Public Health and Public Wealth: Social Costs as a Basis for Restrictive Policies

DAVID T. COURTWRIGHT

Department of History,
University of Hartford

HISTORICALLY, THE MOST IMPORTANT RATIONALE for coercive public health measures has been the prevention of disease and injury to others. However, as noncommunicable diseases and accidents have assumed increased importance as causes of morbidity and mortality, and as the connection between noncommunicable diseases and accidents and individual practices such as smoking and drinking has become more apparent, a new line of argument based on social costs has emerged. My purpose is both to describe and evaluate the social-costs argument, to explain why it has become so popular, and to show what must be done to make it consistent with its own utilitarian criterion.

Justifying Coercion

In 1710, a Königsberg servant girl, Barbara Thutin, violated a local public health regulation by appropriating several fomites, or articles belonging to plague victims. Shortly thereafter, she and her master died of the disease. When officials learned of her transgression, the servant girl was exhumed, hanged in her coffin on the gallows, and then publicly burned (Nohl, 1961).

Barbara Thutin's fate is an illustration, admittedly extreme, of the

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coercive nature of most public health measures. Although society no longer resorts to punitive postmortem mutilation, most public health measures still entail a sanction, usually a fine or imprisonment. One of the first actions taken by New York City's Metropolitan Board of Health, for example, was the regulation of noxious odors emanating from rendering plants. The plant owners resisted, complaining that their "private rights" were being violated, but the board pursued the matter in the courts and eventually was able to secure the conviction of a prominent violator of the law. The offender was clapped into prison for sixty days, and thereafter no open violation of the law was noted (New York City, 1866).

When legislators and public health officials are called upon to justify their actions, they usually respond that such measures are a legitimate exercise of the police power, the recognized authority of the state to preserve the public health, safety, morals, and welfare. The concept of police power does not deny the existence of private rights, but it subordinates them to the well-being of the community. The invocation of the police power is especially compelling in the area of public health, since the irresponsible actions of one person may result in the sickness, injury, or death of another, or possibly trigger an epidemic that threatens the fabric of society itself. It was on this ground that New York City sanitarians sought to control miasmas escaping from rendering plants; a similar justification (if a different etiology) underlies current regulation of kitchens and canneries, the sewerage of cities and towns, and even the defecation of urban dogs. The disease-prevention rationale is also applied to situations where the immediate danger is posed only to the individual. The state, for example, might require immunization of a citizen returning from a region where plague was active. If the citizen protested that he would take his own chances, the common-sense reply would be that plague is never an individual matter, that the returning citizen, if infected, might transmit the disease to others.

Thus, historically, concern for the health and safety of society at large, rather than for protecting the individual from his own folly, has served as the primary justification for coercive public health measures. This pattern is changing, however, as the old reasoning is being supplemented, or in some instances superseded, by a newer and more

subtle type of analysis based upon social costs. To understand the increasing popularity of the social-costs argument, it is first necessary to examine the changing orientation of public health itself.

Communicable diseases, once the leading causes of death, have largely been replaced in developed countries by heart disease, cancer, stroke, and accidents. In 1976 these four categories of disease accounted for over 70 percent of all deaths in the United States (Department of Health, Education, and Welfare, 1978). If further, significant progress is to be made in reducing the rates of mortality and morbidity in developed countries, it will be made in the areas of noncommunicable disease and accidents. Broadly speaking, three strategies are available: prevention, early detection, and treatment. Each strategy has its proponents, but there is a consensus among public health professionals, as well as among a growing number of physicians, researchers, politicians, and economists, that the best approach is prevention. Better to reduce exposure to carcinogens, for example, than to rely on such drastic and chancy therapies as surgery, radiation, and chemotherapy.

Effective prevention of the leading noncommunicable diseases and accidents, however, will inevitably involve changes in individual lifestyles. John Knowles, a physician who was one of the most trenchant critics of individual health misbehavior, put the matter thus:

> Prevention of disease means forsaking the bad habits which many people enjoy—overeating, too much drinking, taking pills, staying up at night, engaging in promiscuous sex, driving too fast, and smoking cigarettes—or, put another way, it means doing things which require special effort—exercising regularly, going to the dentist, practicing contraception, ensuring harmonious family life, submitting to screening examinations. (Knowles, 1977:59)

To urge people to adopt such reforms is one thing; to require them by law is quite another. The traditional harm-to-others doctrine, as it is generally applied, is inadequate to justify proscription of personal bad habits. Consider laws penalizing drivers who do not wear seat belts, or bans on alleged consumer carcinogens such as saccharin. What does the state say to the irate motorist or diet cola drinker who demands

the right to take his own chances? After all, head injuries and bladder cancers are not contagious; only the individual's health and safety are involved.

Alternative Lines of Response

There are many possible rejoinders to such individual objections—virtually as many, in fact, as there are ethical systems. A Kantian, for example, would offer the categorical imperative as a rationale for compliance, while a Thomist would presumably cite Aquinas on the right and duty of the ruler to promote the welfare of the community (D'Entrèves, 1974:79). In practice, however, public health officials are not given to consideration of the universal implications of human actions, nor are they prone to theological speculation; instead, they have consistently justified their regulations on the narrowest and most secular of grounds. In liberal democracies, this has meant a growing recourse to the quantitative utilitarianism of social-costs analysis; in totalitarian societies, officials have tended—when they have bothered to justify their decisions at all—to couch their arguments in what I would describe as neocameralist terms.

Cameralism was a philosophy that developed in the seventeenth- and eighteenth-century Germanic states; akin to mercantilism, it held that numerous and healthy subjects were a vital source of the monarch's wealth and power. This idea found its culminating expression in Johann Peter Frank's (1976) *A System of Complete Medical Police*, a six-volume treatise printed at intervals over the years 1779–1819, touching on virtually all aspects of human behavior. Writing on such concerns as "the maternal duty to suckle and its influence on the welfare of the state," Frank completely subordinated the individual to society; health was not so much an inalienable right as something one pursued, or was forced to pursue, to foster the strength of the absolutist state. Although monarchical governments have largely disappeared, cameralist notions have lingered, especially in highly nationalistic and totalitarian societies like Nazi Germany. Erich Hesse, a German physician, furnished a good example of this type of reason-

ing in his 1938 book, *Die Rausch- und Genussgifte,* translated as *Narcotics and Drug Addiction* (Hesse, 1946). He was discussing the rationale of compulsory detoxification programs for morphine addicts:

> The justification . . . hinges on the question: Has a man the right to destroy his own body by poisons? No member of the national community has this right. On the contrary, everyone has the obligation to keep himself fit to the benefit of the community. The community, which gives the individual his chance to live and to make a living, has every right . . . to demand this. (Hesse, 1946:47)

The terminology has altered somewhat ("national community" replaces "monarchy"), but in outline the argument is basically the same: the state is an organic whole, related to individuals in the way a human body is related to its constituent cells. Unhealthy cells mean an unhealthy body, but this is unthinkable, since the well-being—indeed, the very existence of the cells—is inseparable from the fate of the body. Put another way, it is difficult to construct a sturdy *fasces* out of a bundle of rotten sticks. This type of neocameralist argument can easily serve to justify the most restrictive public health policies, even if no direct harm results to others. Saccharin and tobacco are bad for the individual and therefore bad for the state; laws compelling the use of seat belts and motorcycle helmets can be predicated on similar grounds.

There are, however, serious political and philosophical objections to neocameralism. Practically speaking, the United States and many European societies are dominated by consumerism and are characterized, in varying degrees, by acquisitive individualism. In a country like the United States, where life, liberty, and the pursuit of happiness are enshrined in the Declaration of Independence, appeals to end unhealthy but pleasurable practices on the basis of an abstract doctrine of national health are highly unpopular. Beyond the instinctive unwillingness of individual consumers to heed neocameralist injunctions, there is a sophisticated libertarian tradition, urging, as John Stuart Mill wrote in 1859, "that the only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either

physical or moral, is not a sufficient warrant" (Mill, 1977:223). Regulation of individual actions that do not cause "perceptible hurt" to others, Mill argued, is inevitably disutilitarian; governmental meddling hampers the development of personality, checks social progress, fosters the tyranny of the majority, and disregards the opinion of the one person—the individual himself—who is in the best position to know what constitutes his own happiness. Mill did not dispute the importance of national strength and well-being, but adopted the issue as his own. "The worth of a State, in the long run," he wrote, "is the worth of the individuals composing it . . . ; a State which dwarfs its men, in order that they may be docile instruments in its hands even for beneficial purposes [,] will find that with small men no great thing can really be accomplished" (Mill, 1977:310). Mill's fear of governmental regulation of the minutiae of life has been echoed by any number of twentieth-century libertarian thinkers, and has been elaborated in the novels of E.I. Zamyatin, George Orwell, Anthony Burgess, and others intent on dramatizing the dangers of Big Brother. Mill's arguments have also had a restraining influence on police-power legislation, at least in the United States; legislators have been reluctant to pass, and judges on occasion reluctant to uphold, blatant interference with individual activities when no clear injury to others has been demonstrated (*University of Chicago Law Review,* 1970).

Yet the unpleasant fact remains that millions of Americans are smoking, eating, drinking, and drugging themselves to an early death, and that significant improvement in the nation's health awaits eradication or at least reduction of such unhealthy practices. Confronted with premature and preventable disease, but aware of the political unacceptability of neocameralist arguments, public health advocates have had to turn elsewhere for justification of restrictions on unhealthy individual activities. Increasingly they have turned to an analysis of social costs.

The idea of social costs is not new; it can be traced back at least as far as Jeremy Bentham, who stressed the need for a hedonic calculus. One of Bentham's disciples, the great English sanitarian Edwin Chadwick, made repeated use of social costs, and in 1842 even performed a rudimentary cost-benefit calculation in his *Report on the Sanitary Condition of the Labouring Population of Great Britain* (Chadwick, 1965). In

1850 an American physician, J.C. Simonds, computed the net cost of preventable disease for the city of New Orleans, and in 1873 Max von Pettenkofer made a similar estimate for the city of Munich (Sigerist, 1944). Social costs were also an important part of the celebrated brief of Louis Brandeis and Felix Frankfurter in *Bunting v. Oregon* (Frankfurter and Goldmark, 1915), the Supreme Court case testing the constitutionality of the ten-hour work day. What is new about the social-costs argument is its increasing application to issues of individual unhealthiness. Basically, it is an attempt to revive the harm-to-others doctrine, with an important and strategic twist: indirect monetary effects are substituted for direct health effects. Tobacco smoking, for example, is harmful not only to the smoker, but also to those who must defray the costs of tobacco-related illness. The smoker who develops emphysema or lung cancer accumulates large medical bills, most of which are covered by private or government insurance. We all pay. As John Knowles (1977:59) put it, "One man's freedom in health is another man's shackle in taxes and insurance premiums." Additional costs may be generated by disability payments or widows' pensions. There are also losses of productivity if, as is likely, the illness results in increased absenteeism or premature death (Cooper and Rice, 1976). A similar case can be made for stricter control of alcohol, mandatory use of seat belts, life jackets, and motorcycle helmets, or banning consumer products linked to cancer. In the end, all such arguments come down to this: since your unhealthy acts hit the rest of us in our pocketbooks, we have a right to pressure you to change. The appeal is ultimately to utility; bad habits are penalized in the name of the greatest (economic) good for the greatest number—although, ironically, Mill would have denied the validity of this type of analysis on the ground that there are other, unaffordable costs associated with enforced conformity.

The social-costs argument is thus a convenient way of retaining the harm-to-others doctrine while attacking activities that involve individual risk to health. This is not to imply that the traditional disease-prevention argument has been abandoned; indeed, both rationales often surface in the same controversy. Antismoking forces, when advocating no smoking in public places, talk about the harm to the other person but, when discussing proposals such as drastically in-

creased cigarette taxes, shift to the social-costs argument. Similarly, antialcohol forces point to the dangers posed by drunk drivers, as well as to the costs of treating heart disease, cancer of the esophagus, cirrhosis, and other alcohol-related disorders. But in other cases, such as the use of seat belts, saccharin, or even skateboards, the argument for regulation is generally made on the basis of social costs alone.

Problems with the Social-Costs Argument

I offer the foregoing as a historical commentary, a description of the way those who formulate and enforce public health policies have sought to justify their actions. In the remainder of this essay, however, I am concerned with critically evaluating the social-costs argument. Although the argument has its merits, particularly at a time when medical costs are rapidly increasing, there are several potential problems to which attention should be drawn. These may be summarized as the need to determine net social costs, the difficulty of determining net social costs, and the obligation to reduce social costs in the manner entailing the least coercion.

The Need to Determine Net Social Costs

A common rebuttal to the social-costs argument is that some allegedly unhealthy activities also generate economic benefits: tobacco is a cash crop, the tobacco industry employs thousands of persons, magazines depend heavily on revenues from cigarette advertising, and so forth. Moreover, there are certain opportunity costs associated with restrictive policies; tobacco farmers, for example, might derive substantially less income if they were forced to switch to corn or wheat. These are not necessarily fatal objections, but they do suggest that advocates of restrictive policies must be able to show that they will reduce the net social costs. In the case of tobacco, it must be shown that the savings resulting from the contemplated action (irrespective of distributional effects) outweigh the economic losses; otherwise, no appeal can be made to the principle of the greatest good for the greatest number. In practice, one finds some cases built on a careful weighing of costs and

benefits, and others built only on a recital of social costs (cf. Atkinson and Townsend, 1977; Wolfe, 1977). Cases of the second type are incomplete and inadequate bases for coercive legislation, insofar as they have failed to establish that net harm will result to others.

The Difficulty of Determining Net Social Costs

In theory, the computation of net social costs is easy enough; one totals up costs and savings and then subtracts one sum from the other. In reality, however, such analyses are complex, expensive, and often incomplete. Two factors complicate the task: the difficulty of accurately assessing health costs, and the near impossibility of quantifying the intangible benefits individuals derive from unhealthy activities.

Evaluation of the dangers posed by consumer carcinogens furnishes an example of the first type of difficulty. Chemicals such as cyclamates or food and hair dyes are typically declared carcinogenic on the basis of rodent bioassay; that is, if an unusually large number of rats or mice develop cancer when fed a steady diet of these substances, the substances are considered likely human carcinogens. The problem is that the rodents receive relatively high doses, and it is difficult to calculate exactly what effect prolonged exposure to low doses will have on human populations. The task is not impossible; dose-response extrapolation models have been proposed, but these are still controversial (Jones and Grendon, 1975; Albert, Train, and Anderson, 1977; National Academy of Sciences, 1979). Epidemiologic studies can sometimes supplement bioassays, but these are not foolproof, as it is difficult to isolate and quantify all relevant variables. Moreover, as the saccharin controversy illustrates, epidemiologic findings sometimes conflict with the rodent studies (Armstrong et al., 1976; National Academy of Sciences, 1979). In short, whenever a case is made that we can save a certain number of lives by banning or restricting a given carcinogen, the figures presented must be understood as approximations, whose accuracy depends on the quantity and quality of the data available, as well as on the sophistication of the mathematical models used to analyze the data. Finally, even if the exact levels of morbidity and mortality associated with a particular carcinogen were known, the computation of social costs would still be difficult, since the calcula-

tion of the value of lost livelihood requires certain tricky assumptions about average earnings and the prevailing interest rate (Acton, 1975).

No existing mathematical model, however, can quantify the satisfaction that people derive from risky activities. Tackle football is a good example. Of the 1,200,000 persons who participate in organized tackle football each fall in the United States, between 50 and 86 percent sustain time loss injuries, a remarkable rate that would be intolerable in virtually any occupation other than sports. Some of the injuries are so serious that the young players are rendered quadriplegic; 3 of every 100,000 die (Torg et al., 1977). It might also be argued that the economic losses (in equipment sales, stadium receipts, television royalties) resulting from a ban on contact football would in the long run be made up by the increased popularity of less dangerous sports, such as soccer. Thus, on strict social-cost grounds, contact football should be forbidden. This argument, of course, neglects the whole range of emotional values that players and spectators attach to the game. How much is a traditional rivalry worth, or the disappointment of a fan who has followed a team for years? Every risky activity produces some satisfaction: the smoker relaxes after lighting up, the drinker experiences heightened confidence, the saccharin user satisfies his sweet tooth while congratulating himself for avoiding sugar and cutting calories. Are these real and substantial benefits, or are they passing sensations, which should be sacrificed in the name of social savings?

Reducing Social Costs while Minimizing Coercion

There are many different actions or combinations of actions that can bring about a reduction of net social costs, but often these actions involve a varying degree of curtailment of individual liberty. Of the array of proposals to minimize the costs of smoking, there are at least three—government-sponsored development of safer cigarettes; voluntary, government-subsidized smoking cessation clinics; and the education of school children—that involve no appreciable coercion. On the next level are policies that restrict the promotion and merchandising of tobacco: banning advertising, forbidding cigarette vending machines, and sale by prescription only. These proposals are

coercive in the sense that they curtail corporate marketing options, even, in the case of advertising, options that are arguably protected by the First Amendment. But, from the consumer's point of view, relatively little coercion is involved, since purchase is still possible, though on less convenient terms. This is not necessarily true of sharply increased taxes on tobacco products, a policy that would seriously affect both manufacturers and consumers. Many smokers, especially the poorer ones, would be forced to restrict consumption or to sacrifice other commodities. As Mill (1977:298) succinctly put it, "Every increase of cost is a prohibition, to those whose means do not come up to the augmented price; and to those who do, it is a penalty laid on them for gratifying a particular taste." The most drastic measure of all would be total prohibition, the state in effect saying that the risks of smoking are so great that no one should legally be allowed to take them. The point to be made about such policy alternatives is that the least coercive combination, consistent with the maximum reduction of net social costs, is the most desirable. If, for example, it were to be determined that the introduction of safer cigarettes, coupled with intensive propaganda in schools and a ban on cigarette vending machines, would effect approximately the same savings as a near-prohibitive tax on tobacco, then the former combination of policies would be preferred because it is the least destructive of individual liberty.

Unfortunately, there are statutory mandates in the United States that push regulatory agencies toward the more drastic alternatives. A prime example of this is the Delaney Clause of the 1958 Food Additives Amendment to the Pure Food, Drug and Cosmetic Act. The clause, sponsored by Representative James J. Delaney of New York, states that ". . . no additive shall be deemed to be safe if it is found to induce cancer when ingested by man or animal, or if it is found, after tests which are appropriate for the evaluation of the safety of food additives, to induce cancer in man or animal" (U.S. House Committee on Interstate and Foreign Commerce, 1974:13; Kleinfeld, 1973). Unsafe additives, of course, are not allowed on the market, so that human or animal studies linking an additive to cancer theoretically trigger an automatic ban. In some cases this may be the appropriate action, but in others less drastic measures may be in order. As

mentioned earlier, the evidence that saccharin causes cancer is contradictory; moreover, some groups, such as the obese and the diabetic, may derive benefits from its use—although the amount of benefit derived is controversial (cf. Cohen, 1978; Rosenman, 1978; National Academy of Sciences, 1979). This would seem to suggest a compromise measure, such as sale by prescription only, but the clause admits of only one action (proscription) and does not permit the assessment of net social costs. By contrast, some laws bearing on toxic substances, such as the Clean Air Act, Water Pollution Control Act, Safe Drinking Water Act, and Federal Insecticide, Fungicide and Rodenticide Act, permit social-costs analyses; other statutes, such as the Toxic Substances Control Act, require them as a matter of course (Eskridge, 1978). Whether or not proposed restrictions on a toxic substance are evaluated in terms of net social costs is often a matter of chance, depending on the language of the law under which the substance happens to fall. Reform may be on the way; a recent report by the National Academy of Sciences (1979), *Food Safety Policy: Scientific and Societal Considerations*, criticizes the existing law as complicated, inflexible, and inconsistent, and calls for the weighing of health and other benefits as well as the marketing of high-risk additives to selected subpopulations, such as diabetics, if circumstances warrant.

Conclusion

The harm-to-others doctrine, which has served for centuries as the basis for coercive public health measures, has become increasingly outmoded as the pattern of disease has shifted in developed countries. Today the leading causes of morbidity and mortality—accidents and noncommunicable diseases—are related intimately (though by no means exclusively) to individual irresponsibility and excess; yet grounds for state action are problematic, since, in many cases, only the individual's immediate health and well-being are at stake. Some public health officials, especially those in totalitarian societies, have responded by appealing to an abstract doctrine of organic national health, in effect reviving the main lines of the cameralist position. In Western democracies, however, the tendency has been to fashion a

utilitarian rationale based on an analysis of social costs. This approach is, I believe, necessary and appropriate, especially in view of the enormous financial burden imposed on others by the costs of treating chronic disease in the modern welfare state. The problem is that such calculations are inherently difficult, and there is always the danger that we will be forced to take or to refrain from some action for no appreciable benefit. This danger can be minimized, however, if we insist that any given social-costs argument must be measured against three basic standards. First, does the analysis weigh concomitant economic losses? That is, does it compute net social costs? Second, is the assessment of risk based on substantial and consistent data, and are the models used to calculate reduced mortality and morbidity plausible ones? Third, has thought been given to selecting the policy or policies that entail the least coercion? Unless a social-costs argument meets these criteria, it must be considered incomplete, as there is no way of determining whether it is consistent with its implicit maxim, the greatest good for the greatest number.

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Address correspondence to: David T. Courtwright, Chairman, Department of History, University of Hartford, West Hartford, Connecticut 06117.