mistreatment of animals, particularly downed cows too sick or injured even to stand or walk.

Our investigator's own experiences and our other research findings have unveiled shortcomings with the U.S. Department of Agriculture's (USDA's) ante-mortem inspection program and weaknesses in the agency's policies on handling downer cattle.

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The Investigation

In fall 2007, our investigator applied for a position with the Chino, California-based Hallmark Meat Packing Company, a federally inspected slaughter plant, which supplies carcasses to Westland Meat Company, which, in turn, processes the carcasses into ground beef. The companies are affiliated and essentially treated as one entity; they operate from the same building and share the same USDA registration number. From USDA's own records, we learned that in 2007 Westland was the second-largest supplier of beef to USDA's Agricultural Marketing Service (AMS). AMS purchases beef for distribution to needy families, the elderly, and also to schools through programs, including the National School Lunch Program, administered by the Food and Nutrition Service. Westland was named a USDA "supplier of the year" for the 2004-2005 academic year.

It is critical to point out that we did not do a broad risk assessment of a large number of plants and then conduct a more thorough examination of a high-risk facility. The plant was selected at random, and during the course of the investigation, we learned that Westland was the number-two beef supplier to the National School Lunch Program and to other USDA commodity distribution programs. We learned after the field portion of the investigation that Hallmark/Westland had previously been cited for mishandling animals.

The investigator's job at Hallmark was to help drive cattle from transport trucks and holding pens into a chute that led to the killing floor. He regularly worked grueling ten-hour days, five or six days a week. The job of getting tired, bewildered, and hungry cattle to move is challenging and made even more difficult when the animals are primarily end-of-production, or "spent," dairy cows, who are often sick, injured, and suffering.

Every day, he witnessed blatant and commonplace cruelties inflicted on animals by employees who purposefully ignored regulations meant to prevent the torment and abuse of downed animals simply so they could get these cattle who could not even walk into the kill box. He filmed workers ramming cows unable to stand with the blades of a forklift; jabbing them in the eyes; applying painful electrical shocks, often in sensitive areas; and torturing them with a high-pressure water hose to simulate drowning in attempts to force crippled animals to walk to slaughter.

It is important to note that these were not isolated incidences of mistreatment of downed cattle, but deliberate acts that happened routinely at the plant. They were part of the slaughter plant culture.

In fact, on the investigator's very first day of work, he saw a cow collapse on her way into the stunning box. After she was electrically shocked and still could not stand, she was shot in the head with a captive bolt gun to stun her and then dragged on her knees into slaughter.

A USDA inspector was only present in the live animal area twice daily at 6:30 a.m. and 12:30 p.m.—predetermined times at which he merely noted those animals who could not stand and then approved the remainder for slaughter. Let me emphasize the lack of rigor in the approval-for-slaughter process. The veterinarian did not make an animal-by-animal inspection, but simply took a look at large groups of animals as they passed by him, and if the animals could stand or walk, he would approve them. The inspector typically approved 350 animals for slaughter in the morning and then about 150 animals in the afternoon inspection.

The horrific treatment of animals we documented is being downplayed as an unconscionable aberration—the work of just a handful of rogue employees. We do not believe this is an accurate characterization. It has come to light that Hallmark/Westland has a long, documented history of abusing downed cattle. In fact, the Food Safety and Inspection Service (FSIS) cited Westland in 2005 for mishandling animals, and the local Pomona Valley Humane Society and SPCA notified USDA three times about possible violations in 1996 and 1997. In 1996, the Pomona Valley Humane Society wrote a letter to Hallmark stating: “We have had numerous incidents with your facility in the past involving downer animals and loose animals creating public safety issues.” The USDA was copied on that letter. Either management provided instructions to get the downers moving or was asleep at the wheel and let employees run wild—in either case, it’s an indictment of management.

In terms of the larger picture of USDA oversight, we also know that slaughtering nonambulatory cattle was not isolated to this plant. The USDA's own Office of the Inspector General (OIG) chastised the agency in 2006 for its inconsistent application of downer policies and regulations after observing the processing of downed cattle. The use of a forklift was observed to move downed animals to the slaughter area. The OIG sampled 12 slaughter plants in 10 months and found that 29 downed cattle were slaughtered for human food, and the audit noted the lack of documentation on the animals' fitness for consumption. This practice contravened the operational rule, published in January 2004, that banned any slaughter of downed cattle and was adopted in the wake of the first positive finding of bovine spongiform encephalopathy (BSE) in the United States in Washington State.

The investigation by the Humane Society of the United States¹ is not the only one to uncover this scandalous and dangerous treatment of downed cattle, but it is the most recent. Others²⁻⁴ have also documented abuses to crippled cattle in efforts to move them at slaughter facilities.

As a result of our effort, the FSIS, citing "egregious violations of humane handling regulations," suspended inspection at Hallmark and the Agricultural Marketing Service temporarily suspended the slaughter plant's vendor status, making it ineligible to sell beef to the government,⁵ and the company is now responsible for the largest beef recall in U.S. history.⁶ At least 47 states had directly or indirectly

received shipments of recalled beef purchased by the USDA. The San Bernardino County District Attorney has charged a Hallmark supervisor with five felony counts under California's anti-cruelty statute and three misdemeanor counts alleging the use of a mechanical device to move nonambulatory cattle, and a second worker has been charged with three misdemeanors involving downers. The investigative findings of downed cattle mistreatment and allegations of nonambulatory animals being slaughtered for human consumption also prompted congressional reaction,⁷ led school districts to pull beef from their menus,⁸ and purportedly led to questioning of the reliability of the USDA inspection process.⁹ But, despite all of this, sick and injured cattle can and likely will still be slaughtered and put into the American food supply unless fundamental changes are implemented to protect animal welfare and protect human health and that of the Nation's most vulnerable citizens.

Human Health Risks Associated with the Slaughter of Downed Cattle

Aside from the serious welfare concerns of such treatment of downed animals, this practice raises food safety issues, as some studies have shown that nonambulatory cattle may suffer from higher rates of foodborne pathogens.¹⁰

Texas A&M University researchers were among the first to alert the medical community of the potential for downed cattle to present a vehicle to contaminate

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the human food supply with bacterial pathogens. They studied 30 downed cattle who had no outward signs of illness, except for inability to rise, and had all passed antemortem inspection. Even though these nonambulatory animals appeared otherwise healthy, when the researchers took bacterial cultures, they found cows infected with *Salmonella* and *E. coli*. The researchers concluded: “Results of this study of 30 cattle indicate that pathogens may be circulating in the blood of some recumbent cattle at the time of slaughter.”¹¹ Commenting on areas of concern, the scientists noted:

It should be remembered that much of the meat from recumbent cattle goes into the production of ground beef, which, because of the grinding process and extra time it spends at a temperature higher than the whole carcasses, usually attains a high bacterial cell count per gram by the time processing is finished. Contaminated meat used to make ground beef would also contaminate subsequent clean meat exposed to common machinery (eg, grinders) and, thus, would increase the danger of contamination.¹¹

This research shows that even when downed animals appear otherwise healthy, they may be harboring dangerous pathogens.

The majority of nonambulatory cattle are dairy cows.¹⁰ Virtually all dairy cows are ultimately slaughtered for human consumption in the United States.¹² Annually, 6 million culled dairy cows enter the food chain as ground beef,¹³ accounting for at

least 17% of the ground beef produced in the United States.¹² Since the muscles of dairy cows have a lower fat content, they are commonly used in producing the more expensive “lean” hamburger.¹⁴

According to a 2003 review, downed dairy cattle “may harbor greater numbers of pathogens, and their slaughter may increase spread of pathogens at the slaughter establishment.”¹⁵ In *Meat & Poultry*, research is cited to explain why

nonambulatory cattle tend to have higher levels of bacteria on their carcasses:

“Lame animals spend more time lying down, which increases the likelihood they will be contaminated with fecal matter.”¹⁶ In addition to the potential for

contamination of the meat with fecal pathogens, when dairy cows are slaughtered,

“[k]nives, carcasses and the hands of personnel may be contaminated by contents of the mammary gland when this is removed from the cow during processing.”¹²

Intramammary infections (mastitis) affect up to nearly two-thirds of cows in U.S. dairy herds¹⁷ and are one of the most common reasons dairy cows are sent to

slaughter.¹² Inappropriate excision of the udder during the slaughter process can

contaminate the rest of the carcass with milk that could contain *Listeria* and other

milk-borne pathogens. A 1997 review of the microbiological hazards of eating meat

from culled dairy cows concluded: “In the USA, dairy cattle are raised and

managed with increasing intensification, and this intensification may promote the

maintenance of a variety of micro-organisms which could be pathogenic to humans

through food.”¹²

***E. coli* O157:H7**

In 2003, a study funded by the USDA was published that investigated the “potential impact to human health that may occur following consumption of meat derived from downer dairy cattle” by measuring infection rates of one of the most virulent foodborne pathogens, *E. coli* O157:H7. The investigators found that downed cows were 3.3 times more likely to harbor the potentially deadly *E. coli* strain than walking culled dairy cows. The researchers concluded that “downer dairy cattle harboring *E. coli* O157:H7 at slaughter may be an important source of contamination and may contribute to the health risk associated with ground beef.”¹⁸ The results of this study led USDA Microbial Food Safety Research Unit Research Leader John B. Luchansky to question whether, based on *E. coli* alone, nonambulatory cattle should be excluded from the U.S. meat supply.¹⁹

E. coli O157:H7 infects tens of thousands of Americans every year, causes dozens of deaths,²⁰ and may be the leading cause of acute kidney failure in previously healthy U.S. children.²¹ Speculatively blamed in part on the increasing intensification of dairy farming,²² prevalence rates in U.S. dairy herds have ranged up to 100%.²³ Quoting USDA researcher Caitriona Byrne and colleagues: “Due to the ubiquity of *E. coli* O157:H7 among cattle, as well as its low infective dose and the severity of the resistant illness in humans, effective control of the pathogen may be possible only by eliminating this microorganism at its source rather than by relying on proper food handling and cooking thereafter.”¹⁸

A 2005 review in the *Journal of Dairy Science* likewise concentrated on the risk of contracting virulent strains of *E. coli* from eating ground beef from dairy cows that may be tainted with fecal material. These toxin-producing strains can cause hemorrhagic colitis and progress to kidney failure, coma, and death, particularly in young children.²¹ Dairy cattle “enter the food chain as ground beef,” the review reports, and “[a]s a result, downer dairy cows harboring STEC [Shiga toxin-producing *E. coli*] at slaughter can be a health risk to humans.”¹³ Meat from diseased and disabled cattle has also been implicated in a similar life-threatening disease in dogs.²²

Salmonella

Salmonella infection hospitalizes thousands of Americans every year, kills hundreds, and can lead to chronic conditions such as arthritis, bone infections, cardiac inflammation, and neurological disorders.²⁴ According to the Centers for Disease Control and Prevention, *Salmonella* strains in the United States are growing resistant to nine different antibiotics.²⁵ One strain, known as *Salmonella* Newport MDR-AmpC, is even growing resistant to ceftriaxone, a powerful antibiotic vital for combating serious infections in children.²⁵

Multiple outbreaks of this new multidrug-resistant *Salmonella* strain have been tied to dairy farms,²⁶ ground beef made from dairy cows,²⁷ and dairy products.²⁸

Investigating one deadly outbreak of antibiotic-resistant *Salmonella* involving hundreds of people, California public health officials traced the cases back to meat from infected dairy cows slaughtered for hamburger. In their report published in the *New England Journal of Medicine*, they were able to correlate risk of contamination with the slaughter plants that received the most moribund and dead cattle. The researchers noted: “Stressed animals are more likely to shed *Salmonella* in large numbers.”¹⁴

In addition to the immunosuppressive effect of stress, nonambulatory animals may also be more likely to shed pathogenic bacteria, “[s]ince animals going to slaughter are generally in a temporary state of starvation, and it is known that starvation causes *E. coli* and *Salmonella* to proliferate” due to changes that occur in the animal’s rumen. By the time most cattle are slaughtered, they have been starved for variable periods of time, in part because empty rumena are easier to eviscerate.²² This may be particularly relevant to downed cattle populations who may be left to starve for extended periods before they are finally slaughtered.

Carolyn Stull of the University of California-Davis School of Veterinary Medicine has studied *Salmonella* infection in downed cows and reported her results at a 2004 American Meat Institute conference. Her team sampled 50 downed cows and found 7 to be infected with *Salmonella*. Despite infection, however, at least five out of the seven infected cows, including at least one cow who was septicemic, were known to have passed USDA antemortem inspection for human consumption.²⁹ Another

pilot study identified 6 out of 20 nonambulatory cattle sent for slaughter to be fecal shedders of *Salmonella*.³⁰

Anthrax

Anthrax is a farm animal disease that can infect, though very rarely, the human meat supply.³¹ In 2000, 32 farms were quarantined for anthrax in the United States.³² That summer, at least five people were exposed to meat “highly contaminated” with anthrax from a downed cow who was approved for slaughter and human consumption. These cases were reported by the Centers for Disease Control and Prevention as “Human Ingestion of *Bacillus Anthracis*-Contaminated Meat.”³³ Had a ban on the slaughter of downed cattle been in effect, these people may have been spared. Subsequently, a family stricken with gastrointestinal, oropharyngeal, and meningeal anthrax tied to the consumption of a sick sheep was reported,³⁴ suggesting it may be prudent to exclude all nonambulatory animals—not just cattle—from the human food supply.

Frank Garry, the coordinator for the Integrated Livestock Management Program in the College of Veterinary Medicine and Biomedical Sciences at Colorado State University, reportedly suggests that the slaughter of nonambulatory farm animals may present a threat to national security:

The threat of bioterrorism adds one more reason to end the use of nonambulatory animals in human food. An animal that is unable to walk because of illness should probably not be processed for human food consumption, regardless of whether the animal was intentionally or unintentionally contaminated. As long as the USDA continues to slaughter diseased livestock, it is possible that a bioterrorist attack could make people very sick and undermine confidence in American agriculture.³⁵

Culled dairy cows may present particularly vulnerable agroterrorist targets as they are slaughtered and ground into hamburger. “Given that only a single infected carcass can contaminate a large lot of ground beef,” wrote USDA researchers in a 1996 review, “it is possible that, whereas in the past an infected animal would produce only a small number of cases, such an animal could now cause a large, widespread outbreak.”²² According to Robert Tauxe, Chief of the Foodborne and Diarrheal Diseases Branch of the Centers for Disease Control and Prevention, each burger may reportedly be made from the flesh of hundreds or even thousands of different cows.³⁶ One mathematical model suggests that a single downed cow infected with a pathogen such as *E. coli* O157:H7 could theoretically contaminate more than 100,000 hamburgers with an infectious dose.²²

Bovine Spongiform Encephalopathy

Bovine spongiform encephalopathy is a transmissible spongiform encephalopathy (TSE) of cattle that may manifest with behavioral symptoms, earning the disease its colloquial name “mad cow disease.” The rendering of sheep infected with an ovine spongiform encephalopathy (known as scrapie) into cattle feed may have led to the emergence of BSE.³⁷ In modern animal agriculture, protein concentrates, or “meat and bone meal”—terms that encompass “trimmings that originate on the killing floor, inedible parts and organs, cleaned entrails, fetuses”³⁸—are fed to dairy cows, for example, to improve milk production.³⁹ According to the World Health Organization, nearly 10 million metric tons of slaughter plant waste is fed to farm animals every year.⁴⁰

Although the first case of BSE was documented in the United Kingdom in 1986, there reportedly exists “very sound” evidence that a rare form of the disease was already circulating in the United States.⁴¹ One year before BSE was initially reported in Britain, Richard Marsh, chair of the Department of Veterinary Science at the University of Wisconsin-Madison, was alerting dairy producers of the possibility that a “previously unrecognized scrapie-like disease in cattle” existed in the United States⁴²—a concern borne out of investigations of sick mink.

Mink have proven to be sentinel animals, like canaries in coal mines. They were reportedly the first, for example, to show toxicity from the vaginal cancer-causing synthetic estrogen diethylstilbestrol (DES) and the industrial carcinogens polychlorinated biphenyls (PCBs).⁴³ Since 1960, there have been four outbreaks of

mink spongiform encephalopathy known as transmissible mink encephalopathy (TME) on U.S. fur farms.⁴⁴ This was perplexing, as researchers had been unable to orally infect mink with scrapie-infected sheep brains.⁴⁵

A clue to the origin of the disease came in 1985, when TME devastated a population of farmed mink in Wisconsin who had reportedly not been fed any sheep.⁴⁶ The meat portion of their diet evidently consisted almost exclusively of downed dairy cows.⁴⁷ Marsh hypothesized that there was a form of BSE in the United States that manifested itself as more of a “downer” cow disease than a “mad” cow disease.⁴⁵

Mink were found to be experimentally susceptible to BSE; when mink were fed BSE-infected brains from British cattle, they died from a spongiform encephalopathy.⁴⁴ The disease was experimentally spread from mink to cows and from cows back to mink.⁴⁷ The critical experiments, though, involved inoculating the brains of U.S. sheep infected with scrapie into U.S. cattle.⁴⁸ In England, scrapie-infected cows go “mad,” twitching and kicking. But, in the United States, the “real surprise,”⁴¹ as Marsh recounted, was that scrapie-infected cattle instead developed difficulty in rising and terminal recumbancy⁴⁹ like downed cattle do.⁴⁸ “The signs that these cattle showed were not the widely recognized signs of BSE—not signs of mad cow disease,” Marsh reportedly said. “What they showed was what you might expect from a downer cow.”⁵⁰ Scientists have identified multiple strains of scrapie.⁵¹ Marsh posited that one of the U.S. strains may have jumped to cattle,

creating a form of BSE native to the United States.⁴³ Said Marsh to a reporter:

“That’s the only conclusion you can draw.”⁴¹

Every year in the United States, estimates range from 195,000⁵² to 1.8 million⁵³ cattle who collapse for a variety of metabolic, infectious, toxic, and/or musculoskeletal reasons and are too sick or injured to rise.¹⁰ Extrapolating from the proportion of nonambulatory cattle found in European⁵⁴ and U.S.¹⁰ surveys, the number of nonambulatory cattle in the United States may be on the order of 500,000 a year. A governmental survey of dairy producers across 21 states reportedly found that 78.2% of dairy operations had nonambulatory cows during 2004.⁵⁵ Though these animals may not have been fit enough to stand, a limited investigation of USDA slaughter plant records between January 1999 and June 2001 showed that most were still ruled fit for human consumption.⁵⁶

Based on findings in Europe⁵⁴ and the speculative evidence of a rare form of mad cow disease striking downed cows for decades in the United States,⁵⁷ nonambulatory cattle should be considered to be a particularly high-risk population. According to the Food and Drug Administration (FDA): “Experience has shown that nonambulatory disabled cattle...are the population at greatest risk for harboring BSE.”⁵⁸ The FDA cites Swiss data showing a 49-58 times higher chance of finding BSE in downed cattle than in cattle reported to veterinary authorities as BSE-suspect under passive surveillance.⁵⁹ Indeed, 12 of the 15 BSE-infected cattle

discovered in North America by February 1, 2008, have reportedly been nonambulatory.⁶⁰⁻⁷¹

Though the riskiest tissues—the brains, eyes, and spinal cords—of most cattle are now excluded from most food items in the United States,⁷² there may be contamination of muscle meat via aerolization of the spinal cord during carcass splitting.⁷³ Significant amounts of central nervous system debris found accumulating in the splitting saws used to halve the carcasses may have the potential to then transfer contagion from one carcass to the next.⁷⁴ Although, technically, processors are instructed to knife-trim “material grossly identifiable as brain material, spinal cord, or fluid from punctured eyes,”⁷⁵ researchers have reported finding nervous tissue contaminating muscle in a commercial slaughter plant.⁷⁶ Contamination of meat derived from cattle cheeks with brain tissue can also occur if the cheek meat is not removed before the skull is fragmented or split.⁷⁷

Captive bolt stunning, the predominant method used to render cattle insensible before exsanguination,⁷⁸ may blow a shower of embolic brain tissue into the animals’ bloodstream. In one experiment, a biological marker applied onto a stunner bolt was later detected within the muscle meat of the stunned animal. The researchers concluded:

This study demonstrates that material present in...the CNS [central nervous system] of cattle during commercial captive bolt stunning may become

widely dispersed across the many animate and inanimate elements of the slaughter-dressing environment and within derived carcasses including meat entering the human food chain.⁷⁹

Captive bolt stunning may also lead to ejection of brain tissue into the abattoir from the hole made by the captive bolt onto slaughter plant equipment, as well as the hands and aprons of workers removing the animals' heads.⁷⁶ A follow-up study published 2004 in the *Journal of Food Protection* determined that "this method of slaughter of an animal infected with bovine spongiform encephalopathy would be likely to contaminate edible parts of the carcass with infective material."⁸⁰ Texas A&M University researchers found bodily brain fragments as large as 14 cm (5.5 in). The researchers concluded that it was likely that BSE pathogens could potentially be "found throughout the bodies of animals stunned for slaughter."⁸¹

Despite the potential for CNS contamination and the fact that peripheral nerves⁸² and blood⁸³ found in all muscles may carry infection, the USDA⁸⁴ and the National Cattlemen's Beef Association⁸⁵ have attempted to assure consumers that beef is safe to eat, arguing that the infectious agent is not found in muscle meat. However, Stanley Prusiner, the director of the Institute for Neurodegenerative Diseases at the University of California, San Francisco, and winner of the Nobel Prize in Medicine for his discovery of prions, the cause of the BSE and other TSEs, proved in mice that muscle cells themselves were capable of forming the potentially infectious agent.⁸⁶ "I found prions in the hind limb muscles of mice," Prusiner stated, "at a

level approximately 100,000-fold higher than that found in blood.”⁸³ Prusiner reportedly described the studies relied upon by the Cattlemen’s Association as “extraordinarily inadequate,”⁸⁷ and follow-up studies in Germany confirmed his findings, showing that animals who are orally infected may indeed end up with prion contamination throughout the muscles of their bodies.⁸⁸

Although the risk of contracting BSE appears vanishingly small in the United States given how few cattle have tested positive, the neurodegenerative disease it can cause in the consumers of contaminated beef is likely invariably fatal. Because cooking temperatures do not adequately destroy prions, the onus of responsibility must rest with the beef industry or, if unable or unwilling to police itself, the federal government, to ensure infected cattle are not slaughtered for human consumption. There is evidence that the infectious proteins that cause BSE can survive incineration⁸⁹ at temperatures hot enough to melt lead.⁹⁰ In response to a question from Cornell University’s Food Science Department asking what food preparation methods could eliminate the risk of contracting BSE, then National Institutes of Health Laboratory of Central Nervous System Studies chief Joseph Gibbs remarked tongue-in-cheek that one of the only ways to ensure a BSE-free burger would be to marinate it in a concentrated alkali such as Drain-O™.⁹¹

Nonambulatory Cattle Slaughter Ban Loophole

Within weeks of the discovery of the first case of BSE in the United States in 2003, the USDA released a package of regulations designed to protect the nation's food supply.⁹²

The USDA's downed cattle regulations published January 12, 2004, instructed USDA veterinary inspectors to condemn any cattle arriving at slaughter plants "nonambulatory disabled," defined as any cattle who "cannot rise from a recumbent position or...cannot walk, including, but not limited to, those with broken appendages, severed tendons or ligaments, nerve paralysis, fractured vertebral column, or metabolic conditions."⁷⁸ Since BSE can result in an animal going down either directly, because of brain damage, or indirectly, by predisposing an animal to injury, these downed cows were to be euthanized rather than slaughtered for human consumption.

The same day that the regulations were published, however, the USDA issued Notice 5-04, instructing inspecting veterinarians how to carry out the regulations. In contrast to both the public claims by the USDA and the interim rule itself, the agency instructed inspectors to allow downed cows to be slaughtered for human consumption if they initially appeared otherwise healthy but went down within the slaughter plant itself due to an acute injury (e.g., if the animal falls and breaks a leg).⁹³ This loophole is cavalier, since underlying disease in general and BSE in particular may make an animal disoriented, weak, or uncoordinated and thereby predispose an animal to an injury sustained in a fall.

Now retired after 20 years with the USDA, Linda Detwiler was the senior staff veterinarian in charge of the USDA BSE surveillance program. In written comments submitted to the USDA, she strongly opposed any attempt to weaken the definition of “downer” to exclude those downed presumably solely from injury. “I urge the USDA to not alter this definition,” she wrote, “and to continue to prohibit for human food any bovine which cannot walk to the ‘knock box’ [slaughter area] regardless of reason.”⁹⁴

Because illness may predispose an animal to injury, Detwiler argued that the underlying cause of the nonambulatory condition may be impossible to ascertain. In other words, a broken leg might just be a symptom of a more serious problem, such as BSE. A 2003 review of the nonambulatory cattle problem concluded: “It should always be considered that two or more conditions may present simultaneously in a downer cow....”⁹⁵ Bovine veterinarian Jim Reynolds of the University of California’s School of Veterinary Medicine reportedly agrees: “It is very, very difficult for a veterinarian to differentiate the many reasons a cow may be non-ambulatory.”⁹⁶ At least three of the documented cases of BSE in North America were identified as downers due to injury, not illness,^{60,62,64} underscoring how difficult it is for inspectors to reliably determine which nonambulatory animals may be “safe.”

The first case of BSE discovered in Canada was thought to be “suffering from a broken leg.”⁶⁰ The first U.S. BSE case similarly did not seem to display any BSE symptoms—the cow was reported down due to a birthing injury that reportedly interfered with her ability to walk.⁶² She was seemingly picked at random as one of perhaps less than 1% of the downed cattle tested for mad cow disease in the United States up until that time.⁹⁷ Similarly, a third North American case was suspected of injury rather than disease. The farmer reportedly “didn’t suspect anything was seriously wrong when one of his cows slipped on the ice and hurt itself...”⁶⁴

As discussed above, in 2006, the USDA Office of the Inspector General criticized the agency for its inconsistent application of policies and regulations related to downed animals after observing nonambulatory cattle processed at two slaughter plants. In a review of 12 slaughter plants observed over the period June 17, 2004, to April 12, 2005, the OIG found that 29 downed cattle were slaughtered for human food. They “observed use of a forklift and a rail above the pens to transport nonambulatory cattle to the slaughter area.” The audit noted the lack of documentation on the animals’ fitness for human consumption.⁹⁸ Nevertheless, USDA’s on-the-ground operational conduct—documented in the OIE report—was codified in 2007 by amending the final rule to allow inspection personnel to “determine on a case-by-case basis the disposition of cattle that become nonambulatory after they have passed antemortem inspection...”⁹⁹

Next Steps

Nonambulatory cattle should be considered veterinary medical emergencies because they are precisely that.¹⁰

Given the serious animal welfare concerns and the many health risks associated with slaughtering downed animals for human consumption, the loophole in current downer protocol that was codified in 2007 and is wide enough for rampant cruelty to animals and foodborne pathogens to pass through, must be closed. The current protocol that allows inspection personnel to “determine on a case-by-case basis the disposition of cattle that become nonambulatory after they have passed antemortem inspection” is unrealistic and unworkable, and places an impossible expectation on the inspector.

Determining why an animal is down is challenging if not impossible for inspectors because injury and illness are often interrelated, as we saw in at least three of the documented BSE cases in North America in which downers were identified as nonambulatory due to injury, not illness.

As we documented during our investigation at Hallmark, nonambulatory cattle are being abused and are being slaughtered for human consumption. USDA cannot publicly boast about its comprehensive no-downer policy while it continues to allow some downer cattle to be processed for human food. Indeed, for years, the Agency has spoken about its comprehensive no-downer policy but circumvented it

behind-the-scenes with the loophole that permits slaughter of some cows unable to walk. USDA has failed to follow its official interim policy published on January 12, 2004, which specified that all downer cattle would be excluded from the human food supply, regardless of the reason the animal was nonambulatory and regardless of whether the animal went down before or after antemortem inspection. In July 2007, USDA finally made permanent its so-called “ban” on slaughtering downer cattle, but in its announcement, the agency admitted that some downer cattle have been, and will continue to be, processed for human food.

USDA’s lax enforcement of the downer rules is simply unacceptable. As documented by our investigation, inspectors may only conduct cursory observations, coming to check on animals at most twice a day and disregarding their condition for the remaining hours.

An unequivocal, truly comprehensive ban on the slaughter of downed animals for human consumption—with vigorous enforcement to ensure compliance—is needed to protect food safety and animal welfare. USDA must rewrite its rules to close the current loophole and redirect resources to provide adequate oversight. A highly visible and vigorously enforced total no-downer rule would yield immediate benefits for schoolchildren and other consumers. For the animals themselves, removing current incentives that encourage workers to try every cruel tactic imaginable to move downers to the kill box would alleviate suffering—if crippled

animals cannot be sold for food, slaughter plants have no reason to prolong their misery to try to get them through the slaughter process.

We urge Congress to swiftly pass two pieces of legislation that will help prevent such abuses from recurring: H.R. 661, the Downed Animal and Food Safety Protection Act, by Reps. Gary Ackerman and Steve LaTourette, would implement a comprehensive ban on processing downed animals, which the USDA has so far failed to do on its own. And H.R. 1726, the Farm Animal Stewardship Purchasing Act, by Reps. Peter DeFazio and Christopher Shays, would set basic animal welfare standards for producers who sell food to the National School Lunch Program and other federal programs.

We also encourage your committee to recognize that this case demonstrates some deep and systemic flaws in USDA's oversight of slaughter plants. I understand that USDA is sometimes held up as the "gold standard," particularly when compared with FDA's food safety oversight. But USDA has an inherent conflict of interest, with its prime mission being to promote agriculture, a mission that seems too often to trump its other responsibilities.

Thank you for the opportunity to testify here today on this important food safety and animal welfare issue.

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Praise for
Bird Flu: A Virus of Our Own Hatching

by Michael Greger, M.D.
Director of Public Health and Animal Agriculture
The Humane Society of the United States

“The book is timely, well written, and very comprehensive from any reader’s perspective. It also can help people understand the urgency of a possible avian flu pandemic as it now exists, and how it could affect the health and well-being of people everywhere.”

– **Julie Gerberding**, Director, U.S. Centers for Disease Control and Prevention

“The book reads like a detective novel, but its value will be equipping readers to protect themselves from the flu.... Bird Flu will be a fine addition to the office library as we continue to plan a national response to a possible avian influenza pandemic.”

– **Dirk Kempthorne**, U.S. Secretary of the Interior

“I wouldn’t hesitate to say that you have succeeded in producing a ‘best seller’ in the field of scientific books. Congratulations!”

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“Greger’s book is the best of its genre and deserves to be read by anyone who is concerned about human and animal health. This book is a must read for government and enterprise officials who are advocating and advancing poultry industry standards.”

– **Chengfeng and Ede Qin**, Chinese Academy of Military Medical Sciences virologists

“It is an important contribution for all those engaged in trying to prepare for a pandemic flu.”

– **Didier Houssin**, Chief Medical Officer and National Flu Coordinator of France

“Your contribution to research is commendable....”

– **Colonel George W. Korch, Jr.**, Commander of the U.S. Army Medical Research Institute of Infectious Diseases

“I just finished reading it and found it extremely interesting. It is a perfect sequel to Gina Kolata’s *Flu* and perhaps even more appropriately, John Barry’s *The Great Influenza*. I sincerely hope your book generates a lot of press. I plan to let my public health colleagues know that the book will be available online at BirdFluBook.org.”

– **Linda Tollefson**, Food and Drug Administration (FDA) Assistant Commissioner for Science and former Deputy Director of Center for Veterinary Medicine