

# PARASITES, PROFITS, AND POLITICIANS: PUBLIC HEALTH AND PUBLIC CHOICE

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## Introduction

In textbook discussions of the problem of public goods, the example of public health—protecting society from infectious disease (both chronic and epidemic)—looms large. While the free market functions efficiently in providing myriad goods and services, one of the purported failings of laissez-faire capitalism is its inability to provide a healthy environment. The provision by government of various public health measures, from mandatory inoculation to sewers to safety regulation of food and drugs, is a favorite textbook illustration of the use of governmental coercion to correct a market failure and improve social welfare. The idea that public health is a public good that can be efficiently provided only by government usually sparks little controversy.

The major evidence of improvement alleged to have resulted from this form of government intervention is the historically well-documented mortality decline in the West, which occurred between the Industrial Revolution and the early part of the 20th century. Death rates from infectious disease fell, infant survival rates rose, and life expectancy began a steady increase. Simultaneously, fertility actually fell, so it is clear that mortality rates were falling because life was somehow becoming safer for the average person and not simply because birthrates were growing faster than death rates.

The common view among historians and advocates of governmentally produced or provided public health is that this mortality decline

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was in large part the result of efficient efforts of government in mitigating major forms of market failure. Before government began a series of major initiatives in public health, urban areas were grossly unhealthy places where raw sewage ran in the streets, corpses were allowed to decay in the open, garbage accumulated amid immense piles of horse manure, and everything was covered in stinking soot. After about 1875, government began to solve these serious problems by providing sewers, regulating tenements, collecting garbage, restricting pollution, safeguarding the milk supply, and generally protecting the health of urban inhabitants.

There is no denying the dramatic decline in mortality rates that occurred in the late 19th century. Further, massive investments in public health were undertaken, beginning about the same time. However, correlation does not equal causation. Other relevant variables unrelated to public health were changing at the same time, and some of these factors may have played a major role in improving life expectancy. Public health measures may have had little or no net effect on mortality rates. Further, even to the extent that certain forms of public health measures did contribute to the mortality decline, such government activity may have simply *replaced* private market provision of similar public goods that might have been cheaper and more efficient.

Finally, the conventional view of public health is based on an idealized Pigouvian model of selfless bureaucrats and politicians acting to maximize social welfare. While most other areas of governmental activity have been shown to be influenced by the self-interest of economic interest groups and government officials, public health has largely ignored the public choice revolution. Public health, however, is not an area of government activity that is somehow immune to economic interests. Political measures ostensibly designed to improve health have often represented the means by which specific economic pressure groups have achieved "wealth transfers" to their members with the government's assistance.

This paper challenges the conventional view of public health from a public choice perspective. The following section outlines both the orthodox interpretation of the mortality decline and the important variables that may have been more significant than government intervention in producing this shift. The third section considers whether governmental provision or production of various health-related public goods was necessary or efficient and examines historical evidence for private provision of similar services. The fourth section provides an interest-group account of major elements of public health, along with historical evidence that private interest, not the interest of the

public-at-large, was often the determining factor in policymaking. The final section summarizes and concludes the argument.

### Public Health and the Mortality Decline

Prior to about 1850, mortality rates—when standardized for the age structure of the population—fluctuated over the short term but maintained approximately stable mean values over long periods. After about 1850, however, this pattern changed in the West. For example, in England and Wales, the standardized death rate per 1,000 population has declined consistently since 1871–79 (McKeown 1976, p. 52). This decline has occurred throughout Europe, and American mortality rates began a steady decline around the same time (Meeker 1974). As Smith (1983, p. 735) notes, the shift to the current low level of mortality “was evident in most Western societies, including the United States, beginning in the 1880s.” This decline resulted primarily from the reduction in fatalities from infectious disease (McKeown 1983). The usual interpretation of the cause of this major change involves the timely intervention by government in the late 19th century. Smith (1983, p. 759) is representative of this view: “Innovations improving the life chances of the entire population, usually summarized under the term public health, were primarily responsible for the secular decline in mortality in Western societies during the half century or so after 1880.”<sup>1</sup>

One of the underlying premises behind this claim normally receives little attention but deserves critical scrutiny in its own right. Assume for the sake of argument that governmental provision of public health expenditures can be shown to have played a dominant role in precipitating the decline in mortality. Even so, such activity may have *reduced the welfare* of affected individuals.

This result is an example of the basic inconsistency between governmental paternalism and social welfare maximization. Social welfare is identical with the welfare of individuals. Governmental activity that restricts an individual’s feasible set of available consumption bundles cannot increase utility, and may even reduce it. Proponents of public health maintain that cities remained dirty and unsanitary places until the late 19th century because markets failed to efficiently internalize externalities. Hence, market failure prevented consumers from obtaining the clean, sanitary environment they would otherwise

<sup>1</sup>Smith (1983, p. 759) also provides an example of a common tendency among demographers and population historians to attach a pro-public health conclusion to a study that itself provides no direct evidence that such government interventions made any difference in mortality rates.

have been willing to pay for. But there is an alternative explanation for those unpleasant conditions. Cities remained relatively dirty because their inhabitants preferred to allocate available resources to goods other than sanitation. People preferred to give up a lower risk of contracting an infectious disease in exchange for greater quantities of other goods. Understandably, this alternative explanation is not attractive to public health advocates.

An important philosophical issue with economic implications arises in this connection. If individuals are free to spend their available incomes among an array of available goods, and we observe that they “buy” X amount of one particular good, economists conclude that these individuals have allocated their resources in a way that makes them better off. Longevity is simply one kind of good. As such, it tends to be traded off against other kinds of goods. Individuals frequently choose to engage in various activities (e.g., skiing, mountain climbing) that involve increased risk of death, or (equivalently stated) that lower their expected lifespans. How can we claim that mountain climbing represents a mountain climber’s effort to maximize his utility, without acknowledging that an individual who selects to live in a relatively high-risk environment is not also maximizing his utility in a rational manner? If the government were to force city dwellers to spend more money on sanitation (e.g., through a tax-financed sewer system) than they were willing to spend, such an action would normally make those individuals worse off rather than better off.<sup>2</sup>

This explanation is in no way intended to deny the economic plausibility of the neoclassical public goods model. It is certainly possible for the rational, self-interested action of individuals to collectively result in a situation characterized by the non-optimal provision of some goods and services from which (for technical reasons) it is difficult to exclude consumers who are not actually contributors. In short, the “free-rider problem” cannot be assumed away. But the very plausibility of the public goods model presents a danger, making it distressingly easy to confuse plausibility (“this might happen”) with fact (“things actually happened this way”). Public health is an example of this confusion, apparently because the public goods model seems so plausible as a description of the problem of providing a healthy environment. Many writers, therefore, leap to the unwar-

<sup>2</sup>Naturally, if it can be demonstrated that the governmental action is correcting a failure of the market to efficiently provide a public good, individual taxpayers who were forced to exchange their money for the sewer service could conceivably be net beneficiaries, but this result must be demonstrated; it cannot simply be assumed.

ranted conclusion that the health of the public is a public goods problem requiring government intervention.

Interestingly, many aspects of public health were strongly opposed by the very groups that were the supposed beneficiaries. Opposition was common among the urban poor, who often perceived public health programs as too expensive, as likely to slow economic growth (and, hence, their own income mobility), and as primarily benefiting the middle and upper-middle classes who desired a cleaner, less smelly urban environment—not for reasons of health but because dirt, disorder, and odors were unpleasant. The poor perceived that they would bear the principal burden of government sanitation measures. As Galishoff (1988, p. 191) concludes:

Most Americans viewed the filthy skies and waterways in their cities with equanimity. Pollution was seen as a necessary evil, a by-product of economic growth. Indeed, factory smoke and dust-covered workrooms elicited favorable responses, for they were regarded as signs of productivity. Americans believed the increased production and consumption would enable them to enjoy a life of affluence and individual freedom.<sup>3</sup>

Urban dwellers revealed the order of their preferences by their choices in the marketplace; they demonstrated a more intense demand for pecuniary income over the alternative good (clean and sanitary living conditions) at the margin.<sup>4</sup>

Although these considerations are extremely important, there is a critical practical issue that must logically take precedence. The claim that public health played a dominant, or even a major, role in the mortality decline is open to serious question. Several different factors unrelated to public policy may have been more important.

<sup>3</sup>A major effort of the public health movement was to educate the public about the need for citizens to be more concerned about pollution and cleanliness. For example, campaigns in major American cities were aimed at convincing urbanites that they should hate excessive noise. On this peculiar “reformism,” see Smilor (1980, pp. 137–47).

<sup>4</sup>In *Wealth of Nations*, Adam Smith argued that compensating differentials in market wage rates efficiently adjusted for the disutility associated with different kinds of labor conditions. The modern literature on hedonic markets has rigorously extended this simple insight. As Williamson (1981) and others have argued, urban dwellers who lived in relatively unsanitary, smelly cities tended to earn significantly higher wages than similar individuals who lived in more pleasant environments. The “Dark, Satanic Mills” were rewarding employees with higher pecuniary incomes and not exploiting them. The vociferous opposition to public health among many of the purported victims of dirt and disorder implies that these people recognized the relevant trade-off, at least implicitly.

*Improvement in Nutrition*

One of the most important features of Western economic development was the steady increase in the average quality of human nutrition. Famines became increasingly rare, starvation became increasingly unusual, and diet improved.

Two aspects of this development were of primary importance. First, the risk of death from starvation or malnutrition dropped. But perhaps more significantly, an improved nutritional standard by itself led to a marked reduction in the mortality rates associated with most infectious diseases. Improvements in the population's nutritional status appear to have been major factors in reducing mortality rates caused by a variety of life-threatening infectious diseases, including tuberculosis, which was the predominant cause of death in the mid-19th century (McKeown 1976, p. 138). Better nutrition was the result of simple economic development, and governmentally provided public health programs played no significant role in facilitating this development. As real incomes per capita rose, individuals consumed greater quantities of higher quality food.<sup>5</sup>

While the ultimate cause of nutrition-related improvements in health was economic development, the proximate causes may often have been extremely mundane. In her study of mortality in London since 1750, Matossian (1985, p. 197) finds that the most rapid improvement in health occurred between 1795 and 1839, and may have been the side effect of increased potato consumption. She writes:

It is possible that increasing potato consumption and decreasing rye consumption contributed to this rapid improvement in health. Rye is prone to infection by a fungus, *Claviceps purpurea*, which produces toxic alkaloids than can cause convulsions. Tuberculosis is an immune-deficiency disease, and the presence of mycotoxins in grain may be part of its etiology. Increased reliance on potatoes as a staple starch could therefore reduce mortality from both convulsions and tuberculosis.

Public health programs may actually have played an important role in *retarding* the improvement of nutritional standards, particularly

<sup>5</sup>In economic history, seemingly trivial changes can sometimes be shown to have had profound effects. One such factor was the rise in potato consumption. In addition to the high caloric content of potatoes per pound, they provide a good source of most important minerals, as well as vitamins B<sub>1</sub>, B<sub>2</sub>, and C. The general use of the potato was a major contributor to the decline in scurvy (caused by vitamin C deficiency), a common ailment throughout history (Salaman 1985, pp. 122–23). The rapid growth in potato consumption by the poor in the 19th century may have substantially lowered mortality rates (Salaman, p. 613).

among the poor. For example, one of the major forms of public health reform in the United States was milk regulation. Contaminated milk was alleged to greatly increase the risk of infection among children, and a variety of measures were enacted in many municipalities. Impurities (i.e., the use of various preservative agents, as well as the practice of skimming the cream and diluting raw milk with water) were regulated, adversely affecting the supply of milk by driving smaller dairies out of the market. Milk regulation had the unambiguous effect of raising the price of milk to consumers, in some areas by a large percentage. Even if some of these early (prepasteurization)<sup>6</sup> regulations decreased the number of deaths by reducing contamination, the reduction in supply tended to increase deaths among children by reducing nutrition (to which milk was a major contributor).<sup>7</sup> Regulations that increased the price of milk, regardless of their intended consequences, may have had a negative effect on the health of children.

#### *Decline of Infanticide*

One of the more grisly facts of demographic history is that prior to the 20th century, infanticide was a major form of "family planning" in the West. Killing infants, either by exposure to the elements or by suffocation, was the only effective means of controlling family size other than sexual abstinence before the 19th century. McKeown (1976) and other demographers have pointed out that the incredibly high infant mortality rates before about 1900 were almost certainly biased upward by deaths that represented the intentional murder of babies and young children as a means of post-birth control. For

<sup>6</sup>Pasteurization is a process whereby milk is heated to kill bacteria and retard fermentation. This process was used in New York City by a philanthropist named Strauss as early as 1892, and milk so treated was distributed at cost to indigent children. Pasteurization dramatically reduced the risk of infection from drinking milk. However, public health authorities did not generally accept the validity of the process until about 1910. Previous to this period, pasteurization was actually *forbidden* by many public health boards, although it was sometimes used surreptitiously (and obviously, voluntarily) by milk dealers in large metropolitan areas. There is no clear evidence that prepasteurization milk regulation made any particular difference in the safety of milk. (See Galishoff 1976, pp. 87-93.)

<sup>7</sup>"Pure food" regulation in general tended to restrict the supply, and increase the price, of nutrition to consumers. The poor were those most likely to suffer actual malnutrition and, hence, increased risk of illness and other health problems as a result. This problem was actually a major concern of Harvey W. Wiley, one of the leaders of the pure food movement in the United States in the late 19th century. He repeatedly maintained that the intent behind the pure food legislation was simply to eliminate mislabeling of products and not to ensure absolute purity. The poor, he said, had to have cheap food, and he declared that "it is not for me to tell my neighbor what he shall eat" (quoted in Kolko 1963, p. 108).

obvious reasons, precise quantitative information about the extent of infanticide is almost completely unavailable.<sup>8</sup>

One of the major, but less-recognized, gains from economic development is the decline in the use of post-birth control. This decline appears to have directly resulted from several different factors, each related to the progress of economic growth.

The most important factor was probably the greater availability of safe contraception over the course of the 19th century, which provided a birth control alternative to post-birth control.<sup>9</sup> Various effective contraceptive techniques began to become available during the 19th century in America.<sup>10</sup> U.S. survey data suggest that contraception became increasingly used during the late 19th to early 20th centuries.<sup>11</sup> Thus, the relative price of other methods of family planning fell, which contributed to the decline of infanticide.

Another consequence of the greater availability of birth control was the increase in the average health and, hence, in the chance of survival of infants who were at risk of death from other causes. At the margin, the births prevented by contraception would have tended to include children who would have represented relatively high mortality risks. This tendency would have been because birth control was likely to be practiced primarily by parents who would otherwise have produced undernourished or neglected children, *ceteris paribus* (i.e., assuming that infanticide and contraception were not substitutes). Thus, the increasing use of birth control should have resulted in some decline in the mortality rate among children actually born, even if no other significant changes had occurred.

<sup>8</sup>Until modern times, proving that an infant's death was the result of such practices by its parents was virtually impossible. Such murders were usually not what we today think of as child abuse, but cold-blooded efforts at "family planning."

<sup>9</sup>Another, more problematical, influence may have been a change in institutional arrangements for unwanted children. After about 1700, foundling hospitals—institutions that were designed to accept unwanted children—began to appear in both Europe and America and grew rapidly in size and number in the 19th century. Although mortality rates in those places were very high, net mortality was possibly reduced by providing parents of unwanted children an option other than infanticide (see Boswell 1988).

<sup>10</sup>Postcoital vaginal douching using syringes, one of the first relatively safe and effective forms of contraception, began to be advocated by doctors in the United States in the 1830s and 1840s. The use of vulcanized rubber cervical caps and diaphragms, which provided a dramatic improvement in effectiveness over the previously available, more primitive devices, began in the 1870s and 1880s (David and Sanderson 1986, p. 327).

<sup>11</sup>David and Sanderson (1986, p. 324) report that among married, upper-middle-class, American women the percentage of those not using contraception fell from 12.5 percent in 1892, to 5.9 percent in 1913, to 2.4 percent in 1935.

*Antisepsis*

Historians do not debate how important medicine was as a factor in increasing the average lifespan, but whether (or how much) pre-20th-century medicine actually *increased* mortality rates. The main problem with medicine before the 20th century was that the germ theory of disease was not generally accepted. People understood that certain diseases tended to be infectious and were spread from the sick to the healthy, but the exact mechanism of such contagion was a mystery. Not until after the 1890s was the role of germs and other microorganisms generally appreciated among doctors.

The lack of understanding the disease mechanism negatively affected mortality rates because of the failure to recognize the importance of antisepsis. Sterilizing instruments, wearing masks and rubber gloves, maintaining strict standards of cleanliness during surgery, and observing other standard measures designed to reduce the risk of postoperative infections were not practiced.<sup>12</sup> The lack of antisepsis had a simple and gruesome result: Most patients died following surgery, even if they survived the crude techniques of the surgeon.<sup>13</sup>

Some modern doctors maintain that medical practice in the United States did not begin to have a positive effect on the survival rate of patients until after 1920.<sup>14</sup> However, after about 1850, the role of germs in spreading infection began to be appreciated; after about 1870, antiseptic procedures became increasingly widespread and mortality rates fell to some extent simply because doctors were causing the deaths of fewer "patients."

*Other Influences on Mortality Rates*

A variety of additional influences tended to reduce the apparent mortality rate in both the United States and Britain after 1850. While each separate factor probably had only a minor impact, taken together these factors probably made a significant contribution.

<sup>12</sup>Only cauterization (usually involving the use of a white-hot iron to close a wound) was commonly used, although exactly why such an extreme postoperative ritual improved survival rates of patients was unclear to doctors.

<sup>13</sup>About 70 percent of all soldiers receiving battle wounds (even relatively minor wounds) during the Civil War died shortly thereafter (Steiner 1968, p. 8). In 1874, the senior surgeon to the University College Hospital in London concluded that mortality following all forms of amputation (one of the most common surgical procedures) was between 35 and 50 percent and that, following certain forms of amputation, mortality was as high as 90 percent (McKeown 1976, p. 148).

<sup>14</sup>For example, see Szasz (1979). McKeown and Brown (1955, pp. 124–26) note British hospitals made mortality rates worse until the mid-19th century.

Exposure to cold increases the risk to individuals from contagious disease. In the 19th century, the population of both the United States and most of Europe was concentrated in latitudes that experienced severe cold during the winter.<sup>15</sup> Falling real prices for coal, gas, and electricity resulted in a rise in the average indoor temperature during winter. Before 1850, most homes and apartments lacked windows, but rising incomes and falling prices for glass led to the almost-universal use of windows in city dwellings by 1900.<sup>16</sup> Thus the rise of indoor temperatures—a consequence of increasing wealth, not government intervention—led to some reduction in mortality.

Other factors might have had independent influences on the decline in mortality rates. National armies in Europe and America tended to be relatively small after about 1870, and wars during 1870–1914 were minor and infrequent; military deaths were consequently a smaller contributor to mortality in percentage terms.<sup>17</sup> A major public policy concern today is controlling pollution from the operation of automobiles. However, the introduction of the automobile in the late 19th century directly led to the outright elimination of one of the most worrisome urban pollution problems that had afflicted cities for centuries—horse manure.<sup>18</sup> Such dung stank terribly, but more importantly it attracted swarms of flies that might carry away any of 30 different diseases, including dysentery and typhoid (Galishoff 1988, p. 131). By providing efficient substitutes for horse transportation, Henry Ford may have been an unsung hero of the fight for urban sanitation.

The intention here is not to suggest that governmental interventions termed public health had no effect on reducing mortality rates,

<sup>15</sup>Before the Civil War, most housing lacked central heating. Furnaces began to rapidly replace stoves as winter indoor heating devices after 1870 in the United States.

<sup>16</sup>Another source of indoor heating that became increasingly important in the late-19th century involved something that may seem odd: indoor gas (and later electric) lights. Lamps were relatively inefficient light producers; therefore much of their energy was released in the form of heat. This technical inefficiency provided a significant additional source of indoor heating. The incandescent gaslight was actually invented to exploit this advantage. See Schivelbusch (1988, pp. 45–52; esp. p. 48).

<sup>17</sup>This factor implied a fall in war casualties as a contributor to mortality, but perhaps even more importantly, a fall in deaths caused by encampment. Most deaths of soldiers resulted from infectious disease contracted off the battlefield, principally in camp. For example, during the Civil War two Union soldiers died of disease for every one who died of wounds in battle. The secular decline in the size of standing armies as a percentage to total population is an interesting phenomenon, but this change was completely unrelated to governmental public health spending or expertise.

<sup>18</sup>The average working horse excreted about half a gallon of urine and anywhere from 15 to 22 pounds of manure daily onto city streets. Health officials in Milwaukee calculated that in 1907 the city's 12,500 horses produced 133 tons of offal a day, which was almost entirely deposited in a manner and location determined largely by the convenience of the horse (Galishoff 1988, p. 131).

or even to offer precise estimates of the relative weights of different available influences on this development. Rather, this account is meant to suggest that a large part of the widely noted mortality decline—perhaps most of it—is directly attributable to the consequences of economic growth and to rising real incomes. Richer people could afford to purchase cleaner water, more and better food, superior transportation, safer medical services, and higher levels of heat in the winter. This income effect was essentially independent of governmental activity claimed to be promoting public health. Free-market-driven economic development led directly to increased life expectancy.

### Was Public Health a Public Goods Problem?

One of the shibboleths of public health advocates is that effective private market alternatives that provide municipal sanitation services were unavailable, leaving no recourse to government intervention (cf. Leavitt 1982, pp. 127ff.; Raffel 1984, p. 327; and Rosenkrantz 1972, pp. 6, 23). The apologists for such interventions claim that the major elements in providing urban sanitation and consumer protection represent problems of market failure, and that only the public-spirited efforts of bureaucrats and farsighted politicians were capable of producing efficient sewers, water supplies, food inspections, and the whole panoply of other measures claimed to have played a vital role in the modern mortality decline. Public goods problems in connection with urban sanitation are typically portrayed as obvious and overwhelming.

These arguments usually involve either free riding or economies of scale. For example, in the case of sewage disposal, individual homeowners may prefer to use privy closets or cesspools rather than sewers because poorly specified property rights allow them to shift some costs (e.g., increased risk of infection) onto their neighbors, even though sewers would minimize true social costs. But sewers, as opposed to cesspools and other forms of waste accumulation, require enormous investments of fixed capital and are characterized by falling average costs over a large range. Together these arguments have been commonly used to rationalize governmental monopoly of a huge array of public health measures, from sewers to water supplies to meat inspection.

Indeed, government (in the United States and Britain) quickly monopolized the provision (and usually the production) of most important kinds of infrastructures related to public health (e.g., sewers and waterworks) and aggressively intervened in private markets

with a variety of licensing and regulatory measures after about 1875. Certain important kinds of public goods rapidly became synonymous in practice with governmentally produced goods. But in most cases, efficient private production of technically similar goods appears to have been feasible; such production was frequently absent only because it had been legislated or regulated out of existence.

The disposal of human wastes provides an interesting example. For most of the 19th century in most American cities, the primary means of disposing of human wastes was the privy closet system. Family privy closets would collect the wastes, which were periodically collected by private collection services for a fee. Wastes so collected were often sold to farms in the vicinity and were recycled in a manner consistent with the ecological concerns of modern environmentalists. This system had problems, however, and proved increasingly unsatisfactory as population density in cities grew.

In the last quarter of the 19th century, sewers began to gradually replace the privy closet system in cities. It is common for defenders of municipal monopolies to argue that a capital-intensive technology for waste disposal like a sewer system involves huge economies of scale and represents a close approximation of a natural monopoly. However plausible such arguments, the fact is that at first private sewer companies were common and appear to have successfully competed in the marketplace with no particularly serious problems. Gradually, municipal authorities asserted a monopoly in providing sewer services, and the private provision of sewer services consequently declined.<sup>19</sup>

Sewers represented one of the very most important contributions of public health in the United States between 1880 and 1920. Huge sums of tax dollars were spent to provide urban sewer systems, and the potential returns in the form of tangible reductions in mortality should have been relatively high for this form of investment. Certainly, contemporary sanitary engineers made very extravagant claims for such gains.

Unfortunately, the municipal monopoly on providing waste disposal seems to have had definitely mixed results in terms of mortality rates. The main difficulty appears to have been the sanitary engi-

<sup>19</sup>In some municipalities, however, private sewer companies were not actually excluded but were increasingly regulated. For example, in 1885 most of Newark's sewer system was privately operated, much of it by land companies through large tracts of land they were developing for sale. After 1893, the city government began an extensive program of building municipal sewers, but even so in 1910 about 12 percent of the sewer-mileage in Newark was privately owned and maintained (Galishoff 1976, pp. 130-31).

neers' failure to understand, or perhaps their lack of an effective incentive to control, the negative externalities they imposed on other urban areas downstream. Most major American cities were located on rivers or bays, and sewage collected was almost universally released into such bodies of water totally untreated. This disposal technique had two important results: Inhabitants of the disposing city who lived near the outflow points were placed at greater risk of sewage-born disease, and inhabitants of areas downstream (or who were nearby, along the same coastline) were similarly exposed to a steady flow of raw sewage. Naturally, this technique was a dubious sanitary improvement. Tarr, McCurley, and Yosie (1980, pp. 66–67) show that there was an *inverse* correlation for 15 cities with populations of more than 30,000 located along streams and lakes during 1880–1905; for some cities (e.g., Richmond and Nashville), mortality rates jumped drastically following the rapid expansion of government sewer systems. This problem was not addressed in a significant way until the widespread introduction of sewer treatment and filtration, which occurred only after 1910.

Municipal monopoly water supply was also a major area of public health reform. Before the Civil War, supplying water in most American cities had been the province of private entrepreneurs and private well-drilling companies. This private provision was widely criticized for allegedly producing poor-quality water, although the criteria for quality typically involved attributes like clarity and taste, which were unrelated to the presence or absence of disease-carrying organisms. Gradually, municipalities excluded private water companies by law, or regulated private suppliers out of existence while taking various actions intended to “protect their water supplies.” Most of these measures had little effect on the safety of water supplies, although sometimes they may have made matters worse.<sup>20</sup> Philadelphia was a leader in protecting its water supply, but the annual rate of death from typhoid (the major waterborne disease) never fell below 35 per 100,000 population and, in 1906, actually rose to more than 80 per 100,000. This experience was common among American cities during the same period. The problem was that the various water treatment

<sup>20</sup>After the Civil War, municipalities commonly delivered water to their citizens through lead pipes, which led to severe problems with lead poisoning. Previous methods of water provision used by private suppliers (who typically delivered water to customers in barrels), or the use of private wells, had rarely caused lead poisoning, although the sanitary reformers complained about the purportedly poor quality of the water delivered to consumers (Blake 1956, pp. 254–55).

methods (e.g., filtration) had virtually no effect on the bacteria content of the water.<sup>21</sup>

Although a water supply would seem to be a real-world example of a natural monopoly, the supposed economies of scale were not a major argument used by proponents of municipal monopolization of the water services. By the 1840s in many American cities, private companies began to deliver water to their customers through pipes, generally using the same sort of technology that governments used later. But private enterprise was claimed to be unsatisfactory mainly because it was purported to be inequitable. Private water companies were criticized because they were run as businesses and not charities. According to Blake (1956, p.77), private companies refused to supply “all needs” for water in cities but instead laid their pipes in the districts that “promised the highest returns.” Moreover, private companies gave priority to their “private customers” and “failed to provide water for important civic purposes.” In other words, private companies did not bundle wealth-transfers with their supply of water delivery.

The fact that the private market provided many important sanitary services does not, of course, show that such private provision was optimal. In the presence of significant externalities, such private sewage disposal, water supply, and other sanitation services may have been undersupplied. But the possibility of nonoptimal levels of provision does not constitute evidence for such a condition. The existing evidence shows only that individual urbanites were, in general, unwilling to voluntarily pay for the quantity of certain sanitation services that various professional sanitary engineers and other interested parties felt were adequate. What is commonly described as a market failure may have simply been a demand failure—consumers preferred to allocate their scarce resources to other goods that they regarded as more valuable.

## Public Health from a Public Choice Perspective

Gains from the provision of public goods are independent from the motivations behind that provision. If national defense is a public good, and if political decisions lead to an optimal level of national defense (or at least, a more efficient level than would otherwise have been privately provided), then the social benefits that result from those goods and services would be the same regardless of whether

<sup>21</sup>Not until 1910, when liquid chlorine treatment was introduced, did the situation in Philadelphia and other metropolitan areas improve significantly.

politicians were acting to selflessly maximize social welfare or were engaging in self-interested rent seeking.

Thus, in the case of public health, the question of the effects of government activity on mortality rates and the problem of why governments behaved in this manner are logically distinct. Even if the social benefits purported to have arisen from public health are dubious, the question remains: Were politicians trying to maximize social welfare, or were they pursuing other ends?

Public health refers to a vast array of government interventions and spending programs. The purpose of this section is to present some important examples in which rent seeking on the part of economic interest groups appears to have been a significant motivating factor behind public health reforms.

### *Restrictions on Food Quality*

The Pure Food and Drug Act, passed by the U.S. Congress in 1906, is widely considered a landmark of public health in America. It is usually represented as an early triumph of progressivism, a great victory in the battle to protect the health of consumers from contaminated and adulterated food products sold by greedy, unscrupulous ("big") business firms. However, the Act was actively promoted by food industry associations that represented these larger firms, and it seems to have been aimed at restricting competition rather than protecting consumers.

By 1899, major segments of the food and dairy industries had joined state and federal officials in National Pure Food and Drug Congresses to draft pure food regulations. Many manufacturers supported the pure food movement "to the extent possible without incurring too much animosity from others in the trade" (Sullivan 1927, p. 101) (i.e., the larger firms quietly supported regulations that would impose differential costs on their smaller competitors).<sup>22</sup> These groups were interested in federal regulation to "protect themselves from more unscrupulous associates"—that is, to restrict entry into their respective industries (Kolko 1963, p. 109). Also, federal legislation was viewed by some as a kind of second-best regulatory solution, which would replace inefficient state-level regulation that impeded inter-

<sup>22</sup>In early 1898, advocates of federal pure food legislation called the First National Pure Food and Drug Congress in Washington, D.C. This body included delegates appointed by state governors, plus representatives of professional drug associations, farmers organizations, and a variety of industry groups that would have been directly regulated under such a law. These industry groups included the Creamery Butter Makers' Association, the Brewers' Association, the Confectioners' Association, the Wholesale Grocers' Association, the Retail Grocers' Association, and others.

state sales by the larger firms with a more uniform, and predictable, set of federal regulations. Perhaps more importantly, state regulation was a relatively poor cartelizing instrument for the larger food and drug firms, in part because state governments were not always diligent in their policing of illicit (i.e., competitive) behavior. A contemporary U.S. Senate document summarized the testimony of business leaders in favor of the Act:

The chief objection, especially from the standpoint of the manufacturer, to leaving the matter in the hands of state governments is the lack of uniformity in state laws, which makes necessary different kinds of labels according to the state in which the goods are to be shipped. It is also urged that the state laws are insufficient from lack of appropriations necessary to enforce them, and through the lack of sufficient knowledge and efficiency on the part of the officials charged with their enforcement [quoted in Wood 1985, p. 416].

In a secret 1905 meeting of the Proprietary Medicine Association (PMA), a trade association that included most of the larger U.S. pharmaceutical firms, it was decided that the PMA would lobby for a federal law that would impose restrictions on narcotics and alcohol in patent medicines, as well as increased limits on advertising claims. Such legislation was sought because it would have tended to reduce the ability of smaller firms to compete effectively (Young 1974, pp. 81–82).<sup>23</sup>

The Pure Food and Drug Act restricted the ability of Southern liquor companies to use their low-cost cottonseed oil and rectified whiskey production; hence, the Act restricted their competing with larger Northern liquor manufacturers, as well as with many Kentucky and Tennessee distillers of aged whiskey (Barkan 1985, p. 24; Wood 1985, pp. 422–23).<sup>24</sup> The bourbon distillers sought the requirement that compounded alcohol beverages (produced by the rectifiers) be labeled as “imitation whiskey,” which the National Wholesale Liquor Dealers’ Association (representing the rectifiers) argued would “spell death” to their businesses (Wood 1985).

California wineries (represented by the California Wine Growers’ Association) were devoted advocates of both federal and state regulation in the form of pure food bills. The California growers’ favored such laws because they would protect them from their Eastern com-

<sup>23</sup>According to one historian of the Progressive era, “manufacturers and distributors [of food products] hoped that mild regulation would destroy their marginal competition” (Wiebe 1962, p. 43).

<sup>24</sup>The Meat Inspection Act of 1906 (the companion bill to the Pure Food and Drug Act of 1906) also received no opposition from the meat-packing industry (Barkan 1985, p. 25).

petitors, who would be prevented from bottling “anything that looked and smelled like wine under a California label, a practice that considerably damaged California’s out-of-state trade as well as the general reputation of California wines” (quoted in Wood 1985, p. 418).

To eliminate competition from the manufacturers of proprietary remedies, leading firms in the drug industry were also active in promoting the 1906 Act. Among the leading advocates of regulation were the founders of Squibb Inc., Abbott Laboratories, and Lederle Laboratories (Wood 1985, pp. 423–24).<sup>25</sup>

Acceptance of the Act by industry associations and their high-powered lobbyists was perhaps the strongest, albeit indirect, indication of the rent-generating aspect of the legislation. Owners of leading food and beverage firms, including H. J. Heintz and Frederick Pabst, played leading roles in promoting legislation; Pabst “was instrumental in securing the support and lobbying efforts of the United States Brewer’s Association” for the 1906 bill (Wood 1985, pp. 420–21). “In a Senate dominated by special interests, the absence of significant opposition [to Pure Food and Drug] legislation by 1906 strongly suggests that those interests supported the legislation” (Barkan 1985, p. 24).

The case of oleomargarine is an interesting example that has been extensively studied.<sup>26</sup> Almost immediately after the product appeared, state legislatures began to enact laws restricting margarine sales.<sup>27</sup> Margarine was represented as unhealthful, contaminated, and prepared under unhygienic conditions.<sup>28</sup> Federal laws were also passed beginning in 1886 that imposed increasingly heavy tax burdens on margarine sales and production. Selective taxes by the states

<sup>25</sup>Manufacturers of traditional cream of tartar baking powders sought regulation against the manufacture of less-expensive acid-based baking powders. In Missouri, one large tartar firm (Royal) succeeded in obtaining such a ban from the state legislature in 1899. One newspaper reported that according to the St. Louis Circuit Attorney, “1,000 dollar bills were among the powerful arguments used” in obtaining the legislation (Wood 1985, pp. 425–26).

<sup>26</sup>Invented in 1869 as a substitute for butter, margarine was made from various processed animal fats. Production was first undertaken in the United States in 1874, and the product rapidly gained substantial consumer acceptance. Margarine was considerably cheaper than butter, and it had similar taste and other properties.

<sup>27</sup>In 1877, New York was the first state with a law requiring that butter be clearly distinguished from margarine, and 12 other states quickly enacted similar measures (Stuyvenberg 1969, p. 286).

<sup>28</sup>Much of the early hygiene regulation occurred at the state level. By 1902, 32 states had banned coloring the product (margarine was normally white) to resemble butter, and the phrasing of the statutes conveyed the clear impression that margarine was an unhealthy, low-quality imitation of butter (Stuyvenberg 1969, p. 286).

also grew until, by 1939, margarine was taxed by more than half the states. Only in 1950 did the Senate finally repeal the discriminatory federal taxes on oleomargarine, and most states followed shortly thereafter (Barkan 1985, pp. 288–90). The reason this case is interesting is because a clearly defined economic interest group—dairy farmers—engaged in quite blatant rent seeking and is generally given primary credit for the enactment and maintenance of these discriminatory restrictions and taxes.<sup>29</sup>

Strangely, although many historians now recognize the self-interested nature of much (if not most) of the campaign for food and drug regulation, few question the conventional wisdom that such regulation somehow served the public interest. For example, in his recent review of the historical literature on government regulation of business, McCraw (1975, p. 182) writes:

Seldom in American history did the goals of private groups form a perfect identity with those of the rest of society, but seldom a perfect antithesis, either. Within the zones of overlap, private groups plausibly claimed service to society, and “capture” co-existed in fleeting calm with “public interest.”

Thus, despite the clear evidence that blatant rent seeking motivated the advocates of food and drug regulation, many historians continue to assume that such laws somehow magically served the best interests of society. For many historians, it seems, government is always innocent and cannot be proven guilty.

#### *Tax-Financed Wealth Transfers*

Suburban developers in Boston were active in leading the fight to extend municipal, tax-financed water and sewer lines to their communities. Naturally, if inhabitants of those suburbs then bore the tax burden that resulted (through higher property taxes), the usual public goods arguments for public production might apply, but in Boston (and apparently in many other areas) city taxpayers ended up bearing most of the tax burden (Galishoff 1988, p. 191). For developers, the major advantage of government services over private services was that they could shift the cost of the former onto others.

In his study of New York City, Moehring (1981, pp. 28–37) found fire insurance companies among the major proponents of municipal provision of water supplies. These companies wanted the city to subsidize water supplies in order to reduce the risk of fire—and of

<sup>29</sup>“In speeches and publications, the [dairy] organizations waged a violent campaign over the heads of the consumers for measures to be taken against the margarine threat; and the authorities were willing to listen” (Stuyvenberg 1969, p. 284).

claims on themselves. Chemical manufacturers, candle and soapmakers, tanners and dyers, and other businesses that used large quantities of water also wanted tax-subsidized cheap water—as long as the tax burden fell elsewhere (see Galishoff 1988, p. 195).<sup>30</sup>

### *Bureaucratic Imperialism*

Much of the reform movement in public health was led by individuals who were professional public health bureaucrats and who sought benefits from the expansion of their responsibility. Of particular importance in the United States was the sanitary engineering lobby, a group of professional public utility engineers who aggressively promoted the “professionalization” of such sanitary activities as street cleaning, garbage removal and disposal, water supply, and sewers.<sup>31</sup> Public bureaucracies gradually replaced private competition in supplying sanitary services, and the job opportunities for public sanitary engineers burgeoned (Melosi 1980, pp. 120–21).

Municipal engineers played an especially important role. According to Schultz and McShane (1978, p. 411), they

stamped their long-range visions of metropolitan planning on the public consciousness over the last half of the nineteenth century. Their successful demands for political autonomy in solving the physical problems of the cities contributed to . . . government run by skilled professionals. At the heart of physical and political changes . . . stood the work of the municipal engineers.

Also, at the heart of bigger municipal government were more jobs at higher wages for the highly organized municipal engineers. They and many other reformers did very well by doing “good.”

## Conclusion

Although the history of public health in the United States is complex, a simple conclusion emerges after critical analysis: The claim

<sup>30</sup>Bakers, sugar refiners, and brewers (among other businesses) lobbied hard at City Hall for “sanitation reform.” They wanted not only cheap water but “pure” water—water without noticeable impurities, regardless of the bacteria content—again as long as they paid a heavily subsidized price.

There were sometimes also political and bureaucratic incentives to have municipalities deliver water and dispose of waste. Fleischman (1988) shows that the City of Milwaukee first gave itself a legal monopoly over providing water and sewers and then proceeded to use this monopoly to force outlying areas to either accept annexation or be refused water utilities and sewage disposal.

<sup>31</sup>In the 1880 census, 70 percent of cities surveyed provided municipal street cleaning, while in 1914, 90 percent did. Municipal garbage disposal rose from 24 percent in 1880 to more than 50 percent in 1914.

that public health significantly improved the health of the public (at least before about 1925) is empirically dubious. Not only is the available evidence weak and ambiguous, but there are grounds for skepticism that public health investments and the mortality decline were more than coincidentally related. The period during which dramatic gains in expected lifespan and reduced mortality were occurring was also a period when many other important developments were improving health for reasons unrelated to changes in public sanitation practices. Most of these phenomena were, in turn, directly related to the rising real incomes of individuals, caused in turn by simple economic growth and development. Further, a number of highly touted public health reforms quite possibly increased the number of deaths instead of causing mortality rates to decline as they had from these other phenomena. The net effect of public health may even have been to *reduce* the improvement in the health of the public. One would hope that future research, which does not merely *assume* that public health investments improve health, might resolve this issue. But given the present state of the evidence, the question remains open.

However, many of the public health reforms produced direct benefits for particular, well-defined groups in the form of wealth transfers. Public sewers, water supply monopolies, and food regulation may not have produced a decline in mortality, but they seem to have produced significant rents for certain interest groups. Public health was a major device used by organized interest groups to redistribute wealth to themselves. This paper is designed to outline a research agenda for future study of this complex, but important, problem.

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