

RESEARCH ARTICLE

U.S. Animal Disease Policies and Human Health Debates

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Abstract

The U.S. federal government adopted aggressive policies to control animal diseases decades before it made significant attempts to improve human health. Progressive-era reformers crafted a powerful argument that the male-dominated, rural-oriented political system valued the lives of hogs more than the well-being of babies. The invidious hog-baby comparison became a pervasive theme in debates over the Children's Bureau, a National Department of Health, and the Sheppard-Towner Act, and it has been reproduced uncritically in recent years. This article investigates the important historical relationships between U.S. animal and human health policies. Human health champions would have been better served by embracing a One Health approach when possible, drawing more on the lessons learned in combating animal diseases.

Keywords: Public health history; Children's Bureau; Sheppard-Towner Act; National Department of Health; Bureau of Animal Industry

In 1916, *Woman Voter* upbraided Congress for short-changing American women and children: The federal government spent only "\$165,000 a year to protect our babies" while it allocated "\$600,000 a year to protect our hogs!" By this account, the entire budget of the Children's Bureau was less than one-twentieth of the appropriation for the Bureau of Animal Industry (BAI), the agency within the U.S. Department of Agriculture (USDA) focused on animal health (No author 1916b: 14). The suffragists argued that the misguided spending priorities of Congress contributed to unacceptably high rates of infant mortality. The New York State Woman Suffrage Party reissued the tract as a brochure with the cartoon of a frightened toddler captioned: "I wish my mother had a vote – to keep the germs away" (Owens 1915: folder no. 88).

In 1919, the League of Women Voters began campaigning in favor of the Sheppard-Towner Maternity and Infancy Protection bill. The League chided the

federal government for doing more to protect the “lamb in the fold” than “the baby in the crib.” “When the barn is 15 times as precious as the nursery, it is time for mothers to get busy” (No author 1920a: 984–85). Leading women’s magazines echoed this theme. *Good Housekeeping* declared that the “discrimination in favor of hogs and corn should cease” and initiated a national petition drive for the “Baby” bill (Bigelow 1920: 7; Martin 1920: 20–21). Offering a speech on “Social Justice” to a “gathering of women” at Marion, Ohio in October 1920, presidential candidate Warren G. Harding promised support for federal infant health initiatives: “It is a grim jest, indeed, that the federal government is spending twice as much money for the suppression of hog cholera as it spends for its entire program for the welfare of the American child” (No author 1920b: 1; Harvey 1988: 118).

During the early twentieth century, the invidious comparison between the federal government’s treatment of livestock and babies was a pervasive theme in the important debates over federal human health policy, including those over the National Department of Health, the Children’s Bureau, and the Sheppard-Towner Act. The standard talking point was that the prevailing policies placed more value on the health of hogs than of babies. Most public health reformers used the hog-baby comparison as a rallying cry to expose the indifference of a male-dominated, rural-oriented political system to humanity. Many modern observers continue to espouse this view.

Gordon (2003: 17), Ladd-Taylor (1995: 77), Lindenmeyer (1997: 53, 73), Meckel (1990: 210), Smuts (2006: 83), and Tichi (2011: 117) have all highlighted the hog-baby comparison. These accounts treat the spending differential as “ironic,” bordering on the absurd. The implicit idea is not just that more resources should be devoted human health, but that they should be transferred away from animal health; the juxtaposition of hogs and babies creates the impression that spending on animal health was a wasteful extravagance to coddle pigs. The use of this rhetoric accurately reflects the outrage that many reformers felt, but it misses the larger picture of how and why key reformers sought to leverage the successes of the USDA’s programs to advance their own agendas. The comparison should have been used more to build up rather than to tear down. Congress did not, in fact, face an “either-or” choice and could have funded both initiatives if it had so desired. Animal health initiatives did not prevent or interfere with the proposed human health initiatives. In the fierce bureaucratic competition for turf and resources to address child health issues, the USDA remained largely on the sidelines. The reformers’ real opponents were not animal health advocates but medical doctors, public health bureaucrats, and others in the human health community.

The progressive-era reformers correctly saw that federal investments in improving human health were miniscule, and they did not accept the now popular idea that “state capacity” in this domain was inherently too weak for effective action. The feeble federal response to the Covid-19 crisis has perpetuated the idea that the United States could not protect itself from public health emergencies because it lacked the adequate state capacity (Beach et al. 2022: 75; Koyama 2021). Troesken (2015) embraces this same argument in a historical setting. We do not dispute that additional federal spending on human health would likely have generated high returns as their advocates have asserted (Moehling and Thomasson 2014). The inaction of the federal government in response to the Great Influenza of 1918–19 represented a notorious failure. However, the much-maligned animal programs were generally highly effective,

generating large positive spillovers for human health and high benefit-cost ratios. Thus, they yielded resources that could be devoted to other purposes (see below).

Animal health measures increased income, generating demand and resources that could, in principle, be devoted to human health. There was not the trade-off as the users of the trope have asserted. But there is more; the agricultural programs established groundbreaking political and legal precedents crucial for creating activist human health programs. There were many lessons that more accepting human health advocates might have learned: Nothing came easy. More than twenty years passed after the first appeals for animal health legislation and the passage of a significant act. During this time, animal health leaders formed coalitions, conducted grass-roots educational campaigns, and nurtured ties with key legislators. The principal leaders were scientists who gained international recognition and respect for their pathbreaking achievements. Their reputations and early successes gave them considerable clout. As with the human health initiatives, the animal sanitation bureaucracy started small and with no regulatory powers. Spectacular successes won over opponents and led to ever greater funding and authority. The leaders repeatedly proved that they could tackle enormously complex challenges and succeed. Brick-by-brick these campaigns built a powerful state capacity and blazed a path for others to follow. This capacity is still present, but not well understood by public health campaigners. In classic examples demonstrating the importance of what is now called the One Health paradigm, many animal health successes controlled zoonotic diseases. In many of the campaigns the BAI leaders enlisted public health officials and the general population, especially women, to strengthen their coalitions. The campaigns against bovine tuberculosis (BTB), rabies, anthrax, parasites, and other problems, along with meat and milk inspection would prevent hundreds of thousands of premature human deaths and millions of bouts of illness in the early twentieth century and solidify the alliances supporting the programs. Even where there were differences, such as over the application of the Constitution's Commerce Clause, the contrasts are illuminating. By placing the hog-baby comparison into a fuller historical context, this article shows the strong influence that the animal health policies had on the thinking of human health champions and on the success of their campaigns. We document the problems arising from excessively dualistic thinking about human and animal health.

The foil

The main foil of the reformers was the BAI, established in 1884. The drive to create the Bureau came in response to rising trade barriers in European markets restricting the importation of American livestock and livestock products and to the spread of contagious cattle diseases. The fight to establish a federal agency took years of legislative wrangling and involved debates over federal-state jurisdiction, the science of contagious diseases, and the proper roles for experts and bureaucrats. During the congressional debates, the leading advocates clearly understood that there were potential spillovers for human health. Daniel E. Salmon, who would become the BAI's founding chief, argued the "the cause of these [livestock] plagues, which has been an impenetrable mystery during all the past ages of the world, is being revealed by the science of to-day . . ."

He added “the investigation of animal *contagio* must throw new light on those human plagues which in our country alone sweep a quarter of million of humans lives out of existence each year” (*Congressional Record*, February 5, 1884: 901–902). The BAI’s research, outreach, and food safety programs would be true to this vision of improving human health.

The Bureau confronted grave challenges immediately after its creation when the cattle disease, contagious bovine pleuro-pneumonia (CBPP), which had been simmering in the Northeast, erupted in the Midwest. The BAI, after some delays and legal adjustments, gained Congressional approval to flex its muscles. It forced the states under threat of draconian quarantines to deputized BAI agents and to provide manpower and matching money to fight CBPP. The federal government, which held the whip hand, also contributed funds, expertise, and leadership. Federal leaders established uniform standards and procedures that the states agreed to, vastly improving the efficiency of the campaign. With these arrangements the BAI orchestrated a national inspection-and-slaughter campaign. By 1892, North American was free of CBPP – this represented an epochal accomplishment. Nearly a century later, the scientists who led the global smallpox eradication program acknowledged this feat as establishing “the precedent and mechanisms” for “area-wide eradication programs . . . ;” it was the world’s “first planned programme whose stated objective was eradication” (Fenner et al. 1988: 372). The health entrepreneurs in the BAI had established a model, complete with detailed procedures to handle special conditions, that would be copied repeatedly to fight human and animal diseases.

Even as it was combating CBPP, the BAI mapped out the year-around domain of Texas fever, a cattle disease enzootic in the South but generally fatal to animals in the North. This established the basis for an internal quarantine regime imposed in 1889. The BAI created a microbiology laboratory in 1884, three years before the founding of the Marine Hospital Service’s Hygienic Laboratory (often mistakenly credited as America’s first such laboratory) and hired cutting-edge researchers. A team of these scientists, most notably Theobald Smith, demonstrated by 1893 that that Texas fever was caused by protozoan carried by ticks. This was a medical milestone. It represented the first proof of vector disease transmission, and sped medical breakthroughs in controlling other diseases, including malaria, plague, yellow fever, typhus, African sleeping sickness, Rocky Mountain spotted fever, and more. This discovery, together with the development of anti-tick dips, set the technical foundation for a successful campaign to drive Texas fever out of the American South. As with the CBPP campaign, the BAI’s tick-fighting methods would be copied around the world. The BAI succeeded in eradicating several other diseases. Its strong policies repeatedly beat back outbreaks of foot-and-mouth-disease (FMD): during the Great Epizootic of 1914–16, the BAI locked down the livestock trade of 22 states. (The contrast with the federal government’s anemic role during the Great Influenza of 1918–19 could hardly be starker.) BTB, which afflicted humans as well as livestock, was arrested in a longer and far larger cooperative federal-state campaign. Children benefited immensely, especially from the BTB and Texas fever campaigns; tick eradication allowed for the development of a modern dairy industry in the South.

There were also major lifesaving spillovers in human health flowing from the BAI’s meat inspection programs. The Bureau played the lead role in designing and managing the federal inspection of livestock and livestock products in interstate and

international trade. The first meat inspection laws, passed in 1890 and 1891, had a primary intent of opening international markets and a secondary focus on addressing domestic food safety concerns. The controversy following the publication of Upton Sinclair's *The Jungle* in 1906 changed priorities. The BAI's meat inspection service, which survived Sinclair's blistering critique, acquired a much larger budget and stronger powers to supervise meat production within the packing plants under the 1906 Meat Inspection Act. This represents a case in which public health advocates engaged in a joint enterprise with animal health leaders to increase the BAI's powers. In addition to enhancing the animal disease surveillance system, the federal meat inspection service helped prevent unhealthy and unwholesome products from entering the nation's food supply. In 1917, the cattle and hogs condemned for tuberculosis alone would have filled a stock train twenty-two miles long. Prior to federal inspection, much of the tainted meat found its way into the food supply. By this time, the BAI was targeting many other serious meat-borne diseases that had also gone undetected previously (Olmstead and Rhode 2015: 172–218).

The Bureau's work against swine diseases – the subject of much of the criticism in the hog-baby comparison – was not as ambitious as its work against cattle diseases but nonetheless achieved spectacular results, advancing the frontiers of virology, immunology, and bacteriology. As a few examples, BAI scientists discovered the salmonella bacterium, created the first killed (as opposed to attenuated) vaccine, and discovered the hog cholera virus (only five years after the discovery of the first vertebrae virus). These and many other fundamental medical advances arose from the Bureau's efforts to control hog cholera; all would have spillovers for the understanding and treatment of human diseases. Hog cholera was a mysterious viral infection that in periodic outbreaks destroyed over 10% of the nation's swine population, as indicated in Figure 1. The early 1910s witnessed both a major eruption of hog cholera and the first systematic attempt by the BAI to implement its new immune-control regime. The program substantially reduced the threat from hog cholera after 1915. Again, in earlier years many hogs that died from hog cholera (and that likely also were contaminated with salmonella) were butchered for human consumption.

Theda Skocpol (1992: 313, 494–95, 685–86) recognized that the USDA was a remarkably successful model for state-building in the early twentieth-century. Given success, breath, and complexity of the USDA's animal health initiatives, it is not surprising that they were featured prominently in the debates to create human health programs. But it is impossible to read the record without also seeing the play of envy, anger, and misinformation concerning the funding choices.

The Federal Children's Bureau

Jane Addams (1907: 1–4) famously invoked the federal spending gap on livestock and infants in the opening of her 1907 article advocating for “National Protection for Children.” Indeed, historian Nancy Weiss observed (Weiss 1974: 25–27): “No one concerned with advancing the cause of the Children's Bureau ever failed to make” the comparison between “the government protection of animals and the neglect of children.” Weiss continued that child welfare advocates such as “Lillian Wald, Jane Addams and Florence Kelley, were so struck by the analogy of children and national



Figure 1. Swine deaths due to hog cholera, 1884–1940.

Source: Olmstead and Rhode (2015): 144.

resources, they repeated it on every possible occasion. Their anger welled up when they realized the extent to which the government” protected the nation’s crops and animals but did “almost nothing to promote the well-being of its children.”

According to the official story of the origin of the Children’s Bureau, settlement worker Lillian D. Wald conceived of the federal agency in late 1903 after reading that USDA Secretary James Wilson would travel south to personally investigate the devastation caused by the boll weevil (No author 1903: 2). “That brought home, with a very strong emphasis” the federal government’s relative apathy to the health threats to children (U.S. House of Representatives 1909: 34). Wald purportedly opined “If the Government can have a department to take such an interest in what is happening to the Nation’s cotton crop, why can’t it have a bureau to look after the Nation’s crop of children (U.S. Children’s Bureau 1956: iii)?”

John Recchiuti (2006: 266) has noted that “no primary source has been found to confirm this anecdote.” His skepticism is warranted because Wald must have had the idea sometime earlier. Weeks before Secretary Wilson’s trip south in late October and early November 1903, Edward Devine of the Charity Organization Society of New York wrote to Wald (September 16, 1903, Edith and Grace Abbott Papers [hereafter EGAP] Box 38, folder 1): “I have occasionally been recalling your suggestion, which I learned through Mrs. [Florence] Kelley, for a children’s commission in the national government. The plan seems to me an excellent one”

Bills introduced by Senator Winthrop Crane (R-MA) and Representative John Gardner (R-NJ) in early 1906 sought to establish a federal children’s bureau. Lobbying in support, both Wald and Kelley expressed their “pain and anger” over the disparity in the governments’ treatment of children and animals (Weiss 1974: 85, 88). During a House hearing (U.S. House of Representatives 1909: 14–15), Kelley opined “If any stupid, illiterate farmer . . . wants to know something about raising

artichokes . . . all he has to do is get his son or the village school master to write the Department of Agriculture and he will be supplied with information But how different is the situation with regard to children.” As with many early efforts to create a BAI, the Crane-Gardner bill floundered (Trattner 1970).

Andrew J. Peters (D-MA) introduced a new children’s bureau bill in 1911. He compared the paltry \$25,000 a year budget for the proposed bureau with the \$1.6 million annual budget of BAI (exclusive of meat inspection). Peters countered concerns about the projected bureau’s constitutionality by pointing to the precedents set by the USDA (U.S. House of Representatives 1911b: 8, 23–24). Opposition came from New York leaders of the Society to Prevent Cruelty to Children, objecting to shift from local voluntary efforts to national governmental efforts (J. D. Lindsay to J. Kennedy, January 8, 1909, EGAP Box 38, folder 1). In addition, competing federal bureaucracies fought child-welfare initiatives. The Bureau of Education, the Bureau of Labor, the Census Bureau, and the agency that became the Public Health Service (PHS) all had stakes in the fight. Despite the attacks on its programs, the USDA stayed on the sidelines (L. D. Wald to P. Claxton, February 10, 1912, EGAP Box 38, folder 2; Lovejoy 1910: 61–72).

The reformers’ efforts eventually paid off. The bill creating Children’s Bureau to “investigate and report . . . upon all matters pertaining to the welfare of children and child life among all classes of our people” passed the Senate on January 31, 1912 and the House on April 2nd. President William Howard Taft signed the bill into law on April 9, 1912 (Lindenmeyer 1997: 26). However, the Bureau’s initial funding of \$25,640 left advocates unsatisfied.

The National Department of Health

During the same years, the USDA programs also inspired legislative efforts to establish a federal health department. In March 1879, Congress had created the National Board of Health and, in June of that year, armed it with quarantine powers to prevent the spread of infectious and contagious diseases within the country. Its primary object was to control ongoing outbreaks of Yellow Fever in the Mississippi Valley. The Board failed politically due to inter-state conflicts as well as to internal bureaucratic squabbles. As a major blow, Congress chose not to renew the Board’s quarantine powers in 1883, and the Board was subsequently disbanded. The even weaker Marine Hospital Service (founded in 1798) won the day (Gray and Jenkins, 2021; Olmstead and Rhode 2015: 38–40). Reformers came to rue the demise of the National Board of Health as a missed opportunity to build administrative capacity to address human health issues (Allen 1900: 51).

In 1906, the American Association for the Advancement of Science (AAAS) formed what became the Committee of One Hundred to advocate for more aggressive federal public health policies (Rosen 1972: 261–63; Schieffelin 1911: 77–86; Sledge 2017; Wasserman 1975: 353–80). Its leaders, including its chair Yale economist Irving Fisher, repeatedly highlighted the USDA’s successes in controlling livestock contagions as a model for their initiatives. They advocated the “creation of a National Department of Health, which should spread throughout the country a knowledge of effective ways of stamping out disease, as the Department of

Agriculture has done in the case of cattle” (Fisher 1909: 126).¹ Once again, there was a clear recognition of the USDA’s spectacular achievements and a hope to build on its model.

Fellow Yale economist, John Pease Norton (1906: 1003–07), led the charge. In a speech to the AAAS in 1906, Norton noted that the USDA had spent millions to protect animals. But apart from the work of a few of government scientists, “Congress does not directly appropriate one cent for promoting the physical well-being of babies. Thousands have been expended in stamping out cholera among swine, but not one dollar was ever voted for eradicating pneumonia among human beings.” Norton added “The states’ rights doctrine can be applied against the Department of Agriculture as effectively as against a National Department for Health. It is not, then, a question of constitutionality, but, rather, of whether or not such a department is needed by the nation.”

In 1908, America’s pioneering public health scientist, William H. Welch (1908a: 228–29), echoed the same line, adding: “If a tithe of what” the national government expended “to control hog cholera, pleuro-pneumonia and other diseases of animals should be spent in studying and preserving the health of human beings,” the United States would no longer be considered an international laggard. Welch continued: “We are a reproach to the civilized world, by reason of our inattention to matters of public health and prevention of disease. Can we conceive of our national government, if a Koch or a Pasteur should make his appearance in this country, calling him to Washington, giving him a laboratory and opportunities to confer inestimable benefits on mankind? Incredible! Under existing conditions our government could do nothing of the kind.”

American Health magazine, the Committee of One Hundred’s mouthpiece, published extended extracts of Norton’s (1908: 12) and Welch’s (1908b: 6–8) speeches. It drove home what historian Nathaniel Comfort has called the Committee’s “agricultural metaphor” with the cartoon displayed in Figure 2 (No author 1908a: 37; Comfort 2012: 36, 48). *American Health* soon urged its readers to “Organize, and make the government – city, county, state and federal – do as much for the health of our families as the same government now does for hogs, swine and sheep. Millions have been spent stamping out hog cholera and foot and mouth disease among cattle. Practically nothing has been done for human beings” (No author 1909: 15).

In 1908, John N. Hurty (1908: 143), head of the Indiana State Board of Health and member of the Committee of One Hundred, penned an essay, “The Young Mother and the Fat Hog.” Hurty juxtaposed the experience of a mother of a child stricken by tuberculosis who was told that the government could not offer any advice with that of swine farmer who received a telegram from the USDA informing him an agent was on his way to help fight a hog cholera outbreak. Hurty’s moral: “Be a hog and be worth saving.” The piece was reproduced by *Pearson’s Magazine* and by numerous local newspapers (Mayo 1911: 438–46; U.S. Senate 1910a: 204–05).

¹Fisher was following the earlier example of Willoughby (1893: 92–97) who led off his essay with account of the USDA’s campaigns against contagious animal diseases, concluding it was “absurd” that the same efforts were not devoted for “the health of the people.”



Figure 2. The health of the hog came first.

Source: No author (1908c): 37.

The overall message was to ridicule spending on hogs, which were viewed as fat, lazy, and filthy animals.

In his 1908 *Annual Message* to Congress, President Theodore Roosevelt invoked the same grievance to argue that the United States needed to do more to stop preventable human diseases. “This Nation can not afford to lag behind in the world-wide battle now being waged by all civilized people with the microscopic foes of mankind, nor ought we longer to ignore the reproach that this Government takes

more pains to protect the lives of hogs and of cattle than of human beings” (*Congressional Record*, December 8, 1908: 25). More generally, Roosevelt urged concentrating federal health efforts into a single agency, though he opposed giving it cabinet status, as many reformers desired (Comfort 2012: 49).

In early 1910, Senator Robert L. Owen (D-OK), motivated in part by recent West Coast outbreaks of bubonic plague, introduced a bill to create a new Department of Public Health. This measure called for bringing together physicians and medical officers from other federal units, including the USDA’s Bureaus of Animal Industry and Chemistry. USDA activities again figured prominently in the hearings. William H. Welch testified that “the inestimable benefits which the country has derived from the Department of Agriculture afford some indication of the ways in which a national department of health could serve still higher interests of the whole country.” He also drew on the USDA to find constitutional precedents for federal action. “If the intervention of the Federal Government should be necessary to stay the spread of a devastating epidemic, surely some way will be found by which this can be done.” As an illustration, Welch referenced the BAI’s eradication of CBPP in 1892 (U.S. Senate 1910b: 27–28).

Irving Fisher added: “What we want done by the board of public health is analogous to what has been done by the Department of Agriculture.” Fisher had earlier envisioned that “the department of health will revolutionize the science of health,” just as the USDA had done for agriculture (U.S. Senate 1910b: 43, 73). In an article subtitled “Dollars vs. Health,” Fisher (1910: 329–30) argued that interest group politics ruled the federal spending decisions. Citing Hurty’s hog parable, Fisher charged “Commercial interests seem to get the legislation they want . . . ; the almighty dollar gets more attention from Congress than the life and limb of our people.” The USDA programs “save millions for the farm” but the Department of Health was blocked by the “commercial interests that now prey on ill health” among humans. Others attributed the underinvestment in human health to a refusal “to view human life from an economic standpoint” as was the case with livestock (U.S. Senate 1910b: 15–16, 20).

The legislation’s foes struggled to counter the hog-baby comparison. John L. Bates, a lobbyist for the National League for Medical Freedom (NLMF), ventured “we are asked why the Government should spend money to protect hogs from cholera and not spend money for the health of man” This is a “superficial” argument because the money was spent “not to protect the hog, but to protect the man that eats the hog” (U.S. Senate 1910c: 179). Bates had served as governor of Massachusetts during the FMD outbreak of 1902–03, which the BAI had helped arrest. Nevertheless, he was not a friend of the USDA, and he repeatedly asserted that there was no constitutional authority for its policies (U.S. House of Representatives 1910b: 216–17).²

Advocates for NLMF asserted that the federal and state governments spent far more on human health than was frequently suggested and that the money spent on livestock health was intended ultimately to benefit humans. Their main answer to the “hog argument” was that “children were not hogs” (No author 1913a: 7; 1913b:

²The National League for Medical Freedom became an umbrella for many anti-scientific “medical” advocates including faith healers, chiropractors, homeopaths, anti-vaccinationists, and more (Hotez 2021).

13–14; Cooke 1912: 5, 8). They raised fears that the government would apply to humans the methods employed to protect and improve livestock. Extrapolating from USDA programs to advance animal breeding, Edmond Vance Cooke (1912: 8) invoked the specter of government officials advising that whites and blacks mate to produce babies with enhanced disease resistance. Opponents also argued that the proposal to give authorities the right to investigate diseases would empower health workers to enter private homes and test ill citizens against their will. (This in fact was precisely what the BAI was doing with livestock.) Fred A. Bangs, representing the Medical League of Freedom, asserted that the next logical step would be to allow health workers to euthanize people as was done with animals (U.S. House of Representatives 1911a: 640–41).

The foes of federal public health initiatives, together with opponents to re-organization within the federal bureaucracy, defeated the drive for a national department of health. Instead, Congress passed an act of August 14, 1912, renaming the Marine Hospital and Public Health Service as the PHS and expanding its mandate to investigate the “diseases of man and conditions influencing the propagation and spread thereof, including sanitation and sewage, and the pollution, directly or indirectly, of the navigable streams and lakes of the United States . . .” (U.S. Senate 1910a: 7–8, 13). The more aggressive legislation to create a health department failed in part because it was closely tied to the AMA. Antagonists charged that the legislation would empower a “medical trust” that would restrict Americans’ access to the health care of their choice. In addition, there was internal opposition within the federal government to stripping away functions from other agencies to create the new centralized agency. USDA leaders, for example, were not keen to see large parts of the Bureaus of Animal Industry, Chemistry, and Entomology transferred to the new department. Surgeon General Walter Wyman of the Marine Hospital and Public Health Service was an even more active opponent to the national department of health proposal; Fisher and his allies came to view the Surgeon General as their chief adversary (Waserman 1975: 360–65). Wyman was rewarded for his obstructionism by seeing the authority of his Service expand, albeit modestly. In contrast to these incremental increases in the functions of the PHS, and to the formation of the Children’s Bureau (that was granted only educational powers), the proposal to create a national department of health, with strong regulatory authority, represented a more fundamental change.

Increased Children’s Bureau funding and campaigns for women’s suffrage

The hog-baby comparison became a staple in the drive to expand funding for the Children’s Bureau and in the campaign for women’s suffrage. The Children’s Bureau gained distinction as the first federal agency headed by a woman, Julia Lathrop (Muncy 1991: 48–49). The Bureau’s organic legislation (signed April 9, 1912) set its annual budget at \$25,640 and created positions for 15 staff members in addition to the chief. Its early activities were educational. Following the example of the USDA’s publications on crops and livestock, the Children’s Bureau issued bulletins on *Prenatal Care* in 1913 and on *Infant Care* in 1914. But unlike most USDA publications, these raised the ire of many. The Bureau also sought to improve

birth registration. To illustrate the poor state of American vital statistics, Lathrop recalled the purported case in which the birth of a child could be legally established only because it coincided with the recorded birth of a purebred calf. Whether true or fanciful, the trope was again that farm animals mattered more than humans (Lathrop 1912: 325; see also Hurty 1910: 1157–59; 1911: 67).

In early 1914, Lathrop sought an increase in the Bureau's budget to \$164,000. When the House Appropriations Committee refused, Wald and Lathrop leaped into action (J. Lathrop to L. D. Wald, April 1, 1914; L. D. Wald to J. Lathrop, April 3, 1914, EGAP Box 59, folder 2). As part of the orchestrated response, Wald wrote to Owen Lovejoy: "immediate nation-wide protest required. Urge your starting machinery" (April 3, 1914, EGAP Box 38, folder 2). Lathrop bemoaned that while Congress was pinching pennies at the Children's Bureau, it appropriated \$600,000 to study and eradicate hog cholera. Lathrop supported the appropriation to combat the swine disease as tending to promote a "higher standard of living." But she insisted the Children's Bureau deserved a higher budget too (J. Lathrop to G. R. Taylor, April 14, 1914, EGAP Box 59, folder 2; L. D. Wald to J. Adams, April 13, 1914; L. D. Wald to Judge Goldfogle, April 14, 1914, EGAP Box 38, folder 2). As the Bureau's supporters engaged their publicity machinery, letters and telegrams poured into Washington (No author 1914a: 47; F. Kelley to J. Lathrop, April 8, 1914, EGAP Box 59, folder 2). Once again congressional opponents faced the charge that they valued "the life of a baby at less than that of a hog" (No author 1914c: 4; *Congressional Record*, April 16, 1914: 6808–10; May 15, 1914: 8645). Under heavy outside pressure, Congress raised the budget of the Children's Bureau (Ladd-Taylor 1995: 76–79; Lindenmeyer 1997: 53–58, 73; Parker and Carpenter 1981: 61).

As suggested by the aforementioned "Better Babies" tract circulated by the New York State Woman Suffrage Party, many advocates for women's suffrage and women officeholders also repeatedly highlighted the disparity in government spending to promote animal and human health (Owens, Empire State Campaign Committee, February 26, 1915 and September 9, 1915, item 65). After her election in 1916 as the first female member of Congress, Jeanette Rankin wrote: "In the eyes of Congress the hogs of the nation are ten times more important than children . . . ; until now, we haven't had a woman in our National Legislature to do for the nation's most precious asset, its children, what the men have been doing for the hogs" (Noukom 1916). One suffragette opponent likely raised hackles by noting that it "never occurs to them that the men running the government are really paying the women a compliment . . . in assuming that the human mother is both better able and more willing to give intelligent care and protection than the hog mother" (No author 1915a: 2).

The hog-baby comparison had broad saliency. Hannah Kent Schoff, president of the National Congress of Mothers – the precursor to the Parent-Teacher Association (PTA) – challenged lawmakers to transfer funding from animal programs to train mothers (Bennett 1915: 141–42). *Child-Welfare Magazine*, the PTA's official journal, published multiple articles employing the hog-baby trope to illustrate how the spending priorities of the male-dominated state legislatures were misguided and insulting (No author 1913d; 1914c; 1921). Female physicians echoed this grievance (Sherbon 1915: 75).

The Sheppard-Towner program

The hog argument and USDA outreach programs were also regular features in the debates over the Sheppard-Towner maternity and infancy protection program. Scholars often assert that Congress passed the law to appeal to women, who won the right to vote nationwide with the Nineteenth Amendment enacted on August 18, 1920 (Lemons 1969: 778; Meckel 1990: 216; Miller 2008: 1287–1327; Moehling and Thomasson 2012: 75–103, 2020: 21). When Lathrop first designed her landmark program in 1917, she consciously adopted USDA's funding model for the extension service and rural roads with federal matching money for programs in each state (U.S. Children's Bureau 1917: 48–49; Meckel 1990: 205). Announcing the Sheppard version of the program in 1919, *Child-Welfare Magazine* claimed “States to go Fifty-Fifty on Giving to Mothers and Children Same Care as to Their Farm Animals” (Skocpol 1992: 502; see also Johnson 2007: 136–42). Today, this funding arrangement would probably be called a cooperative agreement. The BAI was employing this model as early as 1886. Once again human health advocates had a largess developed and perfected by animal scientists.

Pushing for the legislation in 1920, Florence Kelley decried the bill's slow progress: “Why does Congress wish to have mothers and babies die? . . . The hogs were discussed and the boll weevil was discussed. The hogs and the boll weevil have been a reproach to Congress in disproportionate care for them of 15 years” (U.S. Senate 1920: 52–53). She lamented the delays to the Sheppard-Towner legislation made under the excuses that federal money is too short or that the time of Congress is absorbed in “things of greater importance.” “Evidently the policy of Congress has been ‘mothers and children last’” (U.S. House of Representatives 1921b: 28).

Opponents of the bill, including representatives of holistic medical societies and religious groups as well as the AMA, offered their time-worn responses – “human beings are not hogs”; humans were not economic commodities; fighting livestock diseases was essential for human health, and so on (U.S. House of Representatives 1921b: 28, 95, 120, 185). The one truly original statement came from Dr. Ellen C. Potter. Tweaking the bill's foes, she quipped that federal public health spending was directed to keeping humans alive so that they might eat the hogs (U.S. House of Representatives 1921a: 45–46). After a four-year struggle, the bill passed Congress and Harding, as promised in his “Social Justice” speech, signed the Act into law on November 23, 1921.³

The Maternity Act immediately faced constitutional challenges. The U.S. Supreme Court consolidated two suits, *Frothingham v. Mellon* and *Massachusetts v. Mellon*, into a single case decided on June 4, 1923. The plaintiffs contended that the Act was a taking from taxpayers for private purposes, in violation of the Fifth Amendment, and that the federal spending infringed on reserve powers of the states, in violation of the Tenth Amendment. The Court decision (262 U.S. 447) unanimously ruled the plaintiffs lacked standing to challenge the Act. Any injury to the individual taxpayer was “comparatively minute and indeterminable;” and Massachusetts had no interest because it could refuse funding (as it was doing and continued to do). Proponents of the Maternity Act drew heavily on animal precedents by noting that Massachusetts willingly

³The powers of the Children's Bureau were limited. Sections 8 and 9 the Act of November 23, 1921 imposed explicit prohibitions for its agents to “enter any home or take charge of any child over the objection of the parents . . .”

participated in a range of the federal-state cooperative programs with the USDA (“History of Maternity Act,” EGAP Vol. I, Box 63). Some scholars have treated the Court’s acceptance of the power of Congress to spend to promote the general welfare as a foregone conclusion (Dauber 2013: 67–69). However, the Court’s contemporary decisions (*Hammer v. Dagenhart*, 247 U.S. 251 and *Bailey v. Drexel Furniture Co.*, 259 U.S. 20) in the child labor cases restricting Congressional powers to regulate interstate commerce and to tax, indicates the Mellon ruling was far from a given.

Funding for the Maternity Act was never secure.⁴ After an intense debate in 1927, the program received a two-year lease on life and given an expiration date of June 30, 1929. Numerous proposals were floated to revive and modify the cooperative federal-state program. Grace Abbott advocated a joint effort with the USDA to create a child welfare extension service modeled on the agricultural extension service (K. Lenroot to G. Abbott, May 22, 1928, EGAP Box 36, folder 8). The director of USDA Extension Work would join the Maternity and Infancy Board (No author 1929: 8). In the last days of the Sheppard-Towner program, *Survey* magazine published the cartoon displayed in Figure 3, once again invoking the hog-baby comparison. The rhetoric which won favor in Harding’s Social Justice Speech fell flat in Hoover’s New Era. Internal opposition to the Children’s Bureau’s activities came principally from the PHS and the American Medical Association. The supporters of the Children’s Bureau felt a special sense of betrayal when Herbert Hoover, a long-time child welfare advocate, threw his lot with the medical professionals.⁵ Matters came to a head at the White House Conference on Child Health and Protection, held on November 19–21, 1930. The interagency struggle led to an impasse that lasted until Franklin D. Roosevelt’s arrival in Washington (Johnson 2007: 148–50; Novak 1996: 149–60; Wilson 2007: 143–46).⁶

Economic arguments

A review of the spending data indicates those invoking the “hog-baby” trope were both right and wrong. Federal spending on animal health initiatives was indeed typically larger, but so were myriad other federal programs that progressive reformers did not single out. Figure 4 graphs the annual budgets of the BAI as well as other major federal health initiatives from 1884 to 1934. We focus on actual expenditures rather than appropriations, which were sometimes partially held in reserve in event of emergencies. BAI expenditures were smaller than those for the PHS and its predecessors during the 1880s but reached parity in the 1890s and early 1900s. After the passage of the Meat Inspection Act of 1906, BAI expenditures surged ahead. The campaigns against hog cholera and FMD widened the gap in the

⁴Funding depended on state matching appropriations. In New York, Republican Governor Nathan Miller threatened in 1922 to veto any legislation accepting Sheppard-Towner money. But in the same session, he signed a bill appropriating a larger sum to build a swine barn on the State Fairgrounds. Florence Kelley went after Miller using the swine-baby trope (Kelley 1923; Lemons 1969: 789).

⁵In the early 1920s, Hoover tried to “wrest control of the child welfare issue from Grace Abbott and the Children’s Bureau” through an NGO that he controlled (Murphy 2013: 842).

⁶The hog argument continued into the post-World War Two period. In a syndicated article on Katherine Lenroot entitled “She Battles for Babies,” Robert Froman (1947) wrote “Congress used to spend more on pigs than on babies. But things have changed since then— thanks to the Children’s Bureau.”

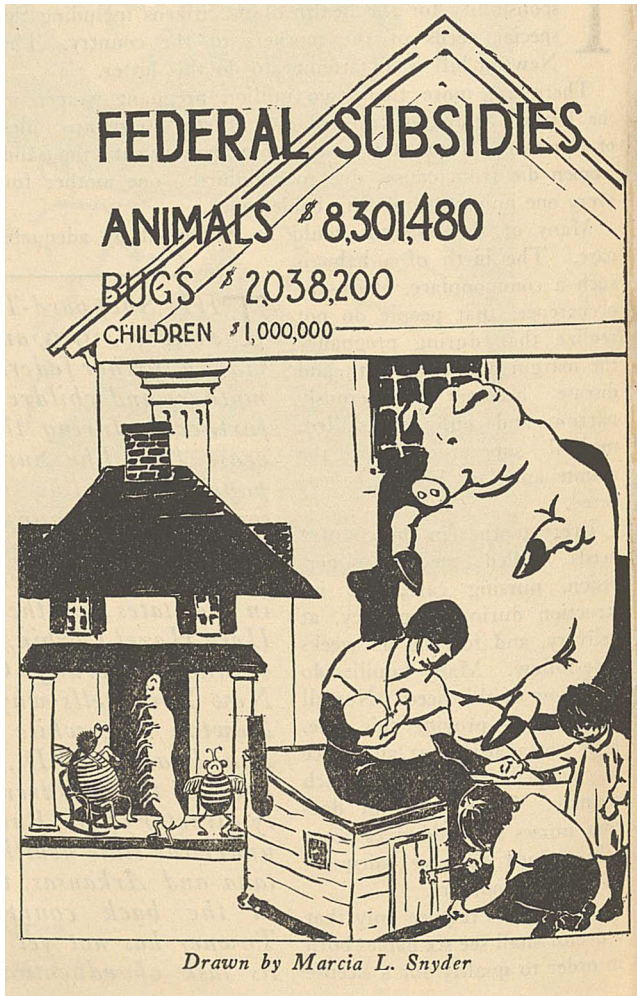


Figure 3. The pig in the parlor.

Source: Corbin (1929): 646.

mid-1910s. This was the period when the hog-baby argument was most in vogue. During WWI and its immediate aftermath, the PHS budget soared as Congress opened the purse strings to combat the spread of venereal diseases (Gostin 2008: 42, 158). In addition, in 1918, Congress passed an emergency authorization of one million dollars for the PHS to fight the Great Influenza. By the early 1920s, funding for these purposes dropped back, and the BAI and PHS returned to rough parity. However, human health expenditures were always greater if meat inspection money was entered on the human side of the ledger. The BAI's annual expenditures were always greater than those of the Children's Bureau.

Figure 5 compares the federal expenditure on the BAI with the real dollar value of the U.S. trade in livestock and livestock products over the late nineteenth and early twentieth centuries. Measures of the value of the trade include (1) the real value of

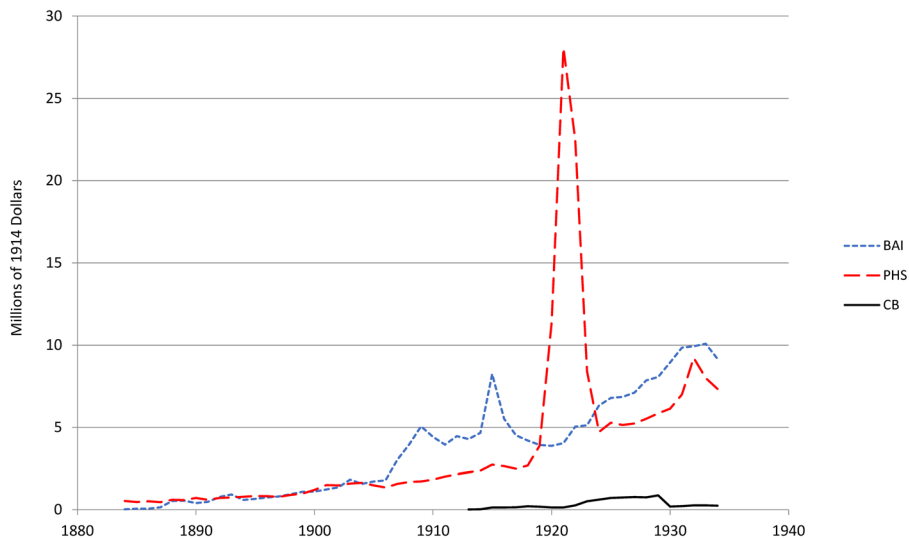


Figure 4. Real expenditures for federal health bureaucracies, 1884–1934.

Sources: U.S. Treasury 1884–1934; Schmeckebier (1923).

Note: The expenditures of the BAI in the 1910s exclude funding for projects shifted to the Bureau of Dairying after its creation in 1924.

exports of meat products; (2) the estimated real value added (gross income minus the value of feed) of the livestock sector; (3) the real value of gross income from the livestock sector; and (4) the real value of the sum of inventories in the livestock sector. The figure presents the series on a log scale. The main point is that the value of production and stocks in the livestock sector was always two to three orders of magnitude larger than the expenditures on the animal health. These expenditures only needed to increase productivity and prices modestly to pay for themselves immediately. Preventing just one epizootic would cover a decade or more in the animal health expenditures.

Elsewhere we offer rough cost-benefit calculations for several of the BAI's major disease control programs. Even with a very unfavorable set of assumptions, the programs generated roughly twenty dollars for every dollar expended. For the BTB eradication program the annual returns to the agricultural sector alone were about twelve times the annual costs. Factoring in the value of the lives saved raised the return to about fifty dollars for every dollar invested (Olmstead and Rhode 2015: 135–37, 271–77, 297–99, 312–13). Controlling animal diseases was generally an excellent social investment. It was like picking up a fifty-dollar bill laying on the sidewalk, something worth doing; saying this, does not deny there might have been one-hundred-dollar bills (from directly protecting human health) there too.

Attempts to separate efforts to control human and animal diseases generally fail to recognize the complementarity of human and animal health investments.⁷ By the

⁷Some of the nation's most imaginative public health campaigns trace their origins to the BAI. As a prime example, two BAI scientists made the fundamental research breakthroughs that girded the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease's ambitious multi-state program. This program's outreach initiatives were copied directly from the BAI playbook (Olmstead and Rhode 2015: 213, 367n27, 368n39; Wright 1941: 195–201).

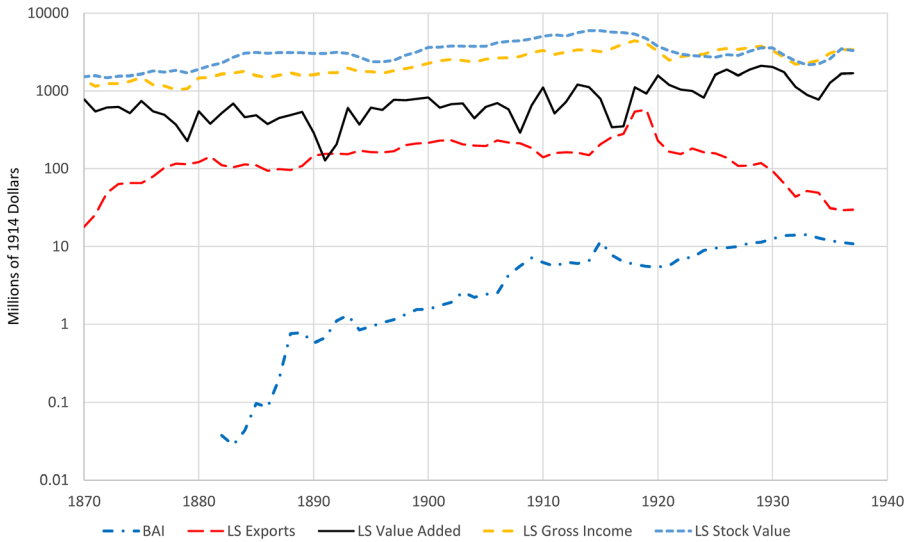


Figure 5. Real BAI expenditures relative to livestock trade.

Sources and Notes: BAI expenditures are explained in the notes to Figure 4. LS Exports is the real value of exports of meat products and is based on summing Ea578 and Ea580 in Historical Statistics; LS Value Added is the estimated real value added (below); and LS Gross Income is the real value of gross income from the livestock sector and is taken directly from Strauss and Bean (1940). LS Stock Value is the real value of the sum of inventories and is a measure of the capital stock (rather than of production flows). It is based on the head counts for cattle, hogs, sheep, horses, mules, and poultry multiplied times their respective prices per head as reported in Historical Statistics.

To estimate the LS Value Added, we take an estimates of LS Gross Income from Strauss and Bean (1940) and subtracting an estimate of the total value of “Feed.” “Feed” values of individual crops – wheat, corn, oats, barley, rye, buckwheat, hay, and potatoes – were calculated from Strauss and Bean’s farm value of the crop minus their estimates of gross income and our estimates of seed values (e.g., feed wheat = FV wheat-GI wheat-S wheat). Seed requirements for each crop were calculated using fixed seed per acre ratios for the period circa 1913 from the 1921 USDA Yearbook of Agriculture (p. 776) times the number of acres harvested (not planted) from the Historical Statistics. These quantities were multiplied by the crop prices from Strauss and Bean (1940) to create values. The sum of the feed values for individual crops was then combined as “Total Feed.” This number was subtracted from LS Gross Income to generate LS Value Added.

1940s, the USDA’s food safety and animal health programs had prevented hundreds of thousands of premature human deaths in the United States and established models for disease control used around the world. Investments in animal health reduced the exposure of humans to germs from tainted milk and meat, and from direct contact with diseased animals. They advanced medical knowledge and helped improve human nutrition by lowering the cost of food.⁸ The payoffs of many of the BAI programs were so large and so immediate that they generated more resources

⁸To put the argument in mathematically terms, model human health, H , as depending on investments in human health, I_H , on income Y , and on animal health A (through transmission of zoonotic diseases and other means). So, $H = H(I_H, Y, A)$. Investments in animal health, I_A , contributed to human health through all three channels. They increased animal health directly (and decreased the reservoir for zoonotic diseases), raised income, and increased the effectiveness of investments in human health by, for example, advancing medical knowledge. The optimal allocation of health investments, even when the goal was solely to enhance human health, would involve a balance of positive spending in the two areas.

that could be used for other purposes, including improving the human health environment, should Congress have chosen to act.

Constitutional arguments

Promoters of federal human health interventions sought both more money and a broader scope for the federal action.⁹ They sought to justify the new activities under the general welfare clause found in the Constitution's preamble in addition to relying on the power of Congress to tax and spend (Article I, Section 8, Clause 1). In the policy debates, most health activists mistakenly claimed that the USDA programs were also operating chiefly under the general welfare clause.

Animal health advocates had successfully argued that contagions paid no heed to state borders, that states were unable or unwilling to control their spread, that these diseases affected interstate trade, and thus the federal government had the authority to regulate animal diseases. But making the case took decades. The urgent calls for animal disease legislation in the 1860s and 1870s went unheeded. When Congress did establish the BAI to study and control animal diseases in 1884, the agency's powers and budget were limited by special interests and states' rights forces. The BAI's mandated number of employees, and its powers were roughly comparable to those of the Children's Bureau. But as the proponents hoped and the opponents feared, once the BAI was created, its size and scope rapidly expanded. By the end of the 1880s, the BAI was exercising unprecedented peacetime police powers within states. Its regulations would affect every farm, state governments, railroad and shipping companies, meat packers, and dairies; they would also have a significant bearing on consumers and on human health. For decades many conservative legislators and jurists had reconciled the agricultural programs with their constitutional philosophy.¹⁰ This was because the court cases over BAI regulations invariably hinged on the interpretation of the commerce clause.

Human health advocates largely ignored the bearing of the commerce clause.¹¹ To take one example, in testimony before the House in June 1910, USDA Chemist Harvey W. Wiley argued that a Bureau of Public Health should have the same constitutional standing as the USDA. Representative Charles Bartlett (D-GA) replied that the USDA's animal health actions were justified under the commerce clause. Wiley retorted this might govern quarantines but questioned how this justified the BAI's destruction of animals not intended for interstate commerce. By his reckoning, the BAI was exercising this power in the *de facto* fashion, but either Wiley did not understand or did not want to admit its *de jure* basis in the commerce clause. Wiley's argument also misinterpreted the history of the evolution of the BAI's police powers, how it used the threat of its quarantine powers to induce

⁹As noted above, exercising police powers in matters of human health has been the domain of the state and local governments (Tobey 1926: 48-60; Novak 1996: 149-60).

¹⁰Many did consider the USDA's activities unconstitutional, but as Olmstead and Rhode (2015) show views changed on this issue. Even the staunches opponents often switched positions and found constitutional merit when their state was threatened by an epizootic and needed federal expertise.

¹¹The opponents of human health initiatives, in rejecting the relevance of the welfare clause, often focused their rebuttals on lack of applicability of the commerce clause (Bates testimony in U.S. House 1910b: 199-234).

(indeed coerce) states to cooperate, and how it worked *within* states to control the interstate movement of diseases (Olmstead and Rhode 2015; U.S. House of Representatives 1910c: 75).

Many participants in the public health debates acknowledged that the agricultural programs were popular. They praised USDA's effectiveness and argued that the proposed human health initiatives would be even more beneficial. As an example, President Taft argued that the USDA provided ample precedent for broader federal action on public health issues. He told the Tuberculosis Congress meeting in Albany, New York in March 1910: "We have an Agricultural Department and we are spending \$14,000,000 or \$15,000,000 a year . . . with a view to having good hogs and good cattle and good horses, and if out of the Public Treasury at Washington we can establish a department for that purpose, it does not seem to be a long step or a stretch of logic to say that we have the power to tell how we can develop good men and good women" (Waserman 1975: 367).¹²

President Taft largely missed the point.¹³ The BAI's authority to investigate, to provide educational materials, and to assist states with expertise and indemnity funds was based on a broad interpretation of the tax-and-spending powers of Congress. But the growth in the BAI's police powers (to quarantine within states, jail people, destroy property, and supervise packing plants) almost always arose in efforts to control specific communicable diseases that states proved unable or unwilling to stop. Because BAI veterinarians could strictly quarantine and cull livestock in a fashion never possible for people, they could (in the absence of vaccines) be far more effective in arresting many contagions than physicians working to contain human diseases.

The contrasts between U.S. animal and human health policies also relate to the arguments in Werner Troesken's *Pox of Liberty* (2015). He maintained that the U.S. constitutional commitment to individual liberty inhibited the use of mandatory public health programs. For example, this ideological and legal environment prevented American governments, at various levels, from compelling vaccination against contagious diseases. This led the United States to lag other advanced countries in eliminating smallpox by 50–100 years. But Troesken argued that this institutional regime had benefits as well as costs. The United States "lagged in the eradication of . . . infectious diseases not despite being rich and free, but because it was rich and free." Troesken viewed the Constitution's Commerce and Contract Clauses as attempts to constrain factions, "powerful political lobbies that captured the state to use it to support their own ends at the expense of broader societal welfare." These constitutional provisions "fostered competition among jurisdictions for businesses and residents, giving rise to an optimal mix of taxes and public goods." The history of animal disease control calls into question Troesken's assertions about universality of constitutional constraints. Animal sanitation

¹²In a related policy statement, Taft recognized conflicts over the proper roles of the federal and state governments. But he again singled out the USDA's example of "the expansion into widest usefulness of a department giving attention to agriculture when that subject is plainly one over which the States properly exercise direct jurisdiction" (U.S. Senate 1910a: 6-7).

¹³In *Thornton et al. v. United States*, 271 U.S. 414 (decided June 1, 1926), Supreme Court Chief Justice Taft grounded the BAI's authority to regulate cattle ranging over state lines in the commerce clause.

advocates successfully established constitutional avenues for collective action. Moreover, controlling animal diseases made for a more productive, larger, wealthier, and more competitive livestock sector. Directly controlling human diseases, contrary to Troesken's claim, would also likely have made for a richer and happier society.

Conclusion

Understanding the origins and workings of federal animal health programs sheds valuable light on the struggle to establish similar programs for humans in the Progressive Era. Reformers pushing for a national health department, a federal children's bureau, and the Sheppard-Towner Act frequently argued that the federal government under invested in people relative to livestock. As Dr. Francis E. Fronczak, the Health Commissioner of Buffalo, NY, opined in 1913: "It was better to be a hog in America than a child" (Fronczak 1913: 198). This proved to be powerful rhetoric. The Women's Suffrage movement picked up the slogan, and even President Warren Harding apparently was persuaded. (Theodore Roosevelt and William Taft also worked the language into their speeches, and Woodrow Wilson came close.) We agree that more spending on human health initiatives would likely have offered high returns. However, when one considers total human health appropriations the imbalance was not nearly as large as many claimed – this is especially true if meat inspection is treated as a human health initiative. Given the USDA's funding, the range of its activities, the scale and complexity of its programs, and its accomplishments there was little wonder that human health advocates were envious – the BAI in particular set a standard that reformers consciously strove to emulate.

Julia Lathrop clearly viewed the USDA as a model for her Children's Bureau (Skocpol 1992: 486–87; Muncy 1991: 48–49). In Lathrop's *First Annual Report*, she noted that "this bureau is the result of the belief, on the part of many individuals and associations interested in the protection and betterment of children, that the Federal Government should aid in that service, just as the various bureaus of the Department of Agriculture have for years assisted in the betterment of farm plants and animals" (U.S. Children's Bureau 1914: 5). In 1915, while lobbying for an enlarged budget for her bureau, Lathrop also added her support for spending on animal health programs. As the Sheppard-Towner bill neared passage, Lathrop reported looking "forward to fruitful cooperation" with the USDA (U.S. House of Representatives 1921b: 25). The ties to the USDA ran even deeper. Lillian D. Wald credited the USDA with preparing the public to accept or even expect "similar government service in the interests of children" (U.S. Children's Bureau 1912: 2).

However, others became entangled in the invidious comparisons of the spending on hogs and babies. Their assaults on animal health spending, and their trivializing the BAI's programs generally lacked an understanding of the novelty, the purpose, and the value (including for human health) of these policies. The contemporary and subsequent attacks have also generally failed to appreciate that animal health reformers had to overcome precisely the same constitutional barriers that stalled human health legislation (Froman 1947; Olmstead and Rhode 2015: 43–44, 196–98;

U.S. House of Representatives 1910c: 75). In doing so, the animal health pioneers created constitutional precedents that were essential for subsequent expansions of federal authority to address medical and social issues. As Lathrop well understood, the animal health policies also created a bureaucratic template for state-federal cooperation which demonstrated the ability of the federal government to design and carry out large and exceedingly complex health interventions (U.S. Children's Bureau 1917: 25, 47–49; U.S. House of Representatives 1921b: 25). The BAI's leaders envisioned and implemented a succession of grand area-eradication programs. These unprecedented feats emboldened policymakers to attempt to contain and eradicate human diseases. Critics have also missed the multitude of scientific achievements, and their significance for human health, that flowed out of the BAI's research apparatus (U.S. House of Representatives 1910a: 9–17). More than the specific findings, the BAI set a standard for organized bacteriological research in the United States. The USDA's successes advanced the process of state building that redefined the possibilities for those seeking to advance public health. These were major accomplishments that help explain the very rise of the federal investments to improve human health in the twentieth century and beyond. Significant successes did occur in several cases where human health supporters drew on what we would now call One Health thinking and worked closely with BAI scientists. In this light, the wide-spread deployment of the hog-baby trope appears to have been a better exercise of distributional politics than of wise policymaking.

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