

## **Self-interest, public interest, and public health**

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Submitted 16 October 1989; accepted 1 December 1989

### **1. Introduction**

The interest-group theory of economic regulation has come a long way since George Stigler's (1971) examination of transportation regulation and occupational licensure. The initial focus on narrow categories of economic regulation has since been generalized to the point where almost all governmental activity has been brought under the purview of interest-group principles. This has resulted in the development of a theory of the demand and supply of wealth transfers, according to which governmental processes are driven predominantly by the self-interest of participants. This self-interest theory of government is now competitive with alternative explanations of government behavior (Landes and Posner, 1975; Peltzman, 1976; McCormick and Tollison, 1980; Becker, 1983).<sup>1</sup>

While there is now an extensive body of scholarship, much of it empirical, on the interest-group approach to political processes, public health is one significant area of governmental activity that, to our knowledge, has not been brought under such analytical scrutiny. We seek to do so here; we seek to explore the extent to which collective choices concerning public-health budgetary and regulatory processes can be brought within the rubric of the interest-group theory of government. To be sure, to advance a private-interest explanation of public health processes is not to deny that those processes may serve some notion of public interest. Invisible hands, after all, may work relatively strongly in government, as some scholars have argued. Rather, the point is simply that any public-interest outcome would be reconciled with, and derived from, the pursuit of self-interest by participants in public-health processes.

There are some obvious respects, at least as based on casual observation, in which the provision of public health might appear to be concerned more with

\* We are grateful to the Lynde and Harry Bradley Foundation for financial support.

the supply of public goods than with the self-interest pursuit of producer rents and other forms of wealth transfers. For instance, the control and prevention of contagious diseases has long been the paradigmatic example of public health, and this can readily be brought within the framework of the theories of externalities and public goods. However, the battle against contagious diseases has largely been won, at least in the West. Nonetheless, the budgets of public-health agencies continue to increase, and regulatory processes seem to operate strongly to convey a portrait of a world increasingly imperiled by risks to health and life. Perhaps this public-health hype can be understood as a public-interest representation of the need to maintain the hard-earned gains of the past. But, alternatively, it might be better understood as a component of rent-seeking, or of rent protection, by factor suppliers.

In this paper we examine three main elements of public-health processes from the perspective of the self-interest of those engaged in the supply of public health. First, we examine the possibility of market failure, either in the market for wellness or in the market for public-health research, as explanations for public-health expenditure and regulation. In the process of doing so, we explore the probable impact of self-interest on the operation of such processes. Second, we examine investment in such non-profit health organizations as the American Heart Association and the American Lung Association. It is certainly possible to conceptualize such investment as being one illustration of the market provision of public goods. But such investment might alternatively operate more as a means of increasing the earnings of the input suppliers who provide the services financed by those organizations. Third, we examine the possibility that public-health processes that manage to extend life beyond what would result through ordinary market processes might also be a means of increasing the real incomes of input suppliers. After all, raising the age at which people die does not change the brute fact of death, but it may lead to a more medically intensive method of dying, one that at prevailing rates of interest may be a worthwhile investment by input suppliers; particularly if those investments are financed through taxation rather than by the input suppliers themselves.

There are at least three hypotheses that can be advanced about the operation of public-health processes. One is that those processes are concerned with the provision of public goods and the correction of market failures, and so are to be understood in terms of a logic of welfare economics or public interest. A second is that those processes are concerned with promoting the self-interests of input suppliers, and so would largely reflect the class interests of physicians, pharmaceutical companies, and the like. In this case, public-health processes would be understood in terms of a logic of self-interest. To be sure, a logic of self-interest need not be antagonistic to a logic of public-interest; the two logics may be complementary, at least to some extent, but they are different logics

nonetheless. After all, an increase in the supply of public-health activities will generate rents for specialized input suppliers, regardless of whether that increase represents some correction of market failure or, alternatively, some excessive expansion in public provision.

Moreover, paternalism is sometimes advanced as a third type of explanation for the supply of public health. In this case suppliers seek to do good for recipients, even though the recipients may not seek to have the service supplied to them. The incarceration of obese people at some weight-losing camp might be an extreme illustration; the reduction or elimination of smoking might be another illustration. Paternalism is a forced transfer, so we should expect input suppliers to be less wealthy to the extent that paternalism pervades public-health processes. If input suppliers become wealthier, there is no paternalism, for the transfers go in the wrong direction. Hence, there is a conceptually clear test between paternalism and self-interest as alternative explanations for various public-health activities: paternalism implies a reduction in the wealth of input suppliers whereas self interest implies an increase.

## **2. Market processes and personal health**

### *2.1. Wellness in a market economy*

In a market economy in which programs of public-health expenditure and regulation were absent, one subset of that economy could be conceptualized as a market for health and wellness. Just as it is reasonable to speak about the properties of the market for housing or shoes, so is it reasonable to speak about the properties of the market for wellness or health. Some aspects of this market would be directly observable, as illustrated by visits to physicians, the sponsorship of pharmaceutical research, and the purchase of exercise bikes. Other aspects could only be inferred. These aspects would be reflected in such things as the foods people eat, the beverages they ingest, and the proportion of bicycle riders in the population.

In any case, given the preferences of the population and the state of knowledge about the production function for wellness, there will exist a particular pattern of wellness within the population, along with an associated structure of production. These features of the market process could in turn be described by such outcomes as life expectancies, days of sickness, hospital beds occupied, enrollments in medical schools, subscriptions to health magazines, and purchases of exercise equipment. Medical knowledge and technology would exert important impacts on the outcomes of this market, as would the preferences of the population. Changes in knowledge about the health consequences of foods would be reflected in the structure of market activity. If red

meat comes to be viewed as possibly exerting a negative impact on health, the stock of steers will decline, as will the employment of butchers. If eating oat bran comes to be viewed as a means of securing better health, the amount of land planted in oats will increase.

Personal preferences regarding health would likewise be reflected through the market process. Health is doubtlessly valued, but so are other things; it is quite reasonable for people to exchange health for other things. The terms on which people are willing to make this exchange would be reflected through market processes. Walking to work is safer than driving, as well as healthier, but people typically drive, and in so doing are trading off life and health for comfort and convenience.

Within this framework people can choose to live in relatively more or less healthy or risky manners. It is reasonable that people could have chosen to live longer and in a healthier manner, but preferred other things instead. They could have walked to work, but drove instead. They could have drunk only distilled water and eaten tofu patties for dinner, but drank whiskey and ate marbled beef instead. They could have chosen relatively stress-free lives as telephone installers, but chose the stressful life of an investment banker.

It is possible to have too much of a good thing. In strictly economic terms, added life and better health can be worth less than what they would cost. In any event, extra years of life are a private good, as the benefit accrues to the longer-living individual. This proposition is unaffected by a recognition that others may benefit, or perhaps bear costs, of that longer life, as illustrated by relatives, friends, and enemies. Familial and friendship relationships fall into an almost completely Coasian part of the economy, where the relevant external effects are worked out by private bargaining. If a wife implores her husband to exercise, he can either buy more life insurance or start jogging. In either case, property rights are clearly defined, and economically efficient outcomes will result. Hence, longevity would be a private good and not a candidate for public provision. And what holds for longevity would seem to hold *ipso facto* for health or wellness.

Among other things, the public-health concept of “premature death” would be meaningless, for all deaths would be efficient from an *ex ante* perspective. There is no loss or waste to death, such as a concept of premature death would seem to require or imply if the term is to have meaning. People make choices concerning diet, exercise, and occupation in light of their preferences and knowledge, and the resulting pattern of death is but one element of the overall pattern of market outcomes. If it is “known” that eating red meat or smoking cigarettes may shorten life expectancies, people can choose how much meat to eat or whether to smoke in light of their preferences for meat and cigarettes relative to their preferences for longer life. Should some people die before some such arbitrary age as 65, there is nothing wasteful or premature about those

deaths, at least in an economic sense. Rather those deaths are simply one aspect of rational personal conduct within market processes.

## *2.2. "Failure" in the market for wellness?*

Contagious diseases provide the exception to this statement about the private goods nature of health and longevity and for two conceptually distinct reasons. One of these reasons is illustrated by the theory of externality, and the other is illustrated by the theory of public goods. With regard to the former, one person's choice in matters relating to personal health may affect the likelihood that that person will become a carrier of a contagious disease. If so, personal choices in the direction of reducing health relative to other things will impose costs on others in the society. For instance, suppose a failure to get enough sleep and exercise increases the probability that that person will contact a contagious disease. In consequence, the probability that people who are careful to get enough sleep and exercise will catch the disease is also increased. To the extent that diseases can be transmitted in this manner, the market for wellness may be subject to sources of market failure.

Communicable diseases can also be sources of market failure for reasons relating to the theory of public goods. This case perhaps conforms a little more closely to the standard paradigm of public health. In this case it is not so much a matter that individual choices regarding personal health characteristics influence the susceptibility to communicable diseases, as it is a matter that such diseases simply arise exogenously. While the onset of the disease may be independent of personal choices, these are diseases that everyone would like to avoid, but which are transmitted by invisible organisms and spread to innocent victims by means of only a brief exposure to carriers, who may be almost impossible to identify as such (and who may not even know themselves that they are infected). In this case the control of the disease may present public goods problems, in that individuals cannot purchase immunity through their market choices but rather must act in concert. Spraying to control mosquitos and the encephalitis they may carry might serve as an illustration.

## *2.3. Public health to correct market failure?*

There are, thus, two distinct forms of possible failure in the market for wellness. One involves an externality, in that one person's choices concerning personal health may affect the cost of personal health to others. To be sure, a Coasian solution to this externality can always be imagined. It is a simple matter to conceptualize a form of property right in which people would have a right

to be free from being exposed to contagious diseases carried by others.<sup>2</sup> In point of fact, of course, the information and transaction costs associated with identifying and avoiding the disease carriers are sufficiently high that market processes will not operate to allow the non-infected to protect themselves. For this reason, there may be reasonable market failure grounds for such regulatory measures as mandatory quarantines or inoculations to prevent the spread of such diseases.

The other source of market failure need not involve contagious diseases, though it can. Malaria is a contagious disease but encephalitis is not. Yet both can illustrate market failure. Malaria does so, as noted above, for reasons adumbrated by the theory of externality. And encephalitis does so for reasons outlined by the theory of public goods. However, to advance a rationalization for public-health expenditure and regulation in this case, or in any other case, is not necessarily to imply that actual expenditures and regulations accomplish what the theories of externality and public goods would require. For instance, it is possible for expenditure and regulation to become overextended, as assessed by standard Paretian criteria and as illustrated by much of the literature on regulation and rent-seeking.

#### *2.4. Self-interest and public health*

The standard public-health paradigm, particularly as it regards communicable diseases, would seem to have relatively limited applicability these days, especially in the West. And neither would there appear to be any market failure in the provision of information about personal health. Indeed, the standard proscriptions for health and longevity have been around for a long time, and largely have the status of conventional wisdom: lose weight, stop smoking, drink less alcohol, avoid stress, and so forth. Physicians can freely give this type of advice, and individuals can read and research such matters for themselves.<sup>3</sup> Out of this decentralized process, individuals will collect data and organize their lifestyles accordingly, expecting to live for some preferred period of time. Individuals, as it were, “choose” their expected lifetimes and behave accordingly. As constraints and preferences shift, individual behavior will change. Smoking and alcohol consumption may rise in wartime; divorce may lead to weight loss as one reenters the singles market; and so on.<sup>4</sup>

If there is no market failure in the provision of health and longevity, the addition of public health spending to the market provision of those services may lead to excessive health and longevity. If public and private provision are perfect substitutes, public-health activities will simply substitute for private activities. There will be no net effect on health and longevity in this case. In this case self-interest can manifest itself through transfers of income. Suppose the popula-

tion can be divided between health nuts and gluttons. Average incomes are the same for both groups, though the gluttons may have lower life expectancy. The health nuts spend a significantly larger share of their income on health-promoting goods than do the gluttons. To the extent they can secure public provision of health-promoting goods, they will be able to secure a wealth transfer from the gluttons. To be sure, the price reduction that would result because their tax-price would be less than the market price they would otherwise have to pay would lead them to choose more health-promoting goods under collective provision than they would choose through market processes. But if such goods are supplied at constant cost, the operation of self-interest is limited to the uses of income, in that those who consume relatively large amounts of health-promoting goods will gain at the expense of those who do not.

In contrast, if health-promoting goods are produced under conditions of rising supply prices, self-interest can also operate on the sources of income. For in this case the expansion in the production of health-promoting goods that results from collective provision increases the price of those goods, thereby creating rents for infra-marginal suppliers of those services. Indeed, there are generally strong grounds for thinking that these supply-side sources of self-interest will be stronger than the demand-side sources. This is simply a proposition about the relative costs of organizing interest groups, as well as a proposition about the number of people with whom some rent is to be shared. Input suppliers are more concentrated and face lower organization costs than consumer groups. Being more concentrated, the per capita value of any given value of rent will be higher for input suppliers than for consumers. This is certainly not to deny that public provision can take place even though supply curves are horizontal because of the redistribution that can result on the demand side of the transaction. Rather it is simply to assert that the pressures for collective provision will be stronger if supply prices are rising because specialized input suppliers can then acquire concentrated gains.

### **3. Is health research a public good?**

#### *3.1. Public goods justifications for health research*

Suppose it were accepted, at least for purposes of argument, that wellness is a private good that is supplied efficiently through market processes. In other words, assume there are no problems of externality and public goods with regard to the control of diseases. It is still possible to argue that there is an important place for government in public-health processes because the research that generates new knowledge about health might be a public good. If the development of knowledge about the promotion of public health must be made

publicly available once it is made available to one person, because non-exclusion operates, people will have weaker incentives to develop such knowledge than if exclusion were possible.

The investment in the acquisition of knowledge will conform to the same economic principles as all other activities. Someone investing in dietary research will do so to the extent that such research is anticipated to be profitable. Yet that anticipated profitability depends on the extent to which the benefits from that research can be captured by the developer of that knowledge. For instance, someone exploring the dietary properties of different strains of celery will pursue such research to the point where the anticipated marginal return equals the marginal cost. Suppose this research culminates in the form of recipes for the use of celery in casseroles and other dishes, which if consumed once a week, will lower cholesterol by 20 points.

Once this knowledge is made available to one person, it can be readily passed on to other people. The extreme form of this case is that once it is communicated to one person, it can be costlessly communicated to everyone else. In this setting, the incentives to acquire such knowledge would be quite weak, and would essentially be limited to the pursuit of hobbies. Once it is recognized that communication is costly, it is possible for the inventor to capture some of the gains, which in turn will give stronger incentive to invest in developing such knowledge. For instance, the knowledge may be transmitted through magazines and books, for which the inventor can receive a royalty payment. But absent copyright laws, good ideas can be copied by others without payment to the inventor.

Much of the economic literature on research, copyrights, and patents has focused on the ways in which market processes can operate to overcome what would otherwise be the public goods nature of research. Copyrights can serve to give the inventor a property right, thereby strengthening the incentive to undertake research into such things as the health properties of foods. Likewise, patents can do the same for such things as research into the health properties of different forms of exercise equipment. To be sure, there is a significant governmental presence in the very enforcement of copyright and patent laws, though in principle the cost of administering those laws could be charged to the holders of the patents and copyrights. And scholars seem to hold different opinions about the extent to which market processes might be able to operate to convert research into an appropriable activity. But no one seems to think such appropriability can be complete, which means that there will be some public goods element to such research, even though there may be considerable room for questioning the extent of such publicness. But whether the public goods component of health research might be relatively large or relatively small, there will surely be a public goods component to such research.

But to accept this argument about public goods is not necessarily to affirm

that the actual provision of such research operates to provide those public goods or that such provision is free of interest-group influences. Once again, the ability to give some public goods justification for governmental sponsorship of health research – or of research generally – does not imply that the actual outcomes of political processes conform to those justifications. The actual conduct of the bureaus that administer research programs, as well as the legislative committees that sponsor those bureaus, may conflict with the public-goods justifications advanced in their support. Those justifications envision government acting as a substitute for the competitive organization of inquiry, in a setting where market competition is subject to failure. But actual governments may act quite differently than idealized governments. A world in which government is a monopsonistic supporter of research may differ significantly from a world in which research is supported by a large number of independently acting and financed donors, as Gordon Tullock (1968) explains.

### *3.2. Monopoly, competition, and the organization of inquiry*

For instance, consider research into the relationship between smoking and health under two alternative organizational settings: (1) research is sponsored by a large number of independently financed organizations, and (2) research is sponsored by a single government bureau that is financed by a single legislative committee. To be sure, reality lies somewhere in between these polar types. But a focus on the polar types serves to clarify our point about the distinction between justificatory argument in support of government sponsorship of research and explanatory argument about the actual consequences of such sponsorship.

Knowledge about the alleged health consequences of smoking is obviously of great interest to people, and this interest extends to nonsmokers because of claims that they can be harmed by environmental tobacco smoke. There are many hypotheses that might be advanced about these alleged health consequences of smoking, as well as about the properties of alternative ways for mitigating or avoiding those consequences. One possible line of inquiry could be based on a premise that smoking causes lung cancer. Such a line of inquiry is clearly the predominant one in the cancer research community these days. Without doubt, the observation that the vast preponderance of diagnosed lung cancer cases are smokers makes this line of research appear to be fertile ground. But it is also the case that the predominant number of “heavy” smokers do not contract lung cancer, which in turn might suggest the value of a research program into why most smokers do not get lung cancer. Such a program might look to differences between smokers and nonsmokers. Or it might look to psychological or personality differences, much as one research pro-

gram concerning heart disease distinguishes between type A and type B personalities.<sup>5</sup>

The number of research possibilities could be multiplied greatly. For instance, within the context of a program that attributes lung cancer to smoking, some could explore different ways of quitting smoking, others could investigate the possibilities that different forms of diet or exercise might diminish or even eliminate the apparently toxic effect of smoking, and yet others might examine the prospects for reversal of that toxic effect through genetic engineering. All of these lines of research, and many others, might find support within a truly competitive organization of inquiry. What would result would be unknowable independent of actually allowing such a process to operate. What would seem likely to emerge would be a wide variety of findings and suggestions. There would be claims made for smoke-free environments. Treatments to help people stop smoking would be developed. Others would sell books and appear on talk shows telling how the diet they developed greatly reduces the likelihood that smokers will get lung cancer.

The conduct of research would proceed much differently if it were sponsored by a monopsonist. As we noted above, cancer research, or research into health generally, is not a monopsonistic endeavor. But it is also far from a competitive endeavor, for the federal government is clearly the dominant sponsor; the federal government is perhaps more dominant in the sponsorship of health research than AT&T was in the provision of communication services. The evidence concerning the relationship between smoking and lung cancer, for instance, is generated by the cancer research community, which includes both private and public establishments and which is heavily subsidized by the federal government. Because of the enormous level of federal government involvement in this research, it seems a useful and essentially non-distorting simplification to describe this research establishment as a single bureau, even though a number of distinct public (e.g., National Institutes of Health) and private (e.g., American Cancer Society) organizations are involved.

### *3.3. Legislative sponsorship of health research*

In seeking to understand how the direction of public-health research might differ as between organization through competitive market processes and organization through a monopsonistic government, it is important to distinguish between the legislative sponsors of that research and the bureau to which responsibility for the conduct of that research is given. For the incentives of each are important to any effort to gauge the course of governmentally dominated research and to compare it with what would emerge from a competitive market process.

It is possible to conceptualize legislative sponsors as representing the in-

terests of consumers, either all of them or a subset of them, as represented by the demand side of the theory of public goods. It is also possible to conceptualize them as representing the interests of specialized input suppliers. Later on, we shall provide evidence as to how public health promotes the economic interests of such input suppliers as physicians. For now we shall simply assert the dominance of input suppliers over consumers with respect to the legislative sponsorship of health research.

Within the context of the interest-group theory of government, the legislative committees that appropriate funds for health research are responding principally to the interests of input suppliers. This is not to deny that consumers can receive some benefit from such sponsorship, but is only to note that it is the interests of suppliers that drive the process. Granted, there can be many input suppliers who vie for legislative sponsorship. Some competitors in the case of cancer research might be those who emphasize medical programs, others who emphasize dietary programs, and yet others who emphasize psychological programs.

Scholarship in the interest-group theory of government would say that the winning suppliers will generally be those to whom government sponsorship is the most valuable net of the cost of lobbying. Suppose this turns out to be those who stress medical programs – physicians. This means that the legislative committees that oversee health research and rule on appropriations will be doing so in a way that advances the general interest of physicians. In turn, the bureau that administers health research will serve largely as an agent of its legislative sponsor, although such agency relationships may not be controlled fully by the sponsors.

### *3.4. Bureaucratic direction of health research*

Within an interest-group model of government, it seems possible to characterize the monopsonistic sponsorship of health research by government as a program run by physicians predominantly for the benefit of physicians. Again, this is not to deny that customers or patients may derive some benefit through the products of such research, but is only to assert that it is the physicians and not the customers whose interests motivate and drive the process of research sponsorship.

Once this step is taken, it is easy to see that the economic principles of bureaucracy suggest that, in comparison with an industry of profit-seeking firms, the anti-cancer bureaucracy will face weaker incentives to find and develop effective treatments of and cures for cancer and will face incentives to exaggerate the risks of cancer. To some degree, this point involves a subtle variation on the theme that finding a cure for cancer would put many cancer

bureaucrats out of work; indeed, a consideration of such perverse incentives has led at least one critic of the medical establishment to suggest that the cancer bureaucracy is the last place to look for a cure (Szasz, 1978). There are, of course, several occupations that depend on a continuation of a state of affairs that its practitioners seek to eliminate but for which universal success would end the occupation. Divorce lawyers and family counselors would go out of business if people were to learn how to get along together. Physicians might advise people how to stay healthy, but healthy people would have little demand for physicians.

In these and related cases, what provides the incentive for individual practitioners to promote the interests of their clients – an incentive that clashes somewhat with the interests of the entire group of practitioners – is the competitive organization of service delivery. Auto mechanics, for instance, may be tempted to exaggerate the mechanical defects present in a car they have been asked to repair. However, they face the constraint of competition. Auto mechanics compete vigorously, have no national organization designed to limit competition, and are not heavily subsidized by the government in such a manner that they are rewarded for finding more “broken” cars. As a result, the perverse incentives they might face as a group are kept under tight control. Should they be able to collude, the control over these incentives would be likely to weaken.

The medical profession, taken as a collective group, may similarly face perverse incentives with regard to the services it provides. There is clearly competition among cancer researchers, but those researchers are in a somewhat different position from ordinary market competitors. Competitors must always seek to please their customers. In ordinary market arrangements these customers are numerous and decentralized. It would be the same with cancer research if the sponsors of that research were numerous and decentralized. But such sponsorship is centralized and largely monopolized. Although individual researchers have incentives to find cures for cancer (the Nobel Prize), they also have incentives to please their sponsors – and the dominant sponsor is a government bureaucracy, not the numerous and variegated buyers that constitute a competitive market.

Moreover, that sponsor may well have an incentive to act as an agent for the collective interest of physicians. In the case of medical research, this interest is surely advanced more fully by exaggerating the risks of cancer than by rhapsodizing over how the world is becoming ever safer. In bureaus, larger budgets are generally preferred to smaller budgets. One means of gaining larger budgets is to “advertise,” as it were. With respect to the cancer bureaucracy, one form such advertisement can take is to exaggerate the incidence and risk of cancer. The more successful the bureaucracy is in portraying an image of the ubiquitousness of cancer, the larger the governmental appropriations and charitable

donations will be. It is obvious that the budget will be functionally related to the perceived risk of cancer and other diseases within the Congress and the general public. It takes neither a Machiavellian imagination nor a Ph.D. in economics to conclude that if the Surgeon General is acting as an agent of the medical community, he has a strong incentive to stress the risk of cancer.

The spurious nature of many recent claims about the risks of cancer that have been made even by prominent researchers has been detailed by Edith Efron (1984). She found that even the most absurd claims, with the weakest empirical support, tended to be seized by the public and the media as fact, and that standards of scientific rigor were habitually relaxed. Virtually every imaginable substance and practice, both man-made and natural, has been claimed by some representative of one of the major cancer research institutes to be carcinogenic. This list includes virtually all chemicals known to exist, all forms of energy generation (including solar cells and solar heating and cooling systems), most major components of foods (including salt and sugar), and even numerous naturally occurring substances in the air we breathe (including oxygen itself). The majority of these claims are based on flimsy, very limited evidence or no evidence at all. Scientists (sometimes even those associated with major cancer research foundations) who held reservations about the validity of some of the more extreme claims made by their colleagues concerning cancer risks expressed reluctance about raising those reservations in public for fear of being ostracized or branded as tools of industry.

Again, it is not strictly relevant whether the conscious motives of cancer researchers are pristine and sincere or cynically self-interested. The point is that any increased level of perceived cancer risk held among the general public is likely to increase the demand for research, which in turn will generate quasi-rents for the suppliers of specialized research inputs. Efron (1984: 232) concluded that “basic” or “pure” science has been partially supplanted by something she termed “regulatory science”:

In principle, basic science is concerned to explain the biological mechanisms of cancer; its goal is understanding. But “regulatory” science is concerned with the legal elimination of carcinogenic substances in the environment whether biological understanding exists or not . . . . The basic scientist, whether he works for the government or at a university, is an intellectual explorer in search of truth, and coercion is no part of his repertoire. The “regulatory” scientist, whether he works for the government or at a university, is an intellectual policeman whose judgements, if accepted by regulators, are backed up by the guns of the state.

If the “regulatory scientist” is actually an intellectual policeman, there is a simple economic explanation for his encouragement of cancer fears that have du-

bious validity, not to mention his protection of possible increases in future rents resulting from the expected expansion of the cancer bureaucracy. When viewed from the perspective of a competitive marketplace or from that of some notion of public-interest, this may be a questionable way to run a scientific research establishment. But when viewed from the perspective of the economic theory of bureaucracy, it nonetheless represents perfectly rational behavior in light of the incentives faced.

#### **4. Public health and the collective interests of physicians**

The individual physician has a competitive incentive to cure his patients and otherwise to give them reliable health care. This incentive derives from the competitive pressure provided by competing physicians in the market for health care.<sup>6</sup> Nonetheless, the medical profession has historically gone beyond services of individual physicians to patients and has organized as a group for collective action. The American Medical Association (AMA) is the lobbying arm of the medical profession. In this aspect of their behavior, physicians as an organized interest group may have quite different incentives than the individual physician has with respect to his patient.<sup>7</sup>

In fact, the AMA has historically behaved like a physicians' interest group seeking to control the supply of new physicians, the price of medical services (through, for example, seeking an exemption from the antitrust laws), the price of complements and substitutes for physicians' services, and a variety of other competition-suppressing schemes. All of these activities are consistent with increasing the wealth of the medical profession. Of course, the issue of motivation can be debated. Why do physicians support government health-care programs such as Medicare and Medicaid? Is it because they support health-care programs for the poor for altruistic reasons or because such programs increase the aggregate demand for medical services? And could the latter effect be an unintended consequence of public-spirited behavior by physicians? Are doctors doing well by doing good? Reasonable people could disagree about the answers to these questions, but the historical behavior of the AMA suggests clearly that economic incentives and the impact of its efforts on physicians' wealth have been important factors.

The medical profession is a strong driving force behind the modern expansion of the public health bureaucracy, that is, of government programs ranging from basic research in health sciences to the dissemination of information about the reported health consequences of certain activities such as diet, smoking, drinking, and so on. While public-interest rationales for public health cannot be dismissed totally, as we noted earlier, it is surely also reasonable that a more complete understanding of public-health processes requires a consideration of how those processes affect the wealth of physicians.

The effort to place public health within an interest-group model of government suggests that a great deal of what constitutes public health can be understood more sensibly as a method of transferring wealth from taxpayers and consumers in general to physicians and other specialized inputs involved in the supply of medical services, than as a means of providing public goods and internalizing externalities. One point in this respect is that congressional sponsors of public health have particularly strong demands for public health because their constituencies have relatively high concentrations of physicians. Physicians are not distributed geographically in proportion to the general population. There are some places where physicians are concentrated relatively heavily. For example, a cursory inspection of the data shows that physicians are disproportionately concentrated in those states where a senator sits on the Senate's Labor and Human Resources Committee, which oversees a variety of public-health programs (approximately 196 non-federal physicians per 100,000 of population as compared to 180 in all other states). Those very same states also have a significantly greater concentration of nursing homes (approximately 327 to 285) and beds (59 per 1,000 of population over age 65 to 56). The distribution of public-health spending is thus concentrated in those states that have representation of the Labor and Human Resources Committee. The members of that committee can be thought of as having a relatively high demand for public health spending, in reflection of particularly strong interests of their constituency in such spending.<sup>8</sup>

A more subtle self-interest of physicians in public-health programs concerns the impact of such spending on aggregate spending for physicians and their services. Suppose that public-health spending achieves its purported effect of increasing the longevity of the population. The population may be healthier in some overall sense, but spending on medical services can increase nonetheless. This could happen if medical-care expenditures rise with the age of the population. If this follows, then it can be said that it is in the direct self-interest of the medical profession to support public-health programs designed to increase the longevity of the population. In this respect, the medical profession's support of public-health programs is analogous to its support of Medicare and Medicaid. There may be a public-interest rationale in both cases, but one's intuition is to look at the impact of such programs on physicians' wealth.

A great deal of public-health activity designed to increase longevity involves the advocacy and dissemination of information about "healthier lifestyles." Thus, individuals are advised not to smoke, to avoid fatty foods and obesity, to exercise, to limit alcohol consumption, and so on. The primary impact of such advice, in combination with a little luck, is to increase the lifetimes of those who follow the advice, or at least so it is claimed. Under one alternative, an individual can live it up and be merry and then die at a younger age with consequent medical expenses. Under the other, he can follow the proscribed

advice of the medical sages and die at an advanced age with consequent medical expenses. It is possible to test whether the present value of medical expenses in the latter case exceeds those in the former. Should this turn out to be so, the hypothesis about physician support for public-health spending would not be refuted. Indeed, such an argument has a degree of plausibility. Instant death from a heart attack at age 55 will not compare in medical expenses to death from a lingering illness at age 80.<sup>9</sup>

Public-health programs cannot, of course, abolish the brute fact of death. All they can do is perhaps alter the timing and the cause of death. That people will die is invariant; when they will die and from what may be variable within limits. It is the possibility of this variation that creates an important relationship between public health and the general or class interest of physicians. For public health may operate to transform deaths from medically-unintensive to medically-intensive categories. One way this might work is simply a product of age: if the demand for medical services increases with age, an increase in longevity will translate into an increased demand for medical services, which in turn will generate rents for suppliers of specialized inputs. A second way is through a shift in what might be called the disease structure of a society. Even if longevity is unaffected by public health, programs that shift deaths from low-cost to high-cost (in terms of medical resources) forms will also generate rents for specialized medical inputs. To be sure, both types of changes are likely to be present; there is likely to be covariance between the age of death and the form of death. Nonetheless, it seems useful to keep the conceptual distinction between the two types of transformation in mind.

Consider first the effect of increasing age on the demand for medical services. Suppose that the aggregate demand for medical services is disaggregated into age categories. For any given price of medical care, there will be an amount demanded by people at each age category in the population. Further suppose that the amount demanded rises monotonically with age. A public-health program that postpones death will increase the aggregate demand for medical services. So long as medical services are produced under conditions of rising supply price, that increased demand will generate rents for input suppliers that face inelastic supply conditions.

The basic facts do not refute this line of reasoning. In 1984, health care expenditures for urban consumers rose consistently with age, ranging from \$305 per year for ages 24 and under to \$1,487 per year for ages 75 and over (Bureau of Labor Statistics, 1984). While such a result may hardly seem surprising, it does put the effort to extend life expectancies beyond what would result through market processes into a somewhat different perspective.<sup>10</sup>

An obvious question arises with respect to whether such a rent-seeking investment by doctors is economically sensible. In other words, at prevailing real interest rates, does an investment in an increase in medical spending by promot-

ing a longer-lived population makes sense for physicians as an interest group in present value terms? The answer, in general, is that it is rational for doctors to lobby for older populations and hence increased medical expenditures so long as the rate of increase in spending exceeds the real interest rate. The data mentioned above from the Bureau of Labor Statistics (1984) suggest that this can be the case. For example, suppose an alcohol abuse program resulted in an increase in life expectancy of four years, from 58 to 62. The BLS data suggest that annual per capita spending on medical services would increase by some 15 percent. Given historical levels of real interest rates, this hypothetical investment in an alcohol abuse program could represent a wise investment for doctors. Also, it must be borne in mind that longevity promotion is mostly a free lunch for doctors. Physicians only bear  $1/N$  of the tax-financed costs of public health; hence, longevity promotion (over some relevant range) in the absence of any market failure in the wellness market will almost always pay for physicians as a whole.<sup>11</sup>

Consider now the possible impact of public health upon the disease structure within a society, independently of any effect on the average age of the population. This would describe a world in which a reduction in the incidence of one disease would be exactly offset by an increase in the incidence of other diseases. There would be no effect upon morbidity or mortality rates. If, for instance, the incidence of lung cancer is reduced, the incidence of kidney disease will be increased offsettingly.<sup>12</sup> Within the context of a public-interest model of public health, the allocation of treatment and prevention resources between the two diseases will be governed by relative consumer valuations. But within a physician-interest model, the allocation of resources will be biased toward the less medically-intensive disease. If this is lung cancer, public health will be more fully aimed at lung cancer than consumers would direct, because the resulting lowered incidence of lung cancer would transform those patients into demanders of the more expensive treatment for kidney disease.<sup>13</sup> The basic idea is to change the disease structure of society in a way that increases the demand for medical services and to do so through public-health programs.

## **5. Self-interest in public-interest organizations**

To this point we have treated input suppliers as homogeneous. In particular, we have referred to the general or class interests of physicians as something that can be advanced through public-health processes. But physicians themselves have various interests, and those interests can surely conflict in many ways and along many margins. Public-health processes may operate to generate rents for physicians, but those rents need not be distributed proportionately throughout the population of physicians. Some physicians may gain more than others. In

particular, physicians who are particularly well organized politically and for whom factor supplies are relatively inelastic will gain relative to other physicians. All physicians may gain through public health, but some may gain more than others.

One of the notable things about public-health processes is the participation of non-profit, public-interest organizations. Examples are the Cancer, Lung, and Heart associations. What is the place of such organizations in the provision of public health? Can such organizations be located within the context of the interest-group theory of government? Are such organizations as the American Lung Association and the American Cancer Society illustrations of the interest-group theory of government? Or are they empirical illustrations of the limits of that theory?

To start, the designation of some organization as being “non-profit” is a legal, tax-related designation and not a designation with economic content. There may be many particular reasons why people invest in non-profit and in profit-seeking enterprises, but the same economic principles would apply in both cases: people will choose a portfolio that equates the anticipated risk-adjusted returns at the margin. The same principles that govern investment in companies that manufacture medical equipment govern investment in lung associations and the like – to say nothing of governing investment in politicians through campaign contributions, time donations, and the like.

For instance, most hospitals are organized with a non-profit legal status. But this does not mean that the transactions in which those hospitals participate stand outside ordinary economic incentives and motivation. For there are several ways in which non-profit hospitals can serve as vehicles for advancing the interests of physicians who staff the hospitals. This was demonstrated by Mark Pauly and Michael Redish (1973), who explained how the non-profit hospital can be used as a vehicle for profit maximization by the physicians who effectively owned the hospitals. The hospital would have no net income to show. But this does not indicate non-profit status, but only shows that what could alternatively have been shown as income and then distributed to shareholders was captured directly by the physicians in the first place. Pauly and Redish showed that it would be misleading to treat non-profit hospitals as independent, essentially charitable agencies. While they may be organized on a non-profit basis, they are also essentially owned by the physicians who staff them. Pauly and Redish explained how physicians could use the hospital as an input in their own profit-maximizing activities.

Something similar might be said about the public-health bureaucracy, including such private components of that bureaucracy as the Cancer, Lung, and Heart Associations. For instance, the American Lung Association might be seen as an agency that increases the aggregate demand for pulmonary services, just as the American Cancer Society operates to increase the demand for onco-

logical services. There are a number of ways in which such a process might operate, all of which can be seen in one way or another as increasing the demand for the services of the medical specialties they represent. For instance, what constitutes proper diagnostic and testing procedures is influenced by patient perceptions of risk and value, by malpractice awards, by insurance company policies, and by governmental requirements, among other things.

A paternalistic view of such non-profit organizations would find that the net worths of the physicians they are related to have been reduced through an essentially charitable transfer program. A self-interest view would expect to find that those incomes have increased. Those physicians who deal with heart disease should find their incomes increasing by virtue of the activities of the American Heart Association. This could be because the efforts of the association increase the amount of heart-related tests in standard diagnostic procedures, which in turn induces an increased demand for medical inputs.<sup>14</sup>

## 6. Summary

Although the activities of physicians, as represented by the AMA, have long been viewed from a self-interest perspective by economists, public-health processes have not been subjected to such an examination. But just as the conduct of ostensibly charitable hospitals cannot be examined independently of the interests of the physicians who staff them, so too, we think, the conduct of public-health bureaus should not be examined in isolation from the interests of the medical community that they represent. An interest-group interpretation of public health would look to the ways in which public-health processes increase the aggregate demand for medical services, thereby generating quasi-rents for specialized input suppliers. We have explored in preliminary fashion some ways in which public-health agencies may advance the collective interests of physicians, though we would be the first to acknowledge that much work remains to be done on this topic.

## Notes

1. See Tollison (1989) for a recent survey of the literature on the theory of economic regulation.
2. And in keeping in the Coasian spirit, it would also be possible to conceptualize the alternative pattern of initial rights. For what matters is not the owner of the right, but the ability to trade those rights easily.
3. It is worth noting that much of the recent dietary revolution emphasizing the reduction of saturated fat and the increased consumption of complex carbohydrates in the diet was pioneered by such non-physicians as Nathan Pritikin.
4. "Choice," of course, is not so simple as described. But while certainly more complex than

- described, the general idea is that individuals pursue their objectives, whether longer life or more fun, with purpose and efficiency.
5. For a wide ranging description and discussion of a variety of hypotheses, see Eysenck (1986).
  6. We abstract here from issues concerning barriers to entry in the medical profession and whether there is a competitive supply of physicians.
  7. Groups like doctors may organize initially for quite productive reasons, such as the promulgation of professional standards. Yet once organized, the marginal costs of collective action to cartelize and to raise prices are low. Such a pattern of historical evolution is apparent in the history of many interest groups. See Olson (1965) for the original exposition of this by-product theory of collective action.
  8. This pork-barrel type result is not at all unusual in public choice analyses of congressional behavior. See Plott (1968), Stigler (1976), and Crain and Tollison (1977) for related studies.
  9. We have been speaking as if physicians have homogenous interests. This is not the case, as we note more fully in the next section. Physicians will have various interests depending upon their specialities, and so a more elegant version of an interest-group theory would account for struggles among physicians within the physicians' interest groups. Some physicians, for example, will specialize in treating heart attack victims, others in treating lung cancer victims, and so on. In this context our hypothesis is that the replacement of early deaths through heart attack and lung cancer by later deaths in other manners increases the net incomes of physicians. A related point is that age-related illnesses are subsidized by government health-care programs, which implies greater consumption of medical care at later ages.
  10. Should there be some failure in the market for wellness, such life extension might be worthwhile. The rents for physicians would in this case be the vehicle for motivating the market correction. But if there is no failure in the market for wellness, as we argued previously, such life extension would not be worth the cost.
  11. Obviously, the incentives of physicians to lobby for longevity promotion will be a function of the real interest rate and the rate of increase of medical spending with age, as stressed above (less the present value of their tax costs). This suggests that physicians will be sensitive to the way medical spending behaves with respect to longevity. They will not rationally invest, for example, in more longevity where that longevity initially results in an extended period of zero medical spending by the older population and is followed years later by an increase in such spending. Rational investments by physicians will generally require smoothly rising medical expenditures with respect to age, and even in this case, the increase must at least offset the interest rate, or physicians will not rationally support it. Hence, policies might be pursued that would promote increases from age 65 to 75 but not from 75 to 80.
  12. In point of fact, a shift in the structure of disease will also produce a shift in life expectancy. The removal of a disease that would have killed people at age 60 will lead to its replacement by some other disease that will kill them nonetheless, but it is likely that death would occur at some later age.
  13. Indeed, in a public-interest model relatively greater emphasis would probably be placed on the more costly diseases. At base, public-health resources would be allocated such that at the relevant margins, marginal treatment costs would be reduced equally per dollar of expenditure.
  14. Non-profit organizations in the health area have also sometime ventured into the business of selling testing devices or programs related to stopping smoking and the like. It is not clear how general profit-seeking by the non-profits is, but this is surely an issue worthy of further empirical research.

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