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Food-Borne Ultimatum: Proposing Federal Legislation to Create Humane Living Conditions for Animals Raised for Food in Order to Improve Human Health, The

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THE FOOD-BORNE ULTIMATUM: PROPOSING FEDERAL LEGISLATION TO CREATE HUMANE LIVING CONDITIONS FOR ANIMALS RAISED FOR FOOD IN ORDER TO IMPROVE HUMAN HEALTH

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I. INTRODUCTION

Imagine coming down with a stomach virus. You are suffering from a mild fever, aches, severe cramping, and diarrhea, so you take some over-the-counter medication, go to bed, and hope your symptoms subside by morning. Instead, over the next several days, you begin vomiting, your diarrhea turns bloody, and your kidneys shut down.[1] You begin to seizure so persistently and violently that your doctor is forced to put you into an extended coma, and when you awake several months later, you are paralyzed.[2] Your physician determines that you are suffering from a severe illness caused by a virulent strain of Escherichia coli (E. coli). An investigation by state officials reveals the source: a seemingly harmless frozen hamburger patty from your local Sam's Club that you grilled and ate for dinner.[3] This nightmare is a reality for many of the tens of thousands of people who are poisoned each year by E. coli.[4] Insult is added to injury when victims learn that the devastation caused by these food-borne illnesses could be prevented by the execution of federal legislation requiring sanitary and humane living conditions for animals being raised for human consumption.

Today most farm animals live in miserable conditions. "[N]inety-nine percent of U.S. farm animals never spend time outdoors."[5] They live their entire lives in overcrowded sheds, surrounded by and often covered in their own feces.[6] For example, ninety-five percent of hens in United States factory farms are confined to wire battery cages, which allow them "less space than the area of a letter-sized sheet of paper in which to eat, sleep, lay eggs, and defecate."[7] Similarly, "[p]regnant sows are isolated in 'gestation crates' which prevent them from walking or turning around."[8] In order to prevent these animals from perishing in such deplorable

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[1] CENTER FOR DISEASE CONTROL, *Escherichia Coli O157:H7 General Information*, http://www.cdc.gov/nczved/divisions/dfbmd/diseases/ecoli_o157h7/ (last visited Jan. 19, 2011).

[2] *See* Michael Moss, *The Burger That Shattered Her Life*, N.Y. TIMES, Oct. 4, 2009, at A1.

[3] *Id.*

[4] *Id.*

[5] *See* Gaverick Matheny & Cheryl Leahy, *Farm-Animal Welfare, Legislation, and Trade*, 70 LAW & CONTEMP. PROB. 325, 329 (2007).

[6] *Id.*

[7] *See* Jonathan R. Lovvorn & Nancy V. Perry, *California Proposition 2: A Watershed Moment for Animal Law*, 15 ANIMAL L. 149, 152 (2009) (citing to United Egg Producers Certified, United Egg Producers Animal Husbandry Guidelines For U.S. Egg Laying Flocks 1, http://www.uepcertified.com/media/pdf/UEP-Animal-Welfare-Guidelines.pdf (last accessed Apr. 11, 2009)).

[8] *See* Amy Mosel, Comment, *What About Wilbur? Proposing a Federal Statute to Provide Minimum Humane Living Conditions for Farm Animals Raised for Food Production*, 27 DAYTON L. REV. 133, 148 (2001) (citing to Barbara O'Brien, *Animal Welfare Reform and the Magic Bullet: The Use and Abuse of Subtherapeutic Doses of Antibiotics in Livestock*, 67 U. Colo. L. Rev. 407, 419 (1996)).

conditions, the animals are regularly dosed with antibiotics, which, from the producer's perspective, provide the added benefit of promoting growth.[9]

These conditions and practices are horrifying from an animal welfare perspective, but they are even more frightening when human health risks are taken into account. "Confining animals in crowded, stressful, and unhygienic conditions can increase the risk of food-borne diseases."[10] Several recent studies have concluded that the risk of Salmonella infection is dramatically increased in egg-laying hens that are forced to endure intensive confinement.[11] Often, cattle arrive at the slaughterhouse covered with feces that contain E. coli,[12] thereby increasing the chance of contamination and human illness. In addition, the administration of sub-therapeutic antibiotics endangers human health by fostering antibiotic resistant bacteria which, when transmitted to humans, will be untreatable.[13] Furthermore, the increased concentration of animals in factory farm facilities creates various environmental issues, including air pollution and water contamination that have potentially devastating human health consequences. [14]

In 1873, Congress enacted the Twenty-Eight Hour Law, which provides that when animals are being transported across state lines, they may not be confined "for more than 28 consecutive hours without unloading the animals for feeding, water, and rest."[15] Congress did not address farm animal welfare again until 1958, when it passed the Humane Methods of Slaughter Act,[16] which requires that farm animals be "rendered insensible to pain" prior to slaughter.[17] These two laws represent the entire body of federal legislation on the issue of farm animal welfare[18] and deal solely with the issues of transportation and slaughter, respectively.[19] Thus, the daily living conditions of farm animals are completely untouched by federal legislation. In order to reduce the large number of human health risks associated with the reckless farming practices outlined above, Congress must enact federal legislation that requires humane living conditions for farm animals and declares a moratorium on the routine use of unnecessary antibiotics.

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[9] *Id*. at 149.

[10] *See* Lovvorn & Perry, *supra* note 7, at 152.

[11] *Id*. at 152-53.

[12] Moss, *supra* note 2.

[13] Mosel, *supra* note 8, at 161.

[14] *See* Steven J. Havercamp, Note, *Are Moderate Animal Welfare Laws and A Sustainable Agricultural Economy Mutually Exclusive? Laws, Moral Implications, and Recommendations*, 46 DRAKE L. REV. 645, 656-57 (1998).

[15] 49 U.S.C. § 80502 (2006).

[16] The Humane Methods of Slaughter Act of 1958, 7 U.S.C. §§1901-07 (2006) (§§1903 and 1905 repealed 1978).

[17] 7 U.S.C. § 1902(a) (2006).

[18] *See* Matheny & Leahy, *supra* note 5, at 334.

[19] *See* 49 U.S.C. § 80502 (2006); 7 U.S.C. §§1901-07 (2006) (§§1903 and 1905 repealed 1978).

Part II of this Note will briefly review traditional farming and animal husbandry practices and examine the shift to the modern practices used by producers of animal products today. Part II will also present several farming practices utilized today that are particularly dangerous to human health. Part III of this Note will explore the immense human suffering that is occurring as a result of these modern farm practices. It will also examine the current statutory and regulatory landscape and discuss why the current system is failing. Parts IV and V of this Note will explore recent developments in congressional legislation and propose guidelines for a federal statute, with suggested minimum requirements for the treatment and living conditions of animals raised for human consumption, in order to improve human health.

II. BACKGROUND

A. History of Factory Farming

Only fifty years ago, most of the food consumed by the American population was grown or raised on small family farms.[20] These farms ensured the health and growth of their animals by employing ethical animal husbandry practices. The animals were raised "outside to ensure . . . enough space for disease control,"[21] and to allow the animals the freedom "to express many normal behaviors in natural group sizes."[22] If a farmer "put 100,000 chickens in 1 building, all would have died in weeks."[23] Thus, it was in the farmer's best interest, economically, to care for his animals.[24]

Since then, technological advances have prompted a radical shift to a concentrated system that produces more animals with fewer producers and fewer farm workers.[25] These advances, which include vaccines, antibiotics, and air handling systems,[26] have eliminated the modern producer's economic risk of raising farm animals in inhumane conditions and allowed them to confine large numbers of animals to "relatively small spaces, generally in enclosed facilities that restrict movement."[27] These modern farms, which are now primarily owned by large

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[20] PEW COMM'N ON INDUS. FARM ANIMAL PROD., PUTTING MEAT ON THE TABLE: INDUSTRIAL FARM ANIMAL PRODUCTION IN AMERICA, EXECUTIVE SUMMARY 1-2 (2008), *available at* http://www.ncifap.org/.

[21] Nicole Fox, Note, *The Inadequate Protection of Animals Against Cruel Animal Husbandry Practices Under United States Law*, 17 WHITTIER L. REV. 145 (1995).

[22] Matheny & Leahy, *supra* note 5, at 328.

[23] *Id*.

[24] *Id*.

[25] PEW COMM'N ON INDUS. FARM ANIMAL PROD. *supra* note 20, at 1; s*ee also* Matheny & Leahy, *supra* note 5, at 326.

[26] Matheny & Leahy, *supra* note 5, at 328.

[27] PEW COMM'N ON INDUS. FARM ANIMAL PROD. *supra* note 20, at 1; s*ee also Tell Me More: Ethical Omnivores, Think Twice Before Buying the Christmas Ham*, NPR (Dec. 8, 2009) http://www.npr.org/templates/story/story.php?storyId=121198102 (comparing a humane farm facility that houses 200 free roaming sows on 240 acres of land to a confinement facility that houses "1000 sows and the offspring . . . [in] buildings 44 feet wide by 700 feet long").

corporations,[28] are commonly known as "factory farms" or "concentrated animal feeding operations" (CAFOs).[29] While factory farms employ practices that have succeeded in producing a greater number of inexpensive animal products with fewer and often less-highly-skilled employees, these practices pose substantial risks to human health by creating food-borne disease, antibiotic resistance, and environmental pollution.[30]

1. Intensive Confinement and Contaminated Feed

The hallmark of a factory farm is the close proximity and intensive confinement in which the animals are kept. Animals are packed together by the thousands, so strictly confined that they are unable to turn their bodies, fully extend their limbs, or lie down.[31] They live in their own manure and often never see daylight.[32] Aside from the significant animal cruelty involved, this model of animal husbandry presents substantial human health problems. Most notably, these conditions create a breeding ground for new and more infectious diseases.[33] Because of the large number of animals on a typical factory farm and the close proximity in which they are kept, these diseases are quickly transmitted amongst the animal population.[34]

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[28] Fox, *supra* note 21.

[29] PEW COMM'N ON INDUS. FARM ANIMAL PROD., PUTTING MEAT ON THE TABLE: INDUSTRIAL FARM ANIMAL PRODUCTION IN AMERICA 6 (2008), *available at* http://www.ncifap.org/. Many factors are used to determine what qualifies as a CAFO.

> Depending on their size and the operator's choice, these industrial farm animal production facilities may be called animal feeding operations (AFOs) or concentrated animal feeding operations (CAFOs) for US Environmental Protection Agency (EPA) regulatory purposes. The EPA defines an AFO as a lot or facility where (1) animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period; and (2) crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility. CAFOs are distinguished from the more generic AFOs by their larger number of animals or by either choosing or having that designation imposed because of the way they handle their animal waste. A facility of a sufficient size to be called a CAFO can opt out of that designation if it so chooses by stating that it does not discharge into navigable waters or directly into waters of the United States. Facilities of many different sizes can be industrial, not just those designated as CAFOs by the EPA.

Id. See also ENVIRONMENTAL PROTECTION AGENCY OFFICE OF WASTEWATER MANAGEMENT, ANIMAL FEEDING OPERATIONS, http://cfpub.epa.gov/npdes/home.cfm?program_id=7 (last updated Jan. 4, 2011). For purposes of this Note, the term factory farm will be used to refer to the most intensive practices, regardless of the size of the facility.

[30] *See* PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 11-19, 22-29.

[31] Fox, *supra* note 21, at 151-52.

[32] Matheny & Leahy, *supra* note 5, at 329.

[33] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 13.

[34] Robert V. Tauxe, *Emerging Foodborne Pathogens*, 78 INTL. J. OF FOOD MICROBIOLOGY 31, 37 (2002).

Once infected, "diseased animals may shed higher levels of food-borne pathogens,"[35] which are packed and shipped for human consumption if overlooked during the meat inspection process. This is a likely scenario because animals are capable of carrying microbial agents without showing overt signs of disease, a phenomenon known as subclinical illness.[36] The prevalence of subclinical illness in food-producing animals increases the risk of diseased carcasses passing through the meat inspection process undetected.[37]

There is also "considerable evidence that animal feed is frequently contaminated with food-borne bacterial pathogens."[38] This contamination is not surprising given the fact that it has become common practice to use animal excrement, which is often contaminated with pathogenic bacteria, as livestock feed.[39] Animals are also commonly fed same-species meat, diseased animals, and rendered feathers, hair, skin, and blood, which are often categorized as "animal protein products."[40] Animal feed may even contain euthanized cats and dogs.[41] These types of unnatural feed ingredients have led to an outbreak of new diseases, including bovine spongiform encephalopathy (BSE), more commonly known as mad cow disease.[42]

2. Non-therapeutic Antibiotic Dosing

In order to promote growth and keep animals alive in crowded and filthy conditions, producers regularly dose otherwise healthy animals with antibiotics, at a substantial cost to animal welfare and human health. It is indisputable that antibiotics allow producers to house animals in unsanitary and inhumane conditions by guarding against illness that would otherwise occur in such living conditions. Antibiotics also promote rapid and unnatural weight gain in animals raised for meat, which further stresses the animals and can result in pathological conditions such as crippling leg and joint deformities. [43] Indeed, "broilers [chickens raised for meat]

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[35] Randall S. Singer et al., *Modeling the Relationship Between Food Animal Health and Human Foodborne Illness*, 79 PREVENTATIVE VETERINARY MEDICINE 186, 187 (2007).

[36] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 13.

[37] Singer et al., *supra* note 35.

[38] John A. Crump et al., *Bacterial Contamination of Animal Feed and Its Relationship to Human Foodborne Illness*, 35 CLINICAL INFECTIOUS DISEASES 859, 860 (2002).

[39] *See* Eric R. Haapapuro et al., *Review – Animal Waste Used as Livestock Feed: Dangers to Human Health*, 26 PREVENTATIVE MEDICINE 599 (1997).

[40] *See* Amy Sapkota et al., *What Do We Feed to Food-Production Animals? A Review of Animal Feed Ingredients and Their Potential Impacts on Human Health*, 115 ENVIRONMENTAL HEALTH PERSPECTIVES 663, 664 (2007).

[41] *They Eat What? The Reality of Feed at Animal Factories*, UNION OF CONCERNED SCIENTISTS, http://www.ucsusa.org/food_and_agriculture/science_and_impacts/impacts_industrial_agriculture/they-eat-what-the-reality-of.html#_ftn1 (last updated Aug. 8, 2006).

[42] *See* Sapkota et al., *supra* note 40, at 666.

[43] Scientists are still uncertain as to why low-level antibiotic dosing "promotes faster weight gain in animals raised for meat. One possible explanation is the 'resource allocation theory'", which suggests that "[s]ince only a certain amount of energy, protein and other nutrients enter an animal's system at any one time, resources directed toward mounting an effective immune response are diverted from building muscle (meat)." Therefore, feeding

now grow so rapidly that the heart and lungs are not developed well enough to support the remainder of the body, resulting in congestive heart failure and tremendous death losses."[44]

Non-therapeutic antibiotic dosing, while maximizing profits for producers, also comes at a substantial cost to human health. Non-therapeutic antibiotics used in food animal production accounts for seventy percent of the antibiotics and related drugs used in the United States today, a figure that equates to twenty-eight million of the thirty-five million pounds used annually by Americans.[45] This figure does not include drugs used for sick animals.[46] Predominantly, these antibiotics are the same drugs that are frequently prescribed for humans, including amoxicillin, ampicillin, erythromycin, neomycin, penicillin, and tetracycline.[47] By regularly dosing farm animals with non-therapeutic antibiotics, producers guarantee that the meat is tainted with antibiotics in low but constant doses, which allows humans who consume the meat to become resistant to these same antibiotics.[48] Furthermore, "[u]p to 75% of feed antibiotics will pass unchanged into manure, along with resistant bacteria," ensuring that factory farm waste that reaches the human population via air and water pollution will contribute to the problem of antibiotic resistance.[49]

3. Environmental Pollution

The massive number of animals packed onto a relatively small factory farm gives rise to colossal waste management problems. According to the United States Department of Agriculture (USDA), factory farms produce approximately 500 million tons of manure annually.[50] This figure is over three times the amount of sanitary waste generated by humans each year, and yet, in comparison, "the

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animals low levels of antibiotics reduces immune system activity and frees more resources for growth and weight gain. THE HUMANE SOC'Y OF THE UNITED STATES, AN HSUS REPORT: HUMAN HEALTH IMPLICATIONS OF NON-THERAPEUTIC ANTIBIOTIC USE IN ANIMAL AGRICULTURE (2009), *available at* http://www.humanesociety.org/assets/pdfs/farm/HSUS-Human-Health-Report-on-Antibiotics-in-Animal-Agriculture.pdf.

[44] *Id*. (quoting Martin D. 1997. Researcher studying growth-induced diseases in broilers. Feedstuffs, May 26).

[45] *See* Ezra Klein, *Just Say No to Antibacterial Burgers*, WASH. POST (Sept. 16, 2009), at E1, *available at* http://www.washingtonpost.com/wp-dyn/content/article/2009/09/15/AR2009091500736.html; Margie Mason & Martha Mendoza, *Pressure Rises to Stop Antibiotics in Agriculture*, BUSINESSWEEK (Dec. 28, 2009), *available at* http://www.bluearchipelago.com/index.php/wiki/Pressure-rises-to-stop-antibiotics-in-agriculture.html; *Prescription for Trouble: Using Antibiotics to Fatten Livestock*, UNION OF CONCERNED SCIENTISTS http://www.ucsusa.org/food_and_agriculture/science_and_impacts/impacts_industrial_agriculture/prescription-for-trouble.html (last visited Dec 7, 2009).

[46] Klein, *supra* note 45.

[47] Mosel, *supra* note 8, at 163.

[48] Klein, *supra* note 45.

[49] DAVID WALLINGA, M.D., INSTITUTE FOR AGRICULTURE AND TRADE POLICY, CONCENTRATED ANIMAL FEEDING OPERATIONS: HEALTH RISKS FROM AIR POLLUTION (2004), http://www.healthobservatory.org/library.cfm?refID=37388.

[50] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 23.

management and disposal of animals wastes are poorly regulated."[51] As a result, livestock and poultry manure are "key sources of water pollution."[52]

Factory farms employ several strategies to manage massive amounts of waste. One of the most common strategies is "ground application," which involves the application of untreated manure to cropland.[53] Because animal manure contains high levels of nitrogen and phosphorus, ground application provides farmers with an inexpensive alternative to chemical fertilizers.[54] However, the sheer volume of manure often exceeds the ecological capacity of the soil to absorb the waste, resulting in runoff and surface water contamination.[55] Surface waters are flooded with excess nutrients, particularly nitrogen and phosphorus, as well as chemical contaminants used in animal production, including pesticides, heavy metals, antibiotics, and hormones.[56] Contamination also occurs before application, while the waste is being stored in manure lagoons. Heavy rains or flooding can "overwhelm the storage capacity of [these lagoons] and cause catastrophic contamination."[57]

The negative environmental impact of factory farming extends beyond water contamination; it pollutes the air as well. Factory farms "emit several compounds of concern, including endotoxin particulate matter, ammonia, hydrogen sulfide, volatile organic compounds, and various greenhouse gases."[58] They release these compounds by "spraying liquid manure into the air when cesspool levels get too high, a practice that creates mists that are easily carried by the wind."[59] Emissions are also released from uncovered manure storage tanks and waste lagoons.[60] Furthermore, the animals produce a significant quantity of greenhouse gasses during the digestion process.[61] "Globally, greenhouse gas emissions from all livestock operations account for 18% of all anthropogenic greenhouse gas emissions, exceeding those from the transportation sector."[62]

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[51] *Id*.

[52] MARC RIBAUDO ET AL., U.S. DEP'T OF AGRIC., MANURE MANAGEMENT FOR WATER QUALITY: COSTS TO ANIMAL FEEDING OPERATIONS OF APPLYING MANURE NUTRIENTS TO LAND (2003), http://www.ers.usda.gov/Publications/AER824 (last updated June 19, 2003).

[53] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 23.

[54] *Id*.

[55] *Id*.

[56] *Id*. at 23, 25.

[57] *Id*. at 25.

[58] Frank M. Mitloehner & Marc B. Schenker, *Environmental Exposure and Health Effects From Concentrated Animal Feeding Operations*, 18 EPIDEMIOLOGY 309, 309 (2007).

[59] Jennifer Lee, *Neighbors of Vast Hog Farms Say Foul Air Endangers Their Health*, N.Y. TIMES, May 11, 2003, at A1.

[60] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 25, 27.

[61] *Id*. at 27. Greenhouse gasses produced during digestion include methane and carbon dioxide. *Id.*

[62] *Id*.

III. ARGUMENT

A. Congress Must Enact Legislation That Creates Humane Living Standards for Animals Raised for Food In Order To Eliminate Dangerous Human Health Risks Created by Reckless Factory Farming Practices

1. Congress Must Enact Legislation in Order to Diminish Widespread Human Suffering Caused by Food-Borne Illness

Food-borne illness has truly become an epidemic. According to the Centers for Disease Control and Prevention (CDC), food-borne pathogens "cause approximately 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths in the United States each year."[63] These statistics are not surprising when taking into account the fact that "[t]he causes of foodborne illness [which] include viruses, bacteria, parasites, toxins, metals, and prions,"[64] are all present in large quantities on the factory farms that produce food for human consumption. In 2009 alone, there were at least two major beef recalls based on food-borne contamination. The first, which occurred mid-summer, "led to the recall of beef from nearly 3000 grocers in 41 states."[65] Another recall was announced in November, and required the recall of more than half a million pounds of beef after two deaths resulted from beef contaminated with E. coli O157:H7,[66] one of the more devastating strains of the disease.[67]

To make matters worse, large quantities of contaminated meat are shipped to schools participating in the National School Lunch Program[68] to feed children who "are particularly vulnerable to food-borne illnesses."[69] Since 1998, there have been hundreds of outbreaks caused by the consumption of school lunches, sickening at least 23,000 children.[70] Even children whose parents take precautions by packing a homemade lunch are at risk because secondary infections, which are contracted

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[63] PAUL S. MEAD ET AL., *Food Related Illness and Death in the United States*, 5 EMERGING INFECTIOUS DISEASES 607 (1999). "Known pathogens account for an estimated 14 million illnesses, 60,000 hospitalizations, and 1,800 deaths . . . while unknown agents account for the remaining 62 million illnesses, 265,000 hospitalizations, and 3,200 deaths." *Id.*

[64] *Id*.

[65] *See* Moss, *supra* note 2.

[66] Ninette Sosa, *Half a Million Pounds of Beef Recalled on E. coli Fears*, CNN MONEY (Nov. 2, 2009), *available at* http://money.cnn.com/2009/11/02/news/companies/beef_recall.cnnw/index.htm.

[67] ESCHERICHIA COLI O157:H7 GENERAL INFORMATION, *supra* note 1.

[68] "The National School Lunch Program (NSLP) is a federally assisted meal program operating in public and nonprofit private schools and residential child care institutions. It provides nutritionally balanced, low-cost or free lunches to children each school day. The program was established under the National School Lunch Act, signed by President Harry Truman in 1946." U.S. DEP'T OF AGRIC., FOOD SAFETY AND INSPECTION SERV., *National School Lunch Program*, http://www.fns.usda.gov/cnd/lunch/ (last visited March 20, 2011).

[69] Blake Morrison et al., *Why a Recall of Tainted Beef Didn't Include School Lunches*, USA TODAY (Dec. 2, 2009), *available at* http://www.usatoday.com/news/education/2009-12-01-beef-recall-lunches_N.htm.

[70] *Id*.

when children pass the disease to other children with whom they play, are common.[71]

Once a food-borne illness has been contracted, symptoms "range from mild gastroenteritis to life-threatening neurological, hepatic, and renal syndromes."[72] Many food-borne illnesses initially only cause fever, bloody diarrhea, and abdominal pain.[73] Yet, most pose a risk of more dangerous complications. E. coli O157:H7, for example, can lead to hemolytic uremic syndrome (HUS), which is often characterized by acute kidney failure and other permanent damage.[74] Campylobacter, the leading cause of food-borne illness today,[75] sometimes leads to a rare disease called Guillain-Barré Syndrome, which attacks the nervous system and results "in paralysis that lasts several weeks and usually requires intensive care."[76] Listeria, another food-borne pathogen of great concern,[77] can spread to the nervous system and "cause headache, stiff neck, confusion, loss of balance, or convulsions."[78] Listeria is particularly alarming for pregnant women, who are "20 times more likely than other healthy adults" to become infected.[79] "Infected pregnant women may experience only a mild, flu-like illness; however, infections during pregnancy can lead to miscarriage or stillbirth, premature delivery, or infection of the newborn."[80] Suffering of this magnitude is an unacceptable expense of inhumane factory farm practices and must be addressed by Congress.

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[71] Elizabeth Weise, *Family's Nightmare Began with Secondary Infection*, USA TODAY (Dec. 2, 2009), *available at* http://www.usatoday.com/news/education/2009-12-01-lunch-tainted-beef_N.htm?loc=interstitialskip. Faith Maxwell almost died from E. coli O157:H7 after she caught it from an infected child who contracted it from eating undercooked ground beef at school. She suffered permanent and progressive kidney damage. She is now unable to play sports and will very likely need a kidney transplant. *Id.*

[72] Mead et al., *supra* note 63.

[73] *See* CTRS. FOR DISEASE CONTROL AND PREVENTION, QUESTIONS & ANSWERS: SICKNESS CAUSED BY E. COLI, http://www.cdc.gov/ecoli/qa_ecoli_sickness.htm (last visited Dec. 8, 2009); CTRS. FOR DISEASE CONTROL AND PREVENTION, SALMONELLA, http://www.cdc.gov/salmonella/general/index.html (last visited Jan. 25, 2011); CTRS. FOR DISEASE CONTROL AND PREVENTION, LISTERIOSIS, http://www.cdc.gov/nczved/divisions/dfbmd/diseases/listeriosis/ (last visited Jan. 25, 2011); CTRS. FOR DISEASE CONTROL AND PREVENTION, CAMPYLOBACTER, http://www.cdc.gov/nczved/divisions/dfbmd/diseases/campylobacter/ (last visited Jan. 25, 2011).

[74] CTRS. FOR DISEASE CONTROL AND PREVENTION, ESCHERICHIA COLI O157:H7, http://www.cdc.gov/nczved/divisions/dfbmd/diseases/ecoli_o157h7/index.html (last visited Jan. 25, 2011); *see also* Weise, *supra* note 69.

[75] MEAD ET AL., *supra* note 63, at 610.

[76] CAMPYLOBACTER, *supra* note 73.

[77] MEAD ET AL., *supra* note 63.

[78] LISTERIOSIS, *supra* note 73.

[79] *Id*.

[80] *Id*.

2. Congress must enact legislation in order to diminish antibiotic resistance from the non-therapeutic administration of antibiotics

The CDC has described antibiotic resistance as "one of the world's most pressing health problems."[81] A 2003 study by the World Health Organization (WHO) determined that "[t]here is clear evidence of human health consequences [from agricultural use of antibiotics, including] infections that would not have otherwise occurred, increased frequency of treatment failures (in some cases death) and increased severity of infections."[82] Indeed, "2 million people contract resistant infections annually and, of those, 90,000 die."[83] Despite increased recognition of this problem, occurrences of antimicrobial resistance continue to rise.[84] Doctors found that many of the victims of the major beef recall of the summer of 2009 had contracted antibiotic resistant strains of salmonella, which serves as a reminder of these rising resistance rates.[85]

The medical failures described above are occurring because the non-therapeutic use of antibiotics "in food animals [creates] resistant [bacterial] strains and enhances their persistence in the environment."[86] The process is explained in a 2008 report issued by the Pew Commission on Industrial Farm Animal Production:

> Because bacteria reproduce rapidly, resistance can develop quickly in the presence of antimicrobial agents, and once resistance genes appear in the bacterial gene pool, they can be transferred to related and unrelated bacteria. Therefore, increased exposure to antimicrobials increases the pool of resistant organisms and the risk of antimicrobial resistant infections.[87]

At least 350 expert organizations, recognizing the urgency and severity of the problem, have called for a ban on the non-therapeutic use of antibiotics in food-producing animals, including the American Medical Association, the Infectious Diseases Society of America, and the New England Journal of Medicine (NEJM).[88] In the European Union, the non-therapeutic use of antibiotics and hormones has been entirely banned since 1985.[89] The NEJM points out that Europe's ban has demonstrated that there are viable alternatives to the non-therapeutic use of

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[81] CTRS. FOR DISEASE CONTROL AND PREVENTION, GET SMART: KNOW WHEN ANTIBIOTICS WORK, http://www.cdc.gov/getsmart/antibiotic-use/fast-facts.html (last visited Dec. 8, 2009).

[82] Klein, *supra* note 45.

[83] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 15.

[84] Frank M. Aarestrup & Henrik C. Wegener, *The Effects of Antibiotic Usage in Food Animals on the Development of Antimicrobial Resistance of Importance in Campylobacter and Escherichia coli*, 1 MICROBES AND INFECTION 639, 641 (1999).

[85] Morrison, *supra* note 69.

[86] S. L. Gorbach, *Antimicrobial Use in Animal Feed--Time to Stop*, 345 NEW ENG. J. MED. 1202 (2001).

[87] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 15.

[88] THE HUMANE SOC'Y OF THE UNITED STATES, *supra* note 43; Gorbach, *supra* note 86, at 1203.

[89] Mosel, *supra* note 8, at 166.

antibiotics and suggests that improvements in animal husbandry practices, feed quality, and hygiene diminishes the need for non-therapeutic antibiotics.[90]

3. Congress Must Enact Legislation in Order to Reduce the Health Hazards of Environmental Pollution Associated With High Volume Factory Farms

a. Congress Must Enact Legislation in Order To Prevent Water-Borne Disease Caused by Water Pollution From Factory Farms

According to the United States Environmental Protection Agency (EPA), agricultural runoff is the "single largest source of water pollution in the nation's rivers and streams."[91] Indeed, "[a]griculture in the United States - much of which now serves the demand for meat - contributes to nearly three-quarters of all water-quality problems in the nation's river's and streams."[92] Runoff from manure lagoons causes severe contamination that has affected "an estimated 173,000 miles of U.S. waterways."[93] In many areas, known as "dead zones," the contamination is so severe that the waters are now devoid of marine life.[94] In fact, the Gulf of Mexico dead zone, caused by runoff[95] from Midwestern fields, affects approximately 6000 square miles of sea life and deprives the "Gulf of Mexico fishing industry . . . [of] 212,000 metric tons of seafood a year."[96] Surface water, however, is not the only conduit through which factory farm contamination is spread. Animal waste that is sprayed or deposited onto cropland can seep into the groundwater, causing contamination that can "extend throughout the aquifer, affecting drinking water supplies at some distance from the source of contamination."[97] In some cases, the water is so toxic that it may take as long as twenty years for it to become drinkable again.[98] Thus, when humans utilize these waters for drinking, bathing, or swimming there is a significant risk of illness. Indeed, "[a]n estimated 19.5 million Americans fall ill each year from waterborne parasites, viruses or bacteria."[99]

A recent contamination in Brown County, Wisconsin demonstrates the immense strain that factory farm contamination imposes on local communities.[100] After farm runoff contaminated more than 100 wells with E. coli, coliform bacteria, and other

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[90] Gorbach, *supra* note 86, at 1203.

[91] Charles Duhigg, *Health Ills Abound as Farm Runoff Fouls Wells*, N.Y. TIMES, Sept. 17, 2009, at A1.

[92] Mark Bittman, *Rethinking the Meat-Guzzler*, N.Y. TIMES, Jan. 27, 2008, at WK1.

[93] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 25.

[94] *Id*.

[95] While manure runoff contributes to the creation of dead-zones, other key culprits include synthetic chemical fertilizers and pesticides, which are used to grow crops. *Id*.

[96] Bryan Walsh, *Getting Real About the High Price of Cheap Food*, TIME (Aug. 21, 2009), *available at* http://www.time.com/time/health/article/0,8599,1917458,00.html.

[97] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 11.

[98] Mosel, *supra* note 8, at 168-69.

[99] Duhigg, *supra* note 91.

[100] *Id*.

contaminants found in manure, local residents began to suffer from chronic diarrhea, stomach illnesses, and severe ear infections.[101] Following a bath in polluted water, one local child suffered such severe ear infections that he required surgery.[102] In order to prevent further illness, one resident paid $16,000 to drill a new, deeper well, and those who could not afford such improvements were forced to improvise.[103] One family, for example, resorted to adding bleach to their well in order to kill the contaminants.[104] In the wake of such alarming outcomes, it is imperative that Congress enacts legislation to prevent factory farms from continuing to benefit at the expense of the community's health.

b. Congress Must Enact Legislation to Prevent Respiratory and Neurological Disease Caused by Factory Farm Air Pollution

In addition to water-borne disease, "[c]omplaints of health symptoms from ambient odors have become more frequent in communities with confined animal facilities."[105] The most frequently reported health complaints fall into two categories. The first category, respiratory function, includes "eye, nose, and throat irritation, headache, nausea, diarrhea, hoarseness, sore throat, cough, chest tightness, nasal congestion, palpitations, [and] shortness of breath."[106] These symptoms are often indicative of "a wide range of airway diseases [commonly associated with factory farming] including mucous membrane irritation, bronchitis, asthma . . . and chronic obstructive pulmonary disease" (COPD).[107] Indeed, several major studies have demonstrated strong and consistent associations between factory farm air pollution and asthma.[108] One recent study from the American College of Chest Physicians found that children who attended a school one-half mile from a CAFO had a significantly increased prevalence of asthma, nearly three times the number of physician-diagnosed cases as children who did not live near a CAFO.[109] Another study indicated that "[a]s many as 30% of CAFO workers suffer from occupational respiratory diseases such as acute and chronic asthma."[110]

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[101] *Id*.

[102] *Id*.

[103] *Id*.

[104] *Id*.

[105] Schiffman et al., *Potential Health Effects of Odor from Animal Operations, Wastewater Treatment and Recycling of Byproducts*, 7 J. AGROMEDICINE 397, 397-98 (2000) (concluding there is a probable connection between the odors and the health effects).

[106] *Id*.

[107] Mitloehner & Schenker, *supra* note 58.

[108] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 17; Lee, *supra* note 59.

[109] *See* Sigurdur T. Sigurdarson & Joel N. Kline, *School Proximity to Concentrated Animal Feeding Operations and Prevalence of Asthma in Students*, 129 CHEST 1486, 1488-89 (2006); *see also* Polly Walker et al., *Public Health Implications of Meat Production and Consumption*, 8 PUB. HEALTH NUTRITION 348, 353 (2005) (stating that "[c]hildren of CAFO operators in Iowa have higher rates of asthma than do other farm children").

[110] Walker et al., *supra* note 109, at 353.

The second category is neurobehavioral function. "More than twenty-four odorous chemicals have been identified in [factory farm] emissions," and "many of these compounds are toxic to the nervous system."[111] Studies that have examined effects of these emissions found that residents who live near a factory farm experience much higher rates of "tension, depression, anger, reduced vigor, fatigue, and confusion."[112] Exposures have also "lead to neuropsychiatric abnormalities, including impaired balance, hearing, memory, mood, intellectual function," and vision problems.[113]

Currently, the EPA does not "require such animal factories to meet any testing, performance, or emission standards under the Clean Air Act, which defines the agency's responsibilities for protecting and improving our nation's air quality."[114] Accordingly, Congress must pass legislation that addresses the underlying farming practices that contribute to this continued pollution.

B. Congress Must Adopt Legislation That Creates Humane Living Standards for Animals Raised for Food in Order to Alleviate the Burden of Food-Related Illness on the Healthcare System

Supporters of the factory farm model of food production argue that if Congress enacts a statute that requires humane living standards for farm animals, production costs will go up dramatically.[115] The cost to the consumer, they argue, would rise to an unaffordable level at a time where many people are already struggling financially.[116] Yet, factory farms are already financially overburdening consumers by supplying unhealthy and contaminated food, which significantly increases the average American's healthcare costs. In fact, a small increase in the price of food, which would prompt many Americans to cut back on meat intake, could provide significant positive health results, and thus decrease healthcare costs.

1. Food-Borne Illness, Antibiotic Resistant Infections, and Environmental Pollutants Increase Health Care Costs

In 1997, "U.S. food-borne costs for 6 bacterial pathogens and 1 parasite were estimated at $6.5 billion to $34.9 billion annually, which is an underestimate of total food-borne disease costs because there may be [over] 200 microbiologic agents that cause food-borne disease."[117] This estimate increases to $1.4 trillion after factoring

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[111] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 17.

[112] *Id*.

[113] *Id*. at 17, 19; Lee, *supra* note 59.

[114] Wayne Pacelle, *EPA Must Regulate Factory Farm Pollution*, THE HUMANE SOC'Y OF THE UNITED STATES (Sept. 23, 2009), http://hsus.typepad.com/wayne/2009/09/epa-cafo-pollutants.html.

[115] *See* Klein, *supra* note 45; Jesse McKinley, *A California Ballot Measure Offers Rights for Farm Animals*, N.Y. TIMES, Oct. 24, 2008, at A12.

[116] Klein, *supra* note 45; McKinley, *supra* note 115.

[117] Jean Buzby & Tanya Roberts, *The Economics of Enteric Infections: Human Foodborne Disease Costs*, 136 GASTROENTEROLOGY 1851, 1852 (2009).

in all the societal costs of food-borne illness.[118] E. coli alone is responsible for over $30 million in healthcare costs, which does not include the additional $375 million that it costs Americans in premature deaths and lost productivity.[119]

In addition to the cost of food-borne illness, antibiotic resistant infections, caused by the non-therapeutic use of antibiotics in food-producing animals, contribute an additional "$50 billion to the annual cost of American healthcare,"[120] a figure that increases by $4 to $5 billion per year.[121] On an individual level, a hospital stay for a person with an antibiotic resistant infection is $6,000 to $10,000 more expensive than a hospital stay for a person with an infection that is susceptible to antibiotics.[122]

Finally, healthcare costs related to environmental pollutants add even more to the total cost of cheap meat. Chronic lung disease, which includes bronchitis, emphysema, asthma, and COPD cost Americans $176.8 billion in 2006, a number that is expected to reach $389.2 billion in 2011.[123] Because there are multiple causes of these diseases, it is not clear what percentage of these costs is attributable to factory farm pollutants. Nevertheless, it is clear that each individual who suffers from a chronic lung disease such as asthma as a result of factory farm contaminants can expect to pay anywhere from $1,336 per year for a mild case to $6,393 per year for a severe case.[124] The financial burden of these diseases greatly outweighs the minimal increase in the cost of meat that would be required to provide humane living conditions for farm animals in order to reduce the risk of human disease.

2. Inexpensive Meat Promotes Excessive Consumption of Animal Products, Which Increases Chronic Disease and Associated Health Care Costs

In addition to the high healthcare costs of food-borne illness and antibiotic resistance created by factory farms, rock-bottom meat prices are a significant contributor to the rise in chronic disease, which represents an enormous share of American healthcare costs.[125] The significant increase in animal production facilitated by factory farms over the past fifty years has allowed Americans to spend less than half of the amount that they spent several decades ago to purchase the same

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[118] Tanya Roberts, *WTP Estimates of the Societal Costs of U.S. Food-Borne Illness*, 5 AM. J. AGRIC. ECON. 1183, 1187 (2007).

[119] Paul D. Frenzen, *An Online Cost Calculator for Estimating the Economic Cost of Illness Due to Shiga Toxin-Producing E.coli (STEC) O157 Infections*, ECONOMIC RESEARCH SERVICE/UNITED STATES DEPARTMENT OF AGRICULTURE (September 2007), http://www.ers.usda.gov/publications/eib28/eib28.pdf.

[120] Klein, *supra* note 45.

[121] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 61.

[122] *Id.*

[123] Kimberly Swartz, *Projected Costs of Chronic Diseases*, THE HASTINGS CENTER, http://healthcarecostmonitor.thehastingscenter.org/kimberlyswartz/projected-costs-of-chronic-diseases/ (last visited Feb. 17, 2010).

[124] J. Serra-Batlles et al., *Costs of Asthma According to the Degree of Severity*, 12 EUROPEAN RESPIRATORY J. 1322, (1998).

[125] *See* Aysha Z. Akhtar et al., *Health Professionals' Roles in Animal Agriculture, Climate Change, and Human Health*, 36 AM. J. PREVENTIVE MED. 182, 183 (2009).

amount of meat.[126] The falling price of meat has thereby permitted the average American to consume considerably more than the recommended dietary allowance.[127] Because animal products are the primary source of saturated fats that promote cardiovascular disease and the sole source of cholesterol intake, "[t]he American Heart Association recommends an upper limit of 138 lbs of lean meat per person per year, more than 80 lbs less than the current average US consumption of 222 lbs."[128] This figure represents an increase of fifty additional pounds of meat consumption per person since the 1950s.[129]

This evolution from a plant-based diet to a meat-based diet is a significant contributor to the rise in obesity, "heart disease, certain types of cancer, stroke, and diabetes," all of which are prevalent in the United States.[130] The CDC recently estimated that "[n]early 34 percent of adults [in the United States] are obese, more than double the percentage 30 years ago."[131] During that time, the number of obese children tripled.[132] As Americans grow more obese, their health continues to plummet. "Obesity is a risk factor for a variety of chronic conditions, including diabetes, hypertension, high cholesterol, stroke, heart disease, certain cancers, and arthritis. Higher grades of obesity are associated with excess mortality, primarily from cardiovascular disease, diabetes, and certain cancers."[133] These obesity-related diseases, each with its own set of risk factors, are now rampant in the United States.

Of particular concern is diabetes, which affects nearly twenty-four million people, or eight percent of the population, and is the seventh leading cause of death, notwithstanding underreporting.[134] The risks and complications associated with diabetes are numerous and severe.[135] For instance, adults with diabetes are two to four times more likely to have heart disease or suffer a stroke than those without diabetes.[136] Seventy-five percent of diabetic adults have high blood pressure, and

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[126] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 3. "In 1970, the average American spent 4.2% of his or her income to buy 194 pounds of red meat and poultry annually. In 2005, Americans spent, on average, 2.1% of their annual income to buy 221 pounds of red meat and poultry." *Id.*

[127] *See* Walker et al., *supra* note 109, at 349; Bittman, *supra* note 92.

[128] Walker et al., *supra* note 109, at 349.

[129] Bittman, *supra* note 92.

[130] Akhtar et al., *supra* note 125, at 183; Walker et al., *supra* note 109, at 349.

[131] Pam Belluck, *Obesity Rates Hit Plateau in U.S., Data Suggest*, N.Y. TIMES, Jan. 13, 2010, at A20. *See also* Katherine M. Flegal et al., *Prevalence and Trends in Obesity Among US Adults, 1999-2008*, 303 J. AM. MED. ASS'N. 235 (2010).

[132] Belluck, *supra* note 131. As of January 2010, seventeen percent of American children were obese. *Id.*

[133] Flegal et al., *supra* note 131, at 240.

[134] CTRS. FOR DISEASE CONTROL AND PREVENTION, NATIONAL DIABETES FACT SHEET (2007), http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2007.pdf.

[135] *Id.*

[136] *Id.* "In 2004, heart disease was noted on 68% of diabetes-related death certificates among people aged 65 years or older, while stroke was noted on 16% of diabetes-related death certificates among people aged 65 years or older." *Id.*

between sixty and seventy percent have nervous system damage, which, in severe cases, "is a major contributing cause of lower-extremity amputations."[137] Indeed, "[m]ore than sixty percent of non-traumatic lower limb amputations occur in people with diabetes."[138] Additionally, "[d]iabetes is the leading cause of kidney failure," as well as the leading cause of new cases of blindness.[139]

Scientific evidence suggests that the increase in worldwide obesity, diabetes, and related ailments may be associated with increased animal product consumption.[140] A 2009 study found that those who consume large quantities of meat "were 33% more likely to have central obesity."[141] Another recent study found that eating red meat every day increases one's chances of dying from cancer and heart disease by about thirty percent.[142] Excessive meat consumption also increases the risk of several specific types of cancer. For example, increased consumption of protein, oils, and total and saturated fats from animal products increases the risk of colon cancer, endometrial cancer, prostate cancer, and breast cancer.[143] In fact, recently "the World Cancer Research Fund and the American Institute for Cancer Research concluded that there was convincing evidence to limit red meat intake, completely avoid processed meat, and follow a plant-based diet to reduce the overall risk of cancer."[144]

In light of the overwhelming rates of chronic disease, it logically follows that Americans are spending enormous amounts of money on healthcare related to these diseases. Healthcare costs attributable to meat consumption in the United States are quantifiable, and were estimated at between $29 billion and $62 billion per year nearly twenty years ago.[145] Since then, the costs have soared. Today, obesity alone is estimated to cost $147 billion annually, which amounts to nearly ten percent of overall medical spending in the United States.[146] This figure is double what it was ten years ago, and if obesity continues to rise at the current rate, this number

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[137] *Id.* The results of diabetic nervous system damage include impaired sensation in the feet or hands, slowed digestion of food in the stomach, carpal tunnel syndrome, and erectile dysfunction, among other nerve problems. *Id.*

[138] *Id.* "In 2004, about 71,000 non-traumatic lower-limb amputations were performed in people with diabetes." *Id.*

[139] *Id.* Diabetes was the cause of forty-four percent of new cases of kidney failure in 2005. Likewise, diabetic retinopathy causes 12,000 to 24,000 new cases of blindness each year. *Id.*

[140] Akhtar et al., *supra* note 125, at 183.

[141] Youfa Wang, *Diets High in Meat Consumption Associated with Obesity*, 33 INT'L J. OF OBESITY 621(2009).

[142] *See* Rashmi Sinha et al., *Meat Intake and Mortality: A Prospective Study of Over Half a Million People*, 169 ARCHIVES OF INTERNAL MED. 562 (2009).

[143] Akhtar et al., *supra* note 125, at 183-84.

[144] *Id.* at 183

[145] Neal D. Barnard et al., *The Medical Costs Attributable to Meat Consumption*, 24 PREVENTATIVE MEDICINE 646, 646 (1995). Figures reflect 1992 dollars. *Id.*

[146] Nanci Hellmich, *Rising Obesity Will Cost U.S. Health Care $344 Billion a Year*, USA TODAY (Nov. 17, 2009), *available at* http://www.usatoday.com/news/health/weightloss/2009-11-17-future-obesity-costs_N.htm.

promises to reach $344 billion by 2018, which would account for twenty-one percent of total healthcare spending annually.[147] Today, an obese individual can expect to pay at least forty-two percent more in healthcare costs than an individual of average weight, a difference of nearly $1500.[148] Even those Americans who are not physically obese feel the burden of rising obesity costs, given that taxpayers finance roughly half of the $147 billion in medical spending through Medicare and Medicaid.[149] In addition to the staggering cost of obesity, chronic diseases such as diabetes, heart disease, and cancer are estimated to add an additional $1.8 trillion per year to the cost of healthcare related to unhealthy diets that are high in meat and saturated fats and low in fruits, vegetables, and whole grains.[150]

3. Small Increases in the Price of Meat May Improve Health By Discouraging Excessive Consumption of Animal Products

Contrary to the claims of factory farm supporters, the proposed legislation would result in only a slight increase in the price of meat. Adopting basic humane practices in order to cut the risk of food-borne illness and related disease would indeed increase farm production costs.[151] Yet, farm production costs constitute less than half of retail prices, with the remainder attributable to wholesaler and retailer profit margins.[152] Thus, the final amount passed on to the consumer is minimal. "For instance, given that farm production costs constitute forty-eight percent of the retail price of poultry meat, a five percent increase in production costs would translate into a 2.4 percent increase in the retail price to the consumer," which adds only "a few pennies more per pound of chicken" to consumer costs.[153] Further, studies have shown that eliminating non-therapeutic antibiotics from animal feed would cost less than five to ten dollars per person, per year.[154] These slight increases would hardly prevent the average American consumer from affording a reasonable amount of meat.[155] In fact, consumer preference surveys have indicated a willingness to sacrifice lower prices for improvements in farm animal welfare.[156]

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[147] *Id.*

[148] Betsy McKay, *Cost of Treating Obesity Soars*, WALL ST. J. (July 28, 2009), *available at* http://online.wsj.com/article/SB10001424052970204563304574314794089897258.html (citing Eric A. Finkelstein et al., *Annual Medical Spending Attributable to Obesity: Payer and Service-Specific Estimates*, 28 HEALTH AFFAIRS w822, w828 (2009)).

[149] Eric A. Finkelstein et al., *Annual Medical Spending Attributable to Obesity: Payer and Service-Specific Estimates*, 28 HEALTH AFFAIRS w822 (2009). Obesity accounts for 8.5 percent of Medicare expenditure and 11.8 percent of Medicaid expenditure. *Id.*

[150] Hellmich, *supra* note 146.

[151] Matheny & Leahy, *supra* note 5, at 346.

[152] *Id*.

[153] *Id*.

[154] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 61.

[155] The table below provides estimates of cost increases for producers that would result from implementation of free-range and other humane animal production. Matheny & Leahy, *supra* note 5, at 347.

Nevertheless, while the average American consumer will still be able to afford a reasonable amount of meat, even slight increases in price may cause some consumers to reduce their meat consumption, thereby diminishing the negative health implications of excessive meat consumption. The recent recession demonstrates the considerable elasticity of meat products.[157] While the recession has not caused meat prices to rise, it has caused a financial hardship for many Americans, which has resulted in a notable decrease in overall meat consumption.[158] According to the Food and Agricultural Policy Research Institute at Iowa State University, overall meat consumption in the United States fell about two percent from 2007 to 2008.[159] More than half of Americans have reduced their meat

Practice	**Cost increase over standard practice *(%)***
Group housing (sows)	0-3
Group housing (calves)	1-2
Slow growth (broilers)	5
Free range (turkeys)	30
Free range (hogs)	8-47
Furnished cages (layers)	8-28
Barn (layers)	8-24
Free range (layers)	26-59

[156] Consumer preferences reflect a desire for animal products raised in a humane fashion, regardless of the potential price increase in the cost of meat. A 2007 survey conducted by the Department of Agricultural Economics at Oklahoma State University reported that 95% of people surveyed said that it is important to them that farm animals are well cared for. When asked whether low meat prices are more important than the well-being of farm animals, 76% answered in the negative; low meat prices are not as important as farm animal welfare. JAYSON L. LUSK, ET AL., CONSUMER PREFERENCES FOR FARM ANIMAL WELFARE: RESULTS OF A NATIONWIDE TELEPHONE SURVEY 13 (2007) *available at* http://asp.okstate.edu/baileynorwood /AW2/InitialReporttoAFB.pdf.

[157] Martha Rosenberg, *The Recession Is Taking a Bite Out of Meat Consumption*, ALTERNET, (Dec. 2, 2009), http://www.alternet.org/economy/144301/the_recession_is_taking _a _bite_out_of_meat_consumption/?comments.

[158] Intuitively, one might think that a decrease in demand for meat would become a financial burden for the agriculture industry. Yet, rather than letting capitalism run its course, the government has stepped in with a solution to the "low demand emergency" caused by the recession. The National Association of State Departments of Agriculture (NASDA) has proposed a program called "Meat the Need" which would utilize tax dollars from the American Recovery and Reinvestment Act to increase the amount of assistance given to low-income families if they choose to spend it on animal products. Meat the Need "promotes the policy of providing nutritious meat and dairy products to families while clearing excess inventory of those products." The program raises ethical concerns, however, about disposing of high calorie, high fat, high cholesterol food on low-income households that are already disproportionately plagued with obesity, diabetes, and other chronic disease. *Id.*

[159] From 2007 to 2008, the price of beef fell about 3 percent, pork was down about 2.3 percent, and chicken fell about 0.6 percent. Bob Burgdorfer, *U.S. Shoppers Hit Meat*

consumption since the recession hit and, as a result, the national cholesterol level has fallen.[160] Likewise, the mortality rate from heart attacks typically falls during recessions.[161] These findings demonstrate that a small decrease in meat consumption produces significant health benefits.[162] Indeed, "many studies suggest that those who consume plant-based diets have decreased risk, mortality, and/or progression of cardiovascular disease, diabetes, certain cancers, and obesity."[163] Consequently, even if a slight increase in the price of meat does in fact cause Americans to reduce meat consumption, American health will improve overall, and will thus lessen the financial burden that American consumers and taxpayers bear to afford expensive healthcare needed to treat chronic disease.

4. Small Increases in the Price Of Meat Will Allow Producers to Employ Humane Procedures That Will Create Healthier, More Nutritious Meat That Reduces the Risk of Chronic Diseases

Finally, slightly higher meat prices would, in addition to discouraging excess meat consumption, allow producers to employ humane methods that would not only reduce the risk of food-borne illness and antibiotic resistance, but also produce healthier animal products that reduce the risk of certain diseases. Meat from pasture-raised cattle, for example, contains less total fat and higher levels of healthy fats such as omega-3 fatty acids and conjugated linoleic acid (CLA) than meat produced on factory farms.[164] Similarly, "[e]ggs from pastured hens contain as much as 20 times more omega-3s than eggs from factory hens."[165] These healthy fats, particularly the omega-3 fatty acids, "have been shown in many studies to improve health and prevent disease in humans."[166] Specifically, omega-3 fatty acids appear to reduce the risk of heart disease, as well as fatal and acute heart attacks.[167] Preliminary "animal research on CLA has shown many positive effects on heart disease, cancer, and the immune system,"[168] and while these effects have not yet been replicated in humans, there is some evidence to suggest that these health benefits do, in fact, translate to humans.[169] For example, one Finnish study found

Counters as Recession Bites, REUTERS, (Mar. 19, 2009), http://www.reuters.com/article/idUSTRE52I7 G220090319.

[160] Rosenberg, *supra* note 157.

[161] *Id.*

[162] *Id.*

[163] Akhtar et al., *supra* note 125, at 184.

[164] KATE CLANCY, UNION OF CONCERNED SCIENTISTS, GREENER PASTURES, EXECUTIVE SUMMARY 1 (2006).

[165] Jo Johnson, *Health Benefits of Grass Farming*, http://www.americangrass fedbeef.com/grass-fed-natural-beef.asp (last visited Mar. 21, 2011).

[166] Clancy, *supra* note 164, at 2.

[167] *Id.*

[168] *Id.*

[169] *See* Antti Aro et al., *Inverse Association between Dietary and Serum Conjugated Linoleic Acid and Risk of Breast Cancer in Postmenopausal Women* 38 NUTRITION & CANCER 151 (2000).

that women with higher levels of CLA in their diet had a lower risk of breast cancer than those with lower levels of CLA.[170] The study concluded that "a diet composed of CLA-rich foods . . . may protect against breast cancer . . . [o]n the other hand, high consumption of processed meat and poultry . . . may increase the risk of breast cancer."[171] These results support the notion that improvements in farm animal welfare will enhance human health and add to the multitude of reasons why Congress must pass legislation to mandate such improvements.

C. Congress Must Enact Legislation that Creates Humane Living Standards for Animals Raised for Food Because Current Federal Law Does not Address Unsanitary and Inhumane Living Conditions of Farm Animals

There are currently only two federal laws that pertain to animals raised for human consumption. The first of these laws, commonly known as the Twenty-Eight Hour Law, was enacted in 1873 and amended in 1994.[172] The law provides that livestock[173] traveling in interstate commerce may not be confined for more than twenty-eight hours without being unloaded for feeding, water, and rest for at least five consecutive hours.[174] The law was virtually ineffective until 2006, when the USDA expanded its interpretation of the term "vehicles," which originally only covered trains, to include trucks, which transport over ninety-five percent of all farm animals in the United States today.[175] Even now, the law is frequently ignored and rarely enforced.[176]

The second law, the Humane Methods of Slaughter Act (HMSA), was originally passed in 1958 and subsequently amended in 1978. The act requires that livestock be "rendered insensible to pain . . . before being shackled, hoisted, thrown, cast, or cut."[177] However, the HMSA expressly exempts ritual slaughter,[178] and like the

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[170] *Id.*

[171] *Id.* at 151, 156.

[172] Twenty-Eight Hour Law, 49 U.S.C. § 80502 (West 2011) (The text of the original statute is available from the USDA National Agriculture Library, and is available at http://awic.nal.usda.gov/nal_display/index.php?info_center=3&tax_level=1&tax_subject=18).

[173] The USDA claims that the term "livestock" does not include birds, which account for more than ninety percent of animals slaughtered for food. Animal Legal Defense Fund, *Farmed Animals and the Law*, http://www.aldf.org/article.php?id=1027 (last visited Mar. 21, 2011).

[174] Twenty-Eight Hour Rule, 49 U.S.C. § 80502 (West 2011).

[175] Michael Greger, *The Long Haul: Risks Associated With Livestock Transport*, 5 BIOSECURITY AND BIOTERRORISM: BIODEFENSE STRATEGY, PRAC., & SCI. 301, 304 (2007).

[176] Animal Legal Defense Fund, *supra* note 173. *See also* ANIMAL WELFARE INSTITUTE, *Legal Protections for Farm Animals During Transport*, (Aug. 2010) http://www.awionline.org/ht/a/GetDocumentAction/i/23622 (last visited Mar. 21, 2011) (asserting that "[t]here is no evidence that enforcement of the law increased following the decision to apply the provisions to truck transport" and citing examples of the USDA failing to investigate).

[177] 7 U.S.C. § 1902(a) (West 2011).

[178] 7 U.S.C. § 1902(b) (West 2011). The HMSA defines ritual slaughter as:

> [slaughter] in accordance with the ritual requirements of the Jewish faith or any other religious faith that prescribes a method of slaughter whereby the animal suffers loss of

Twenty-Eight Hour Law, the HMSA excludes birds.[179] Enforcement of this Act has also been inconsistent.[180] These two laws represent the entire body of law overseeing the care of animals raised for human consumption, and neither law addresses day-to-day farm practices and living conditions.

D. Congress Must Enact Legislation That Creates Humane Living Standards for Animals Raised for Food Because Current State Law Does not Adequately Address Unsanitary and Inhumane Living Conditions of Farm Animals

Each state has its own animal cruelty statutes, yet most states either specifically exempt farm animals, or choose to exempt "normal farm practices," giving producers unfettered discretion to mistreat their animals.[181] In the past several years, however, some states have begun to address the lack of legislation concerning the living conditions of farm animals. Several states, including Florida, Arizona, California, Colorado, Maine, Michigan, and Oregon have passed laws that limit or ban some of the worst abuses of farm animals.[182] California's law, The Prevention of Farm Animal Cruelty Act, which passed in November of 2008, is one of the most extensive statutes. This law specifically addresses veal crates, battery cages, and sow gestation crates and prohibits the confinement of farm animals in a manner that does not allow them to turn around lie down, stand up, and fully extend their limbs.[183] Suppressing the worst forms of factory farm cruelty is an important first step toward reform; however, providing animals with just enough room to stand, lie, or turn around still allows for crowded and unsanitary conditions, and thus may not be a substantial enough change to impact human health. If there are, in fact, health benefits that coincide with the state laws that have already gone into effect, they have not been reported. Other state laws are subject to lengthy phase out periods,

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> consciousness by anemia of the brain caused by the simultaneous and instantaneous severance of the carotid arteries with a sharp instrument and handling in connection with such slaughtering.

Id.

[179] Levine v. Vilsack, No. 08-16441, 2009 U.S. App. LEXIS 25573, at *9-11 (9th Cir. Nov. 20, 2009).

[180] Animal Legal Defense Fund, *supra* note 173.

[181] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 38; Animal Legal Defense Fund, *supra* note 173.

[182] *See* FLA. CONST. ART. X, § 21 (banning sow gestation crates); ARIZ. REV. STAT. § 13-2910.07 (LexisNexis 2011) (banning sow gestation crates and veal crates); CAL. HEALTH & SAFETY CODE §§ 25990-94 (Deering 2011) (prohibiting confinement in a manner that does not allow farm animals enough space to turn around, lie down, stand up, and fully extend their limbs); COLO. REV. STAT. §§ 35-50.5-101-103 (2011) (banning sow gestation crates and veal crates); 2009 Me. Laws 127 (banning sow gestation crates and veal crates); 2009 Mich. Pub. Acts 117 (banning sow gestation crates, veal crates, and battery cages for hens); OR. REV. STAT. § 600.150 (2009) (banning sow gestation crates).

[183] CAL. HEALTH & SAFETY CODE §§ 25990-94 (Deering 2011).

which delay measurement of any potential health benefits.[184] California's law, for example, will not become effective until 2015.[185]

In other states however, agribusiness interest groups have been successful in their efforts to preempt legislation akin to The Prevention of Farm Animal Cruelty Act passed in California. For example, the Ohio legislature, pressured by agribusiness leaders, voted to add a ballot measure to the November 2009 ballot that would amend the Ohio Constitution to create the Ohio Livestock Care Standards Board.[186] Once passed, "[t]he board would have far-reaching powers to set standards for livestock and poultry care, food safety, supply and availability, disease prevention, farm management, and animal well-being. It would have minimal legislative oversight."[187] In order to ensure that the measure passed, agricultural groups spent millions of dollars in advertising and even hired a seasoned public relations firm to handle the campaign.[188] The campaign, and even the ballot language, focused on animal welfare,[189] when in fact agricultural groups supporting the amendment admit

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[184] See *e.g.*, *Id.*

[185] *Id.*

[186] The board would be comprised of "family farmers, veterinarians, a food-safety expert, a representative of a local humane society, members of statewide farm organizations, the dean of an Ohio agriculture college, and two consumers. The state agriculture director would lead the panel." Alan Johnson, *Issue 2 Would Decide Who Regulates Animal Care in Ohio's Biggest Business*, COLUMBUS DISPATCH (Sept. 6, 2009, 3:59AM), http://www.dispatchpolitics.com/live/content/local_news/stories/2009/09/06/copy/LIVESTOCK_ISSUE.ART_ART_09-06-09_A1_UUEVV9K.html?sid=101.

[187] *Id.*

[188] *Id.*

[189] The language of Issue 2, passed on November 3, 2009, is as follows:

> This proposed amendment would:
>
> 1. Require the state to create the Livestock Care Standards Board to prescribe standards for animal care and well-being that endeavor to maintain food safety, encourage locally grown and raised food, and protect Ohio farms and families.
>
> 2. Authorize this bipartisan board of thirteen members to consider factors that include, but are not limited to, agricultural best management practices for such care and well-being, biosecurity, disease prevention, animal morbidity and mortality data, food safety practices, and the protection of local, affordable food supplies for consumers when establishing and implementing standards.
>
> 3. Provide that the board shall be comprised of thirteen Ohio residents including representatives of Ohio family farms, farming organizations, food safety experts, veterinarians, consumers, the dean of the agriculture department at an Ohio college or university and a county humane society representative.
>
> 4. Authorize the Ohio department that regulates agriculture to administer and enforce the standards established by the board, subject to the authority of the General Assembly.
>
> If adopted, this amendment shall take effect immediately.

that the measure was meant to preempt stricter animal welfare legislation by "out-of-state activists."[190] The campaign was successful on November 3, 2009, when voters approved the amendment that now allows the Ohio agriculture industry to self-regulate.[191]

In response, Ohioans for Humane Farms, backed by the Humane Society of the United States (HSUS) and numerous other national and local animal welfare organizations, successfully gathered over 500,000 signatures to place a farm animal welfare measure on the November 2010, Ohio ballot.[192] The measure would require the newly created Ohio Livestock Care Standards Board to set minimum standards of care that would prevent some of the worst factory-farming practices.[193] But on June 30, 2010, before the signatures were delivered to the Secretary of State, then-Governor Ted Strickland struck a deal with the HSUS and Ohio agricultural leaders that would provide for numerous animal welfare reforms.[194] In exchange, HSUS

Jennifer Bruner, Ohio Secretary of State, Ohio Ballot Board, www.sos.state.oh.us/sos/upload/ballotboard/2009/2-final_language.pdf (last visited Mar. 22, 2010).

[190] Johnson, *supra* note 186.

[191] The official results indicated that 63.76% of Ohio citizens voted in favor of the amendment, while 36.24% were opposed. OHIO SECRETARY OF STATE, *State Issue 2: Nov. 3, 2009 Official Results*, http://www.sos.state.oh.us/SOS/elections/electResultsMain/2009ElectionResults/20091103issue2.aspx (last visited on Mar. 22, 2010).

[192] THE HUMANE SOC'Y OF THE U.S., *Landmark Ohio Animal Welfare Agreement Reached Among HSUS, Ohioans for Humane Farms, Gov. Strickland, and Leading Livestock Organizations*, (June 30, 2010), http://www.humanesociety.org/news/press_releases/2010/06/landmark_ohio_agreement_063010.html.

[193] Some of the practices to be prevented include intensive confinement, namely veal crates, sow gestation crates, and battery cages, as well as allowing sick and injured cows to enter the food chain. THE HUMANE SOC'Y OF THE U.S., *Ohioans for Humane Farms Petition for Anti-Cruelty Measure*, (Feb. 1, 2010), http://www.humanesociety.org/news/press_releases/2010/02/ ohio_signatures_020110.html.

[194] THE HUMANE SOC'Y OF THE U.S., *supra* note 192. Reforms agreed upon include:

> A ban on veal crates by 2017, which is the same timing as the ballot measure.
>
> A ban on new gestation crates in the state after Dec. 31, 2010. Existing facilities are grandfathered, but must cease use of these crates within 15 years.
>
> A moratorium on permits for new battery cage confinement facilities for laying hens.
>
> A ban on strangulation of farm animals and mandatory humane euthanasia methods for sick or injured animals.
>
> A ban on the transport of downer cows for slaughter.
>
> Enactment of legislation establishing felony-level penalties for cockfighters.
>
> Enactment of legislation cracking down on puppy mills.
>
> Enactment of a ban on the acquisition of dangerous exotic animals as pets, such as primates, bears, lions, tigers, large constricting and venomous

agreed to place a hold on the planned ballot initiative.[195] Since then, however, the Ohio Livestock Care Standards Board has violated the agreement by allowing the use of veal crates, prompting the HSUS to consider renewing the statewide ballot initiative.[196] While it remains to be seen what will come of the agreement and the ballot initiative, the ongoing struggle for agricultural animal welfare reform in Ohio demonstrates the need for federal legislation that addresses these issues on a national level.

E. Congress Must Enact Legislation That Creates Humane Living Standards for Animals Raised for Food Because Federal Regulatory Agencies Have not Adequately Addressed the Unsanitary And Inhumane Living Conditions of Farm Animals as an Element of Food Safety

1. History of the Regulatory Framework

The United States regulatory system for ensuring food safety is "antiquated and failing."[197] The laws that create the foundation for our federal regulatory system to ensure food safety were enacted over 100 years ago, before factory farms existed.[198] At that time, the public's primary concern was with unsanitary conditions in slaughterhouses and meat packing facilities, as exposed in Upton Sinclair's novel, *The Jungle*. In 1906, in response to public outcry, Congress passed the Pure Food and Drug Act (PFDA) and the Meat Inspection Act (MIA). The PFDA made it a misdemeanor to market any food containing "any added poisonous or other added deleterious ingredient which may render such article injurious to health."[199] The MIA established a program of continuous federal inspection in meat processing facilities that persists to this day.[200] Both laws granted authority to the United States Department of Agriculture (USDA) to examine food for adulteration and report violations to the Department of Justice.[201] Implementation of the PFDA was delegated to the Bureau of Chemistry, the precursor to today's Food and Drug Administration (FDA), while responsibility for the MIA remained with the USDA.[202]

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snakes, crocodiles and alligators.

Id.

[195] *Id*.

[196] Alan Johnson, *Vote on Veal Calves Might Trigger Statewide Referendum After All*, COLUMBUS DISPATCH, Mar. 2, 2011, http://www.dispatch.com/live/content/local_news/stories/2011/03/02/animal-welfare-humane-society.html?sid=101.

[197] Caroline Smith DeWaal, *From Hand to Mouth, Via the Lab and the Legislature: International and Domestic Regulations to Secure the Food Supply*, 40 VAND. J. TRANSNAT'L L. 921, 921 (2007).

[198] *Id*.

[199] Federal Food and Drug Acts of 1906, ch. 3915, 34 Stat. 768, 770 (repealed 1938).

[200] Richard A. Merrill & Jeffrey K. Francer, *Organizing Federal Food Safety Regulations*, 31 SETON HALL L. REV. 61, 79 (2000).

[201] *Id.*

[202] *Id.*

In 1938, Congress passed another major overhaul of federal food safety law, with the Federal Food, Drug, and Cosmetic Act (FDCA).[203] Although this overhaul enlarged the FDA's food safety authority, the FDA was still only authorized to act "when foods were adulterated or misbranded."[204] In contrast, the MIA required much more aggressive oversight of meat by the USDA.[205] In order to ensure meat safety, the MIA required inspectors to inspect and stamp all unadulterated meat products with USDA's mark: "Inspected and passed."[206] Congress added poultry products to the program in 1957 with the passage of the Poultry Products Inspection Act (PPIA), which, like the MIA, mandated "carcass-by-carcass inspection at slaughter, and continuous inspection of processing plants."[207]

For ninety years, the USDA relied solely on visual inspection to identify "adulterated"[208] meat products.[209] Beginning in the 1980s however, the USDA came under heavy criticism for failing to modernize its inspection methods.[210] "Reliance on visual inspections as the primary method of avoiding pathogens [was] denounced soundly by both the media and experts."[211] Yet, it was not until 1994 that the USDA recognized microbial pathogens on raw meat and poultry products as adulterants under the law.[212] Finally, in 1996, the USDA responded to its critics by embracing the implementation of Hazard Analysis and Critical Control Points (HACCP) protocols,[213] "a management system in which food safety is addressed through the

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[203] *Id.* at 81.

[204] DeWaal, *supra* note 197, at 923. Food is "adulterated" if it contains "any poisonous or deleterious substance which may render it injurious to health," or it consists of "any filthy…substance," or if it has been "prepared, packed, or held under unsanitary conditions whereby it may have become contaminated with filth." 21 U.S.C. § 342(a) (FDCA § 402(a)).

[205] *See Id*.

[206] Federal Meat Inspection Act, 21 U.S.C. § 604 (2000).

[207] DeWaal, *supra* note 197, at 932 (citing Poultry Products Inspection Act, Pub. L. No. 85-175, 71 Stat. 441 (1957) (codified at 21 U.S.C. §§ 451-71)).

[208] The definition of "adulterated" and the specific instances that render a product adulterated under the FMIA are very similar to those outlined in the FDCA. Under the FMIA, a meat or poultry product is adulterated "if it bears or contains any poisonous or deleterious substance which may render it injurious to health . . ." Federal Meat Inspection Act, 21 U.S.C. § 601 (2006).

[209] Visual inspection began in 1906 with the passage of the PFDA and the FMIA and continued until 1996 with the USDA's implementation of HACCP protocols. *See* Merrill & Francer, *supra* note 193 at 79, 95.

[210] *Id.* at 102 (citing a 1987 NAS report that concluded that "the present system of inspection does very little to protect the public against microbial hazards in young chickens.").

[211] Chryssa V. Deliganis, *Death by Apple Juice: The Problem of Foodborne Illness, the Regulatory Response, and Further Suggestions for Reform*, 53 FOOD & DRUG L.J. 681, 703 (1998).

[212] Michael R. Taylor, *Preparing America's Food Safety System for the Twenty-First Century – Who is Responsible for What When it Comes to Meeting the Food Safety Challenges of the Consumer-Driven Global Economy*, 52 FOOD & DRUG L.J. 13, 17 (1997).

[213] U.S. DEP'T OF AGRIC., FOOD SAFETY AND INSPECTION SERV., *The Final Rule on Pathogen Reduction and Hazard Analysis and Critical Control Point (HACCP) Systems*, (July

analysis and control of biological, chemical, and physical hazards" in the food chain.[214]

2. The Regulatory System Meant to Ensure Food Safety is Not Adequately Focused on Prevention

In theory, the HACCP system, which included testing for microbial pathogens, should have improved food safety. Yet, recent years have seen frequent recalls of copious amounts of beef tainted with E. coli.[215] The year 2010 appears to be no exception, with the first six weeks of the year delivering three major beef recalls for E. coli contamination, covering a staggering 5.78 million pounds of beef.[216] This is to say nothing of the numerous recalls for Salmonella, Listeria, and other pathogens.[217] These recalls continue to occur because the USDA is not adequately focused on prevention. For example, the USDA claims that E. coli is not an adulterant when found on the surfaces of intact cuts of meat.[218] The industry reasons that these cuts of meat are not adulterated because "steaks don't provide bacteria access into the meat below the surface."[219] Thus, the industry claims, properly cooking the steak kills any surface bacteria and renders the meat safe to eat.[220]

1996), http://www.fsis.usda.gov/OA/background/finalrul.htm#THE%20FINAL%20RULE (last visited Feb. 17, 2010).

[214] U.S. FOOD AND DRUG ADMIN., *Hazard Analysis & Critical Control Points (HACCP)*, http://www.fda.gov/Food/FoodSafety/HazardAnalysisCriticalControlPointsHACCP/default.htm (last visited Feb. 17, 2010). Food industry experts developed HACCP in the 1960s, not as a regulatory tool, but as a process control system for use by private food companies to ensure the safety of their products. The concept calls for the operator of a food production process to have a plan for producing safe food, while identifying potential hazards in the process and proven solutions for those hazards. HACCP recognizes that process control plans developed by each plant operator and tailored to that particular plant work best to ensure food safety. Taylor, *supra* note 212, at 20.

[215] In 2007 the total number of E. coli recalls was 21, covering 35 million pounds of beef. Dan Flynn, *E. coli Beef Recall Makes 11 in 2009*, FOOD SAFETY NEWS (Oct. 14, 2009), http://www.foodsafetynews.com/2009/10/e-coli-o157h7-in-beef-brings-11th-recall-of-year/. In 2008, the total number of E. coli recalls was 16, covering 7.5 million pounds of beef. *Id.* 2009 saw another 16 recalls, covering over 1.3 million pounds of beef. USDA, FOOD SAFETY AND INSPECTION SERV., FSIS Recall Case Archive, http://www.fsis.usda.gov/recalls/Recall_Case_ Archive/index.asp (last visited on Feb. 17, 2010).

[216] U.S. DEP'T OF AGRIC., FOOD SAFETY AND INSPECTION SERV., *Current Recalls and Alerts*, http://www.fsis.usda.gov/recalls/Open_Federal_Cases/index.asp (last visited Feb. 17, 2010); Drew Falkenstein, *Beef recalls in 2010: 5,78,000 total pounds of beef recalled*, FOOD POISON JOURNAL (March 2, 2010), http://foodpoisonjournal.com/2010/03articles/foodborne-illness-outbreaks/beef-recalls-in-2010-578000-total-pounds-of-beef-recalled/.

[217] *Id.*

[218] Daryll E. Ray, Agricultural Policy Analysis Ctr., Univ. of Tenn., *Legislators overlook serious flaw in USDA's HAACCP food-safety system- while promoting its adoption by FDA*, MINNESOTA FARMERS UNION (July 10, 2009), http://www.mfu.org/node/276.

[219] Bill Tomson, *U.S. Beef Safety Plan Languishes Amid New Illnesses*, WALL ST. J. (July 10, 2009, 4:46 PM), http://online.wsj.com.article/SB124725846273124475 7.html.

[220] Ray, *supra* note 218.

Accordingly, the USDA only tests certain cuts of meat for harmful pathogens, including ground beef and "trim" which are designated for ground beef.[221] The problem arises however, when intact cuts of meat, which are surface contaminated with harmful pathogens, are turned into ground beef, thus mixing the bacteria into the interior of the meat.[222] Although policy changes proposed during the Bush Administration could limit the number of recalls and illnesses by requiring intact meat testing, representatives of the meat packing industry have fought the USDA "tooth and nail" and thus, the policy remains "under consideration."[223]

Like the USDA, the FDA is not adequately focused on prevention. In addition, the FDA is severely under-funded. [224] Although the FDA is responsible for about eighty percent of the nation's food supply under the authority of the FDCA,[225] including eggs and dairy products produced on factory farms, it only receives about one-third of the nation's federal food budget, with the remaining balance going to the USDA for inspection of meat and poultry products.[226] This lack of funding has led to a steady decline in the number of inspectors available to inspect the more than 50,000 plants under its authority.[227] "In fact, since 1972, inspections conducted by the FDA have declined by eighty-one percent."[228] Accordingly, the FDA simply does not have the resources to prevent outbreaks from occurring.[229] Following the spinach outbreak of 2006, retired FDA Associate Commissioner William Hubbard commented that "[t]he agency was currently so stretched that they can do little more than react to outbreaks, rather than try to prevent them."[230]

The underlying issue here is a lack of prevention. The USDA begins their line of defense against food-borne illness at the slaughterhouse instead of on the farm,

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[221] Tomson, *supra* note 219.

[222] *Id.*; Ray, *supra* note 218.

[223] Tomson, *supra* note 219.

[224] Federal regulatory agencies responsible for food safety have seen few increases in funding. Following September 11, 2001 however, Congress recognized that the FDA's programs were inadequate to prevent bioterrorism. Accordingly, Congress passed the Public Health Security and Bioterrorism Response Act of 2002, which gave the FDA new food safety authorities and increased funding for improvements in inspection. In recent years however, the funding has dissipated so that the current number of inspectors has dropped below 2002 levels. DeWaal, *supra* note 197, at 931.

[225] Federal Food, Drug, and Cosmetic Act, 21 U.S.C. §§ 321-399 (2000); Dewaal, *supra* note 190, at 923; The Food Drug & Cosmetic Act replaced the original 1906 Pure Food and Drug Act "after a legally marketed toxic elixir killed 107 people, including many children . . . The [FD&C Act] authorized the FDA to demand evidence of safety for new drugs, issue standards for food, and conduct factory inspections." FDA U.S. Food and Drug Admin., *Legislation,* U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES (Jan. 3, 2010), http://fda.gov/regulatoryinformatio.legislation.default.htm.

[226] Dewaal, *supra* note 190, at 932.

[227] Deliganis, *supra* note 211, at 703.

[228] DeWaal, *supra* note 197, at 930.

[229] *Id.*

[230] *Id.*

where the disease originates. Meanwhile, the FDA has scarcely enough resources to respond to outbreaks, let alone address issues at the farm level. Yet, scientists have suggested that in order "to achieve further reductions in food-borne illness levels in humans, effective pre-harvest interventions are needed."[231] In suggesting that the health of farm animals is an important, though often overlooked factor in predicting the risk of human infection, one study summarized the relationship between farm animal welfare and human food-borne illness as follows:

> The health status of animals that are processed for meat can potentially influence foodborne pathogen levels in three ways. First, diseased animals may shed higher levels of pathogens (e.g. Salmonella and Campylobacter) than healthy animals, thereby increasing the probability of carcass (meat) contamination and cross-contamination. Second, during the normal meat inspection process, animals with overt signs of disease either will be removed from the food chain (condemned) or will undergo further handling to remove affected parts. This increased handling may lead to increased microbial contamination and cross-contamination. Carcasses from animals with subclinical illnesses may go undetected. Third, certain animal illnesses may lead to a higher probability of mistakes in the processing plant, such as gastrointestinal ruptures. Groups of animals that have experienced illness, either clinically or subclinically, can be smaller on average and more variable in size. During processing, these factors can contribute to an increased likelihood of the gastrointestinal tract being ruptured, and this processing error can lead to increased contamination and cross-contamination . . . Therefore, reducing animal illness might play an important role in reducing the chances of carcass contamination during processing.[232]

Accordingly, it is imperative that Congress pass legislation that mandates humane living conditions for food producing farm animals in order to diminish the risk of contamination at the processing facilities, and ultimately the risk of food-borne illness.

3. The Regulatory System Meant to Ensure Food Safety is Fragmented and Inefficient

In addition to requiring a stronger focus on prevention, the federal regulatory system needs a single agency devoted to food safety. Although the USDA and the FDA perform the core oversight activities, the responsibility of food safety is currently divided between at least a dozen government agencies implementing over thirty-five statutes.[233] State and local agencies also share responsibility and play varying roles depending upon their resources and statutory authority.[234] Such a fragmented system has left consumers vulnerable to additional outbreaks of food-

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[231] Singer et al., *supra* note 35, at 186.

[232] *Id.* at 187-88.

[233] DeWaal, *supra* note 197, at 931.

[234] Taylor, *supra* note 212, at 18. For example, states often conduct food plant inspections for the FDA. DeWaal, *supra* note 197, at 931-932.

borne illness.[235] For example, the FDA is responsible for the safety of shell eggs, while the grading of shell eggs for quality is under the USDA's primary jurisdiction.[236] This means that the USDA inspectors, who grade the eggs for quality, have no jurisdiction over the safety of the eggs, and thus the shell eggs go without a safety inspection.[237] Pizza is another classic example of the fragmented food regulation system. The FDA has jurisdiction over a facility that produces cheese pizza while the USDA has jurisdiction over a facility producing pepperoni pizza.[238] The former is rarely inspected while the latter is inspected on a daily basis, even though the pepperoni was already inspected as it was processed.[239]

Another example of fragmentation and inefficiency is found in the system for regulating pesticides used in food production. The EPA is responsible for "regulat[ing] pesticides and mak[ing] food safety decisions concerning the amount of pesticide residue that can be present on food as a result of the pesticide's application to crops."[240] The USDA then enforces pesticide tolerances for meat and poultry while the FDA enforces EPA tolerances for residues on all other foods.[241] Nevertheless, when agricultural pesticides contaminate food as a result of persisting in the environment rather than being applied directly to crops, the FDA has generally exercised jurisdiction, not the EPA.[242]

The CDC is another public health agency involved in ensuring food safety.[243] The "CDC works with state and local health departments to track and manage food-borne illness outbreaks."[244] Accordingly, the CDC is the first agency notified when an outbreak is discovered.[245] It is up to the CDC to identify which food is the source of the outbreak before it can determine which regulatory agency is responsible for managing the outbreak.[246] Yet even once the appropriate managing agency is identified, "neither USDA nor FDA has statutory authority to mandate a recall."[247] The managing agency will issue a request for the manufacturer to voluntarily recall

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[235] DeWaal, *supra* note 197, at 931.

[236] Taylor, *supra* note 212, at 18.

[237] *Id.*

[238] *Id.*

[239] *Id.*

[240] *Id.*

[241] *Id.* at 19.

[242] *Id.*

[243] DeWaal, *supra* note 197, at 932.

[244] *Id.*

[245] *Id.*

[246] *Id.*

[247] Michael T. Roberts, *Mandatory Recall Authority: A Sensible and Minimalist Approach to Improving Food Safety*, 59 FOOD & DRUG L.J. 563, 567 (2004).

the contaminated food.[248] If the manufacturer does not voluntarily recall the products, the agencies rely on one or more regulatory enforcement tools including "warning letters, adverse publicity, injunction, retention, seizure, and criminal prosecution . . . These enforcement tools generally are not effective, however, in removing tainted food products fast enough, because they often require court intervention."[249]

Finally, one of the most glaring regulatory inefficiencies is found in the USDA's conflicting responsibilities. In addition to the USDA's duty to ensure meat safety, it is responsible for marketing meat overseas and acting as an advocate for agricultural interests in the U.S. Congress.[250] "Thus, USDA shares two often-conflicting missions when it comes to food: safety and promotion."[251] The creation of a single food safety agency would eliminate this conflict of interest as well as the fragmentation that creates such deep inefficiencies in the system. This type of agency has been proposed numerous times without success. It was most recently proposed in the Safe Food Act of 2007, which died in committee.[252]

Because our federal food safety regulation system is failing, it is crucial for Congress to pass legislation mandating humane living conditions for farm animals. Such legislation will shift the regulatory focus toward the prevention of disease and contamination, rather than relying on agency inspectors to identify and remove diseased animal products that are already in the process of being packed and shipped for human consumption.

IV. DEVELOPMENTS

"[F]ew bills dealing with on-farm animal welfare regulation have been introduced in Congress and most have failed."[253] However, dangerous factory farm practices have not gone entirely unnoticed. The Preservation of Antibiotics for Medical Treatment Act (PAMTA) was introduced in Congress on March 17, 2009 and is aimed at preserving the "effectiveness of medically important antibiotics used in the treatment of human and animal diseases" by providing for the phased elimination of certain non-therapeutic drugs in food producing animals.[254] PAMTA would amend the FDCA to withdraw approvals for feed-additive use of seven specific classes of antibiotics, each of which is used in human medicine.[255] If passed, the bill would represent an important step toward addressing factory farm conditions that negatively affect human health.

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[248] *Id.*; U.S. DEP'T OF AGRIC., FOOD SAFETY AND INSPECTION SERVICE, *Fact Sheets: FSIS Recalls*, http://www.fsis.usda.gov/fact_sheets/fsis_food_recalls/Index.asp (last visited Mar. 21, 2011).

[249] Roberts, *supra* note 247, at 567.

[250] DeWaal, *supra* note 197, at 931-32.

[251] *Id.* at 932.

[252] *See* Safe Food Act of 2007, H.R 1148, 110th Cong. (2007).

[253] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 38.

[254] H.R. 1549, 111th Cong. (2009); S. 619, 111th Cong. (2009).

[255] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 61.

Nevertheless, PAMTA is not a blanket ban on non-therapeutic antibiotics, and therefore it leaves room for continued abuse by producers, and ongoing human health risks. For example, doctors have found that treating patients with antibiotics that are merely similar to antibiotics fed to food producing animals can render them useless.[256] Thus, even if producers eliminated the use of PAMTA drugs, any similarity between the replacement antibiotics and the antibiotics used to treat human patients will still result in human health risks due to decreased antibiotic efficacy. Accordingly, Congress should amend PAMTA to ban the practice of administering any non-therapeutic drugs to animals that are raised for human consumption. A complete ban on non-therapeutic antibiotics will not only diminish the risk of bacterial resistance, but it may also indirectly improve factory farm living conditions and thus decrease food-borne illness. If non-therapeutic antibiotics are unavailable to compensate for inhumane living conditions, then the connection between inhumane animal living conditions and sickness will be restored and producers will be motivated to raise food-producing animals in conditions that will ensure their health.

V. RECOMMENDATIONS

A. Federal Legislation

Scholars have suggested that most of the necessary reforms could be achieved under the existing regulatory system by convincing the FDA and the USDA to promulgate new animal welfare regulations with authority derived from the current federal food safety laws.[257] However, while "the FDA appears to have authority under the FDCA and the [Public Health Service Act] to regulate at least some on-farm activities,"[258] the USDA has no such authority under the MIA or the PPIA.[259] Thus, a regulation-based reform strategy would require amendments to several federal food safety statutes in order to give the FDA and the USDA full authority to regulate farm animal welfare. Even if these agencies had full authority to regulate farm animal welfare, the FDA is unlikely to promulgate such rules because it does not have the resources to enforce them. The USDA is also unlikely to impose animal welfare regulations on factory farmers given its conflicting role as a key promoter of agricultural interests. Consequently, in order to ensure meaningful reform, Congress must pass federal legislation that sets clear standards for achieving humane living conditions for farm animals and creates an independent agency to enforce them.

A federal law such as PAMTA that bans the administration of non-therapeutic antibiotics would go a long way toward addressing animal welfare and food safety issues. A more comprehensive federal farm animal bill is necessary however,

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[256] *See* Mosel, *supra* note 8, at 167.

[257] *See, e.g.*, Anastasia S. Stathopoulos, Note, *You Are What Your Food Eats: How Regulation of Factory Farm Conditions Could Improve Human Health and Animal Welfare Alike*, 13 N.Y.U. J. LEGIS. & PUB. POL'Y 407 (2010).

[258] VANESSA K. BURROWS, CONG. RESEARCH SERV., FDA AUTHORITY TO REGULATE ON-FARM ACTIVITY 3 (2008), *available at* http://www.nationalaglawcenter.org/assets/crs/RS22939.pdf.

[259] Stathopoulos, *supra* note 257, at 434-35.

because "[f]ood animals that are treated well and provided with at least minimum accommodation of their natural behaviors and physical needs are healthier and safer for human consumption."[260] Thus, in addition to banning non-therapeutic antibiotics, Congress should set forth the following additional minimum standards to improve animal health and well-being.

First, animals must not suffer prolonged hunger or thirst, and animal feed must meet strict requirements. Feed should be comprised of natural ingredients that the animal is equipped to digest. Animal feed should not include protein from same-species, diseased, or euthanized animals. These requirements will help to prevent food-borne illness that originates with contaminated feed and to produce nutritious meat enriched with omega-3 and CLA fatty acids that provide human health benefits.

Second, Congress must decrease the concentration of animals housed in small facilities. This should be accomplished by requiring producers to provide animals with substantial access to grass-covered outdoors. In addition, Congress must mandate a minimum amount of outdoor space[261] per animal to prevent continued overcrowding.[262] These measures will reduce the concentration of manure within an animal's living space, which will lessen the probability that animals will arrive at the slaughterhouse smeared with disease-carrying feces. The reduction in concentrated manure will also eliminate the conditions that make animal living conditions ripe for disease production and transmission. Although outdoor space is required, animals must also have shelter from weather and extreme temperatures. When animals are housed in indoor facilities, they must be provided with natural flooring and enough space to be comfortable, especially in their lying area.[263] Whether inside or out, animal living conditions must also allow for the expression of species-specific natural behaviors. This requirement is necessary to prevent problems that affect both animal welfare and production.[264]

Third, "[a]nimals should not be physically injured and should be free of preventable disease related to production."[265] This provision would "prohibit mutilation or physical alterations, unless the animal's health requires it."[266] This

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[260] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 87.

[261] The outdoor space should be species-appropriate.

[262] Additional research is necessary to determine the minimum amount of land needed per animal to ensure hygienic living conditions and provide for adequate expression of natural behaviors.

[263] Natural flooring, rather than concrete, is necessary to prevent the frequent leg injuries sustained by animals that spend excessive amounts of time on concrete floors. PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 86.

[264] For example, pigs are social animals and spend most of their lives in contact with group mates. 7 THE WELFARE OF PIGS 36 (Jeremy N. Marchant-Forde, ed., 2009). Pigs lie together in communal nests and thus, individual housing is unnatural. *Id.* Pigs also leave the nest area to defecate and urinate, which is not possible in crates that restrict movement. *Id.* "If pigs are not given adequate opportunities to adapt behaviourally, they are likely to suffer a series of problems which affect both welfare and production including lactation failure in sows and reduced appetite and growth." *Id.*

[265] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 83.

[266] Mosel, *supra* note 8, at 183. "Such alterations should never be used as a remedy for behavioral problems caused by a confined environment." *Id.*

provision would also require workers to handle the animals humanely in all situations and to use all reasonable means to prevent negative emotions such as fear, distress, extreme frustration, or boredom.[267] In addition, the bill must prevent producers from shortening the weaning period and utilizing abrupt weaning in order to harvest the animal faster. These practices cause severe stress and make the animals more vulnerable to disease.[268] In the event of injury or illness, veterinary care must be provided within a reasonable period of time.

Congress must also address the severe environmental damage that factory farms are causing at the public's expense. Mandating adequate outdoor space for animals will significantly decrease manure disposal issues. Nevertheless, indoor facilities are still necessary, and will require responsible manure collection and disposal. Accordingly, Congress must mandate responsible storage and handling practices. Storage tanks must have proper covers to prevent emissions.[269] Land application of manure must not be executed by spray techniques, but by direct injection into the soil, and application must only be performed during growing season, when the land is better able to absorb the nutrients.[270] This will help to prevent runoff into surface water, and will reduce the release of toxic emissions.

In addition to the proposed legislation, Congress must act to strengthen its current federal laws, the Twenty-Eight Hour Law, and the HMSA. Congress should amend The Twenty-Eight Hour Law to address the lack of adequate care and the over-packing of farm animals during transport. Specifically, Congress should place limits on the number of animals per square foot, and they should further define the care that is required when the animals are unloaded for "feeding, watering, and rest."[271] Furthermore, both of the aforementioned statutes should be amended to include fowl.

B. Enactment and Enforcement

In order to enact the proposed legislation, Congress should exercise its authority under the Commerce Clause to regulate activity, such as farm animal production, that affects interstate commerce.[272] The Commerce Clause allows Congress to regulate local activity if the activity directly affects interstate commerce, if it substantially affects interstate commerce, regardless of whether the activity is direct or indirect,[273] or if the activity substantially affects interstate commerce in the aggregate.[274] Though the production of animals has traditionally been considered a

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[267] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 83. This provision would eliminate, for example, common hand-catching methods for fowl that result in the animals' broken limbs, bruising, and stress. *Id.* at 86.

[268] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 86.

[269] *Id.* at 25

[270] *Id.*

[271] 49 U.S.C. § 80502 (2006).

[272] U.S. CONST. art. I, § 8, cl. 3.

[273] *See* Nat'l Labor Relations Bd. v. Jones & Laughlin Steel Corp., 301 U.S. 1 (1937).

[274] *See* Wickard v. Filburn, 317 U.S. 111, 124-25 (1942).

local activity[275] and may not have a direct affect on interstate commerce, the sheer volume of animals produced and sold each year in the United States would suggest that when considered in the aggregate, farm animal production has a substantial affect on interstate commerce. Indeed, Congress has already declared that many animal-related activities, including transportation, purchase, sale, housing, care, handling, and treatment of animals, substantially affect interstate commerce, and require regulation.[276] Congress should recognize the need for the proposed legislation and exercise its commerce affecting power to pass these reforms immediately.

In order to ensure enforcement of this new federal legislation and to strengthen enforcement of the two existing federal laws, the statute should call for an oversight system similar in structure to that used for laboratory animal welfare.[277] The statute would direct the Secretary of Agriculture to establish and empower an independent agency to implement and enforce the provisions of the new statute, as well as the existing Twenty-Eight Hour Law and the HMSA.[278] The agency would be responsible for promulgating standards and issuing licenses to producers, who must maintain their licensure through compliance with the statutory provisions.[279] Agency inspectors would conduct periodic and random onsite inspections of the animals, the facilities, and company records to ensure statutory compliance. Onsite inspections would be supplemented by frequent remote inspections via closed circuit television cameras. Inspectors would have the authority to take dominion over suffering animals.[280] Further, the agency would develop and implement a system for monitoring the length of animal transport trips and the number of rest stops taken in order to ensure compliance with the Twenty-Eight Hour Law.

Finally, the statute must empower this new agency with the authority to impose punishment for statutory violations that is substantial enough so that it will not be written off as a cost of doing business. Under no set of circumstances should it be more cost effective to pay a fine than to continue utilizing cruel or inhumane practices that contribute to the deterioration of human health.[281] Accordingly, "statutory violations should result in suspension . . . of licenses if not cured within a prescribed amount of time, such as the twenty-one days allotted in the Animal Welfare Act."[282] License suspension would prohibit the facility from operating until the defect is cured, and would incur a fine, the amount of which would be based on the seriousness of the violation. Fines should increase substantially for repeat violations. "Reasonable extensions could be granted to allow time for compliance."[283] However, if defects are left uncured for an unreasonable amount of

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[275] *See* United States v. E.C. Knight Co., 156 U.S. 1 (1895).

[276] 7 U.S.C. § 2131 (2011).

[277] PEW COMM'N ON INDUS. FARM ANIMAL PROD., *supra* note 29, at 83.

[278] Mosel, *supra* note 8, at 185.

[279] *Id.* (citing 7 U.S.C. §§ 2133, 2136, 2142 (1994)).

[280] *Id.* (citing 7 U.S.C. § 2146 (1994)).

[281] Fox, *supra* note 21, at 180-81.

[282] Mosel, *supra* note 8, at 185.

[283] *Id.*

time, the license should be revoked, and the facility would not be permitted to operate. Egregious violations should also result in criminal prosecution, punishable by substantial fines or imprisonment.[284]

VI. CONCLUSION

For decades, Congress has ignored the inconceivable living conditions that millions of farm animals are forced to endure each day. Animals are crammed into overcrowded, dark, tiny spaces that are devoid of natural elements such as grass or soil, filled with manure, and crawling with disease. Animals are unable to turn around, lie down, or express many of their natural behaviors. As a result, they are diseased, injured, and suffering. To keep them alive, producers pump them full of antibiotics, yet many are still so sick when they arrive at the slaughter-house that they must be electrocuted and beaten into standing up to be slaughtered.[285]

American ambivalence to the suffering of these living creatures has allowed factory farms to continue employing animal husbandry practices that create severe human health risks, which cause millions of Americans each year to suffer and even die from food-borne illness, antibiotic resistant infections, and illness related to toxic factory farm pollution. The poor quality and unnecessary abundance of inexpensive meat is also a primary contributing factor to America's obesity epidemic, which causes untold suffering and claims the lives of thousands via diabetes, heart disease, stroke, and other chronic disease.

These health risks may only be adequately addressed by purging the agriculture industry of the damaging practices currently employed by factory farms. Although some effort, such as the introduction of PAMTA, has been made to address the worst of these practices, current federal laws addressing inhumane conditions are still practically non-existent, and those laws that do exist are inadequate and under-enforced. Similarly, state laws are too few and too inadequate to address the severe human health risks at stake. Further, the regulatory system in place to ensure food safety is fragmented, inefficient, and not adequately focused on prevention. Accordingly, the responsible agencies, namely the USDA and the FDA, have failed to recognize animal welfare as an effective method of ensuring food safety.

Thus, in order to reduce the substantial number of human health risks associated with the reckless farming practices outlined above, Congress must exercise its commerce affecting power under the Commerce Clause to enact sweeping federal legislation that requires humane living conditions for farm animals and declares a moratorium on the use of routine and unnecessary antibiotics. Given that under-enforcement of the two current farm animal welfare laws is a serious problem, the statute should direct the Secretary of Agriculture to create an independent agency that would be responsible for licensing, inspecting, and enforcing the statutory provisions of the new legislation, along with the existing Twenty-Eight Hour Law and the HMSA. The statute should also clearly establish the consequences,

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[284] *Id.*

[285] Greg Toppo, *Humane Society Releases Video of Cattle Being Abused*, USA TODAY, June 25, 2008, *available at* http://www.usatoday.com/news/nation/2008-06-25-downer-cattle_N.htm.

including criminal prosecution punishable by fines and imprisonment, for failure to comply with the statutory provisions of these three laws.