

Damaged Goods: Dilemmas of Responsibility for Risk

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MOST 20TH CENTURY AMERICAN PHYSICIANS AND LAYMEN have placed responsibility for health care with the medical profession, on the assumption that the efficacy of health care is largely determined by scientific knowledge and technical skill. Increasingly, precise identification of the causes of disease, and scientific analysis of the differential influence of biological, social, and behavioral determinants of variations in susceptibility, have further tended to weld this relationship between expert knowledge and professional authority. Yet the personal stigmata of contracting a disease and being contagious continue to act as powerful social deterrents to seeking health care, resulting in vulnerability to disease.

In the first decade of this century, Brieux's French play, *Les Avariés*, translated as *Damaged Goods* by Pollack (1911), dramatized the conflict between ignorance and responsibility for the control of contagion. Ostensibly exposing the toll of syphilis protected by prudery, the story unveils the infection of an innocent wife, her infant, and a wet nurse by a man who failed to accept his physician's advice to postpone marriage until he had been treated for active venereal disease. The infected man views himself as the hapless victim of an indiscretion, while the doctor shouts: "Science is not God Almighty. The day of miracles has passed." Faced first by the distraught bridegroom and later by the indignant father-in-law, the doctor insists that both want to be released from personal and social culpability through reliance on the responsibility of medicine

to prevent and cure disease. Today, we learn again that the protection and maintenance of health may depend as much on intelligent decisions about life-style as on the expert knowledge of medical professionals (McDermott, 1978).

But effective medical care, whether oriented toward the individual or the larger population, is and has been the product of both scientific competence and social circumstance. And the criteria of adequate care in what has been called "personal encounter medicine" are crisscrossed with the priorities of public health. A population profile of susceptibility to disease may be drawn from epidemiologic and demographic analyses. Health service policy and practice are further constrained by political and social opportunities as well as by vaguely articulated social goals (Rosenthal and Fox, 1978). The choice of methods to control contagious disease in public health practice is no less determined by economic resources and social commitments than are decisions undertaken in personal health care (McDermott, 1977).

Framework: Historical Review of Risk

Rational reconstruction of the achievements that have led to better health tends to smooth our perception of the road to progress. To identify some of the dilemmas that antedate and influence our current perceptions of risk of disease and responsibility for health care, this paper is divided into three sections briefly summarized below:

1. *Relationship Between Physicians and Patients.* Historically, the physician/patient relationship has been characterized by confidence in the superior competence of scientifically trained physicians to evaluate and "conquer" threats to health. Confidence in professional health care, however, evolved from the circumstances in which patients relied on physicians' social role and judgment as much as on their scientific acumen. The authority of medical professionals to establish the criteria for health care emerged as they regulated the conditions of their work. Both social custom and the formal organization of medical practice continue to reflect the doctor's preeminent responsibility to determine standards of adequate health services.

2. *Concepts of Susceptibility to Disease.* Responsibility for the distribution of health care has been affected also by changing concepts of susceptibility to disease. At the turn of the century, new scientific knowledge about the bacterial origin of contagious diseases raised questions about the relationship between personal behavior and social circumstance as determinants of vulnerability. Social scientists saw health as a reservoir of vitality that could be enlarged if medicine guided hygienic behavior and harnessed public resources. At the same time, many physicians in both private practice and public health were more impressed with the *limitations* of science to affect pathology arising from either the environment or personal liability.

Early 20th century campaigns to control the venereal diseases exemplified the mixture of moral admonition and medical intervention that emerged from the difficult task of providing health care when susceptibility was defined as exposure to disease. Medical care of the venereally infected placed effective responsibility in a context that necessarily implicated the carrier of disease. Moreover, social hygienists, public health authorities, and private physicians found that the criteria of prophylaxis, diagnosis, and therapy depended on normative judgments that were subject to political, economic, and social influences. Treatment without penalty for exposure seemed to incur future risk; simple access to medical therapy seemed often to contradict both social policy and scientific competence. Yet there was little evidence that medical care as such could, or should, assume a more intrusive role in general education or social reform.

3. *Uneven Distribution of Risk.* Whether self-inflicted or created by circumstances beyond the control of the afflicted, the uneven distribution of risk has also circumscribed the delivery of adequate health care. The organization of medical services in the United States has placed a premium on the assurance of standards established by accredited scientific practice. The inherent inequity in needs for health care, originating from differences in biological and social resources, has been recognized; but the social, economic, and psychological costs of resolving differential risks are so great

that most Americans are unwilling to subscribe to the political and professional consequences of consciously reallocating health care services. Furthermore, both physicians and the public remain convinced that competence and a *singular* professional authority are essential attributes of effective medical care.

Relationship between Physicians and Patients

In the past few years, many thoughtful medical professionals have elevated patients to an unaccustomed position of responsibility for the protection and promotion of their own health. Today, ordinary men and women are advised that their health status depends largely on responsible adult behavior. The news that what we eat and drink, how much we sleep, how long we work, and how much we exercise are significant determinants of health has been received by the public, not altogether surprisingly, with a mixture of enthusiasm and skepticism.

After all, for decades people have been told that their health depended on an annual checkup by their family physician. The advances in medical technology since World War I have encouraged physicians to advise preventive hygienic maintenance much as automobile salesmen urge regular car inspection to detect mechanical flaws and reduce the risk of breakdowns. When physicians delivered medical care to the sick, their attention focused on their patients' symptoms. When patients received treatment, however esoteric or mundane, whether restrained, expectant, or heroic, they gained some understanding of the physician's estimate of their illness. Although the treatment prescribed was based on the physician's professional knowledge gained from both scientific training and clinical experience, the choice reflected accommodations to the particular needs and expectations of each patient. The responsible doctor classified both the disease and its victim by selecting evidence that amplified and corroborated professional judgment. In the recent past, in sickness and in health, most educated Americans expected physicians to determine the criteria for personal hygiene, detection of asymptomatic pathology, and prescription of therapy.

In this setting, patients "presented" themselves. When patients

enjoyed good health, they expected both insight and foresight from doctors. When in pain, they presumed that their symptoms would be understood by physicians who could interpret the data from personal histories, physical examinations, and laboratory tests. Patients expected that their doctors could transform their personal disorders into the objective signs of scientific pathology.

When historians, fortuitously, joined physicians at the patient's bedside, their observations confirmed the patient's expectation that the physicians' art and science are designed to serve the patient. Although logic would suggest that historians should focus on the patient, modesty presumes another course, since historians must interpret the patient's condition through physicians. As laymen, historians measure the gravity of illness by attention to the artifacts of illness and treatment. If the curtains are drawn, for example, historians assess the patient's state more gravely than if the room is filled with sunshine; if the bed is encumbered with an oxygen mask or mechanical devices to aid respiration, they will hardly notice the familiar stethoscope and thermometer. They have seen the central figures in this scene to be physicians, whose demeanor and appearance tell them about the patient and the objectives of therapy. For historians as well as patients, it is the competence and authority of physicians that explain the scene.

Although the relationships between physicians and patients are highly personal, the basis for mutual understanding has been fundamentally altered in this century by shared confidence in science. Despite warnings that science cannot produce miracles, the disruptive consequences of disease have been reordered primarily by scientifically authorized medical institutions and practices. Personal and social experiences that define and determine health and disease have changed because of the expectation that the relationship of cause and effect discerned in nature permits scientific medical interventions. Physicians and patients have continued to acknowledge that mediating personal exchanges shape their encounters with each other and with the intrusive agents of disease, but at the same time they have come to depend on science to mitigate and justify the differences that separate them. The highly specialized knowledge of disease, which has been gained in part through manipulations outside the patient, is mutually valued as evidence of the control that rescues illness from the unmanageable, subjective experience of the individual case.

Patients' Perceptions of Medical Authority

In the United States, where in the 19th century the medical profession was often distrusted, it is all too easy to suppose that public confidence in physicians emerged gradually in the 20th century, as mortality and morbidity statistics certified the increasing efficacy of biomedical science. But a search through the literature available to turn-of-the-century physicians indicates that they were far from assured of criteria for the delivery of services. The hospital, which is today the center of scientific and technological medicine, was not always perceived as the most advantageous setting for medical care. For most of the 19th century, the preferred locus was the patient's bedroom. Some middle-class patients visited their physician's office on routine matters, but on the whole the sick who paid for health care were visited at home. Doctors saw the urban poor in dispensaries, or in cases of grave illness they provided "domiciliary care." When distressing home conditions or special interest entered consideration, patients were removed to hospital wards. It is well documented that the 19th century American hospital was not intended to be, nor did it serve as, the standard of the finest medical care available (Rosenberg, 1974, 1977; Vogel, 1976). We cannot use hospital utilization rates for the 76 million residents of the United States at the end of the 19th century to measure confidence in medicine. The fraction of the population that occupied hospital beds had gained access to the welfare rather than health care "system." For Americans of means, delivery of optimal health care was determined by the degree of familiarity of the physician to the household. The symbols of authority were unpacked from the physician's bag in the sickroom. The delicate negotiation between physician and patient rested in large measure upon a mutual trust that was all too easily disturbed by the introduction of these alien instruments.

In 1882, a Baltimore physician, Daniel Webster Cathell, published a book that he dedicated to Austin Flint, a physician of accredited excellence, "in admiration of his various contributions to scientific medicine, and his untiring devotion to the welfare of our profession." Cathell's volume, *The Physician Himself and What He Should Add to His Scientific Acquirements*, was repeatedly revised and republished during the next four decades (Rosenberg, 1975). In it Cathell advised young physicians to use "the stethoscope, ophthalmoscope, laryngoscope, the clinical thermometer, magnify-

ing glass and microscope, making urinary analyses, etc.” not solely for accuracy of diagnosis but also to “add greatly in curing people by heightening their confidence in you and enlisting their cooperation.” But the complex process of reassurance taxed therapeutic and psychological insights. Young doctors were advised to adjust their treatments to suit the individual and warned off from patent medicines and casual prescriptions that might lead the patient to self-medication. They were also directed to refrain from undue reliance on “new or unsettled theories based on physiological, microscopical or chemical experiments.” Cathell repeatedly insisted that the appurtenances of science were “but *one* of many elements that make the unit of medical skill.” Differences between patients meant more than attention to the idiosyncracies of individuals. Health care acknowledged social circumstances as the ultimate determinant of susceptibility to disease as well as the efficacy of treatment. Medical practice, at the end of the 19th century, illuminated rather than eliminated these factors.

Cathell’s advice can be viewed in part as careful social engineering. New knowledge about the bacterial causes of communicable disease aroused uneasiness as well as hope for improved medical care. At a moment of insecurity, the physician cautioned the patient to remain loyal so that prudent management of illness could be maintained. The “good patient” should not take his or her ailments to a strange practitioner, although the doctor might, as always, call in a consultant for additional judgment. Since the physician’s intimate knowledge of home, family, and person remained the hallmark of medical wisdom, this measured caution protected both the patient’s health and the patient’s view of professional competence.

The new scientific knowledge that identified the specific bacteria responsible for tuberculosis, gonorrhea, diphtheria, and other contagious diseases was difficult to assimilate into medical practice. The doctor’s capacity to treat disease was no doubt potentially augmented by knowledge of bacterial etiology, but, in the first decades of the 20th century, effective therapy for communicable diseases was largely limited to hazardous intervention with diphtheria antitoxin, arduous treatment of syphilis with arsphenamines, and pneumothorax for tuberculosis (Dowling, 1977).¹ Prevention of con-

¹“At the beginning of the 20th century,” wrote Dowling (1977:104) “gonorrhea was probably the most most frequent disease treated by physicians, and estimates of the number of men who had had gonorrhea varied from 48 to 99 percent.” Treatment with synthetic chemicals began as early as 1891, but they had little therapeutic value.

tagion depended mostly on isolation of the sick, and the authority for this advice was gained more from established practices than from the new sciences of bacteriology and immunology. New medical techniques could not challenge socially acceptable methods of restricting exposure to disease; vulnerability to illness had long been associated with both personal frailty and social disorder. Although much disease was caused by specific bacteria, differential susceptibility could not be explained without reference to the personal and social behavior that separated the vigilant and informed from the careless and ignorant. Cathell had cautioned that security for patients and physicians rested with the proper balance of science and solicitude. Medical care must continue to be predicated on intimacy with the patient, taking into account the individual's capacity for enlightened cooperation.

Science was not the leaven that automatically made medicine equally effective for all the potentially diseased and presently sick. On the eve of World War I, successful physicians and their middle-class patients could scarcely conceive that some "standard" of care would fulfill the special conditions that had traditionally guided personal treatment. By the end of the next decade, however, a major criticism of medicine was that its benefits were restricted by patients' incomes rather than their needs. In 1932, the final report of The Committee on the Costs of Medical Care insisted that the maldistribution of health care, unlike the obstacles presented by the biology of disease, was a problem within the reach of science. Confidence in medicine was so high that public funding of health care for dependent mothers and children through the Social Security Act of 1936 was widely viewed as a likely method of reducing morbidity and mortality, even though the specific medical means of intervention were not clear and many physicians opposed this intrusion on their authority.

Contrary to the conventional view, the quest for *more* medical care was generated by the promise of achievement as much as by demonstrated efficacy. In 1941, before the advent of effective chemotherapy for most infectious diseases, Michael M. Davis, an economist with extensive administrative experience in the organization of health services, argued that, although physicians were fearful of the economic and social consequences that might follow from group practice and pre-payment plans, "most of the problems which face both physicians and patients today have been created by

changes in medicine itself." Davis believed that the necessity for more equitably distributed health care would be acknowledged by physicians when "intellectual and technical changes have already altered the intrinsic structure and functioning of the profession and its agencies" (Davis, 1941).² Patients' confidence in medicine, however, already challenged the traditional model of obligation in which physicians set the conditions for delivery of medical care. When medicine bore the imprimatur of science, physicians' powers were surely greater, and their responsibilities were more extensive. Paradoxically, society demanded that pathology should be more broadly identified and controlled, and that physicians should be more responsive to public expectations.

Physicians' Perceptions of Medical Authority

The significance of professional criteria to the certification of competence was greatly stimulated by competition for patients between 1870 and 1910. Against the background of antebellum medical pluralism, in which a variety of therapeutic principles allegedly reflected commitment to egalitarian opportunities, the status of the physician began to be measured by standards of service set by practitioners who identified organizational certification with scientific credibility (Rosenkrantz, 1974). At issue were the excessively large number of practicing physicians, the ready access to improperly qualified doctors and dangerous or useless nostrums, and the legitimacy of determining acceptable standards of clinical practice through licensing and hospital appointments.

Not only the quantity and quality of physicians but also their uneven geographic distribution implied unequal medical services, which threatened professional economic security and demeaned honest efforts to provide good care. The ratio of physicians to population at the end of the century varied from approximately 1:400 along the Pacific Coast, to 1:1000 in the Carolinas. The unsuccessful attempts of physicians to organize themselves indicated the absence of shared peer perspectives. The American Medical Association

²Davis identified the problems as "professional standards and remuneration, choice and change of medical resources, availability and costs of care, modes of organizing service and methods of paying for it." (Davis, 1941:10-11).

(AMA) was a small and an unrepresentative body for 50 years following its establishment in 1847, and most other national associations of physicians had a short life span. Although in the 1900s the AMA grew significantly in both membership and influence, by 1920 it still represented only 64% of the practitioners in New England, where it was best organized, and a far smaller proportion in the rest of the country (Burrow, 1963). Organized physicians who identified themselves through personal as well as scientific standing supported both peer control and legislation so that patients' access to physicians would be controlled. The goal was to limit consultation to those practitioners whose credibility had been established by education and professional accreditation.

At the turn of the century, "regular" physicians argued, somewhat ambiguously, that their authority must be protected both by self-regulation within the profession and by legal exclusion of "irregular" medical sects through restricted licensure. Patients' trust was essential, but hardly a dependable means of accrediting expert knowledge. Despite physicians' insistence that incompetents threatened the health of their patients, even the best trained had little confidence that patients could discriminate between the claims of the quack and the qualified. Attempting to strengthen and enforce state medical practice acts through the AMA Bureau of Medical Legislation, and at the same time warning of the dangers that lurked behind the manufacture and distribution of "ethical" proprietary drugs packaged now by reputable pharmaceutical firms, physicians worried that their efforts to establish adequate criteria were ineffectual (Young, 1961).³ By 1900 the principle that quality would require rigid standards enunciated by the profession itself had already reduced the number of physicians in practice and had subtly altered their relations with patients. The formal boundaries of good health care were further redefined as physicians began to bring their more affluent patients to the hospital for treatment.

Between the first years of the new century, when there were 1382 hospitals, and America's entry into World War I, nearly one

³Samuel Hopkins Adams's serialized exposure of "The Great American Fraud" in *Colliers* (1905) is the best known of many revelations of malpractice to which the American public was exposed. The AMA republished these articles in pamphlet form and distributed them at less than cost to individuals and institutions. (See Young, 1961: Chapter 3).

and one-half as many hospitals were built as in the nation's entire history. By the beginning of World War II there were over 1 million beds for a population of 133 million. Between the Wars, as hospitals became the centers for research and teaching as well as medical care, they also worked as a screen to sift out the unaccredited physician and thereby protect the patient. Surgery dominated hospital practice, and the organization of the American College of Surgeons in 1913 marked the beginning of the most successful attempts to establish a framework of standards for management of hospitals and specialty accreditation that could affect all physicians (Stevens, 1971). The regulatory measures that emerged tended to stamp approval on a large number and range of available consultants. As the right to admit patients to a hospital became crucial to the physicians' public and professional reputations, this new accreditation was one way of assuring a more tangible basis for evaluation of competence. The issue here is not only that the changing locus for medical care affected patients' health and expectations, but also that this shift effectively conferred upon physicians the right to restrict and modify their own practices. Criteria of adequacy emerged in the 20th century in response to these medically defined constraints rather than to the traditional social and medical obligations to patients.

This restructuring of medical care profoundly altered the relationship of physicians and their patients. Confidence was tied more closely to an authority that was at once less easily identified and more pronounced. The new rules that governed both the doctor and the sick were impersonal, derived from the order that hospital management imposed upon the practice of medicine and the sick themselves. Efficiency and efficacy were uneasily wedded, however, as the tensions that physicians faced when responding to patients' varying expectations and needs refused to disappear. Objective scientific diagnosis and rational management of medical services prepared the ground for systematic treatment of disease. Yet, in some instances, the interests of the sick or doctors' perceptions of their obligations to modulate therapy were equally imperious. Ironically, the rigorous science that empowered medical authority was expected to simultaneously provide a more sensitive and a more equitable response.

At the beginning of the 20th century, American medicine was seen by ambitious young physicians as unscientific and inadequate compared to European standards. Twenty-five years later it

appeared differently to a physician whose name was associated with virtually every reform that had taken place in the interval. William H. Welch was quoted in the *State Charities Aid Association News* (1925): "The health field has a woefully ineffective distribution service, as compared with its marvelously effective production service in the laboratories of the world. We know how to do a lot of things that we don't do, or do on a wretchedly small scale." But what Welch may not have seen from his symbolic position as dean of American medicine was that the pressure for better distribution and quality of services was considerably subdued as the rules of practice were set from within the profession itself.

It may be that the establishment of professional standards was almost mandatory once medicine could demonstrate that its distinctive power came from science. Having established the necessity for internal regulation, physicians believed implicitly that the choice of treatment would be predicated on determinations that assured social accountability. In any case, once accomplished, this process required little justification. The notion that conflicting values of patients and physicians were masked by defining adequate health care to meet professional standards became meaningless in the face of advantages widely shared and recognized by both. Furthermore, the hospital, the state as licensing agency, and even professional societies took on the role of "third parties" evenhandedly adjudicating selfish claims; practice was regulated by institutional requirements rather than special interests in a period when "interests" were a well-recognized *bête noire*. No longer was the patient's security dependent upon an individual physician. The emerging criteria of adequacy received the stamp of approval that ultimately made them difficult to question. In the early 20th century, the process of depersonalization, which would later appear onerous, was viewed in a more favorable light.

Recently David Mechanic (1977) argued that "medical care constitutes a complex psychological system of assumptions and meanings that is significantly altered by the bureaucratization of medical tasks and the growing specification of the technical aspects." Assuredly, the history of hospital organization and the social function of hospitalization in the United States compound the invidious implication of a health care system that uses criteria of efficient management and technical efficacy to protect itself from self-examination or sensitivity to social and moral dilemmas. At first glance, the changes wrought by the shift of medical care from the

home to the hospital represent acceptance by both physicians and patients of the mandates of a highly technological science. As hospitals gave up their primary welfare function and became centers for advanced training and research, organization and direction of medical care was tuned to also meet these interests of the scientific physician.

It is thus easy to blame elite physicians for endorsing specialized treatments of rare diseases as a model for general use. More realistically, however, one must look at increased public reliance on the hospital as a place to deposit the social problems of the indigent, particularly the urban poor. By 1940, government hospitals provided 70% of all beds, and these were concentrated in the cities. In 1978, the Veterans Administration and its associated hospitals comprised by far America's largest health-care delivery system. However important voluntary and teaching hospitals have become in setting the technical criteria for health care, the impact of hospital medicine on personal health services largely reflects a widely acceptable approach to the solution of social problems. These are categorized as medical problems once the patient is admitted to the hospital.

Given the history of the medical profession in the United States, it was unlikely that early 20th century physicians would have either the power or the inclination to suggest that scientific medical criteria be employed to solve social ills. Even so, the metaphors evoked by medicine were a powerful inducement to the construction of an idiom that joined social diagnosis and the healing arts. The image of a sick society inhabited by persons whose social condition reflected consequent pathology suggested the potential for scientific intervention. Social reformers were particularly prone to borrow the language of medicine in describing the genesis of disorder. Public health officials, searching for alliances that would facilitate translation of their science into public policy, formed uneasy ties with municipal reformers bent on cleaning up city politics. At the same time, they protected their professional identity through their medical associations. Private physicians, reluctant to share their newly won authority to treat the sick, resisted what seemed to them the confounding of expert and amateur advice. The bright promise of scientific solutions led to different perceptions of the problems that medicine might successfully address. At the social interface, where enthusiastic reformers and medical practitioners clashed, the consequences of these different expectations came into clearer focus.

Relationship between Prevention of Disease and Provision of Medical Services

Health as a Social Resource: Medicine as Public Policy

In the first decades of the 20th century, science opened the curtain on disease as a "social problem." The drama of personal responsibility for transmitting disease and the burden of social obligation when silence led to infection of the innocent were themes that cast the physician and the contagious patient as moral actors. Knowledge about the human carriers of the microscopic organisms that caused sickness indicted the selfish rather than the ignorant. The "conquest of disease" made good theater in part because microbiology and medicine set the treatment of illness as a struggle between good and evil. When Ibsen's *Enemy of the People* raised the specter of one man's perfidy undoing the integrity of a whole community, the lesson pointed to the connection between personal responsibility and social policy. Brioux's *Damaged Goods* (1911) showed the physician effectively muted by the confidential relationship with his syphilitic patient; this young man selfishly ignored medical advice and his contagious condition until unmasked by the condition of his innocent, diseased child. Exposure of such problems on the public stage sharpened the issues, but Americans were already conscious that the growth of scientific knowledge had altered the nature of personal and social responsibility for disease and health.

More than the physician's authority was at stake. At a moment when waste and misappropriation of the nation's resources attracted public concern, rational social management replaced personal temperance as the symbol of public virtue; once health was conceived of as a social resource, the march of medical science led some young social scientists to charge that it was unthinkable for ignorance or selfishness to determine access to health. The enthusiasm and optimism that led to the formation, in 1906, of the Committee of One Hundred on National Health headed by two Yale economists, J. Norton Pease and Irving Fisher, must be viewed against the background of conflicts over authority that faced the medical profession (Committee of One Hundred, 1909; Fisher, 1907). The Committee published Fisher's *Report on National Vitality, Its Wastes and Conservation* (1909), a document of greater public appeal than potential for immediate implementation. Just as the increased im-

portance of hospital-based medicine had redefined personal health care and the boundaries of accountability within the medical profession, so, too, better organization and funding of public health boards in the early 20th century had marked the authority, and the limits to authority, of public health professionals. Fisher's *Report* was predicated on extending these limits. His hope was to rally support for methods and goals that were not automatically accepted as legitimate. He wrote that: "[T]he National Government, the States, and the municipalities should steadfastly devote their energies to the protection of the people from disease . . . [I]t is both bad policy and bad economy to leave this work mainly to the weak and spasmodic efforts of charity, or to the philanthropy of physicians." By such statements he inadvertently prepared the ground for a distinction between social policy for the promotion of health and professional responsibility to treat disease.

Fisher's analyses of the impediments to health were primarily directed to the organization of resources which for the moment lay outside the purview of medicine. In his opinion, the profession of medicine was undergoing a radical revolution, after which preventive rather than curative practice would command public support. There was a higher stage of medicine than treating disease in the individual, "the stage that has been called 'biological engineering.'" He wrote that: "In the development of this science, physicians are turning from private practice to public service and are acting as health officers in federal, state and city governments, as heads of sanatoria and as medical inspectors of schools, factories, mines, and shops." Medical care had been atrophied, Fisher claimed, by its limited concern with manifest disease. Similarly, reliance on the physician in private practice had constricted the influence of medical science to the individual patient. Fisher argued for a new enlightenment in which public service replaced the limits of private health care.

Although Fisher appealed to physicians for information, guidance, and cooperation, it is clear that his intended audience was not restricted to the community of medicine. He attributed the success of medicine to the application of the principles of science to the organization of services. He shared Charles William Eliot's faith that preventive medicine could show how to organize "the defense of society against the evils which afflict it—such as alcoholism, prostitution, and war" (Sedgwick, 1915). Fisher's *Report* concluded with a series of recommendations that took for granted the

desirability of government setting the objectives and determining the means to protect the nation's most valuable resource, human vitality. He used the measure of efficacy that was traditional in public health, the number of deaths that occurred unnecessarily in a given period. Once the public understood that life was needlessly wasted, he believed that medicine would be able to turn from costly and often useless therapies and concentrate on preventive measures authorized and enforced by law. The problem was not so much to generate new knowledge as to guarantee that what was known was utilized to prevent disease. Once this was accomplished, medicine and social policy would be as one. Carried forward considerable distance by his own enthusiasm for personal and public "hygiene" as a replacement for medicine, Fisher looked about and observed that the "present striking change in personal habits of living should be carried out to its logical conclusion until the health ideal and the ideals of athletic training shall become universal." Rather than viewing the physician as the captive of his special ties to his patient, Fisher believed that the normative neutrality of science would make it clear to physicians and the public that impediments to health were social rather than personal or technical.

But during the early decades of the 20th century, scientific knowledge about the bacterial origins of contagious disease did not win the support of physicians in private practice for preventive medicine. At a time when typhoid rates were reduced between 70% and 90% wherever filtration of water supplies was mandatory, the efforts of public health officials to legally enforce the reporting of contagious disease already under treatment was frequently opposed or ignored by practicing physicians. In New York City, when consultant pathologists to the Health Department advised compulsory registration of all active cases of tuberculosis in 1889, physicians resisted compliance, citing violation of their patients' confidence as defense against this intrusion. Despite the inducement of free bacteriologic examination of sputa, most physicians were not persuaded that this invasion of the relationship with their patients was justified. Although antagonism was less vocal by 1910, private physicians believed their responsibilities for health care would be infringed if public authorities, however expert in medicine, determined the scope of health care (Winslow, 1929; Fox, 1975).

Caution also characterized the outlook of physicians involved in public health work. The relationship between physicians' respon-

sibilities for the treatment of diseased persons and the powers assumed by boards of health for control over the contagious was far from clear, especially when restraints involved providing medical care along with isolating the sick. Dr. Charles V. Chapin, Superintendent of Health in Providence, Rhode Island, wrote an interesting dissertation, *What Changes Has the Acceptance of the Germ Theory Made for the Prevention and Treatment of Tuberculosis?* (1888), where he evaluated the relative efficacy of preventive and therapeutic measures affecting morbidity and mortality. Despite his conviction that tuberculosis (TB) was spread only through infection with a specific bacillus—an understanding not fully shared by all doctors at the time—little was known about differential susceptibility to this widespread disease. Chapin concluded that the best hope of preventing TB, therefore, lay in better therapy.

Because of persistent difficulties inherent in preventing TB, Chapin still argued 12 years later (1900) that society was most efficiently served through construction of special hospitals for the care of the sick. The paucity of institutions for patients who could not afford private care raised serious obstacles to the long-term isolation and rest recommended for the 20 of every 1000 Americans estimated to have active TB in 1900. Four years later, a survey of available beds registered a total of 8000, of which 5000 were for the non-paying patient. By 1910, the number had increased to 26,000, still a long way from meeting the prescribed public need (Brandt, 1904; Shyrock, 1957).⁴ Chapin remained skeptical about the health benefits of hygienic education. While he strongly advocated prompt mandatory reporting of contagious disease to responsible professionals, as well as philanthropic support of medical facilities, he had relatively modest expectations of preventive measures. Public health services should be based on demonstrated efficacy, because, as he wrote in a survey of state-supported practices (Chapin, 1915): “The state of flux in the science and the art of preventive medicine render standardization difficult and undesirable except along a few limited lines.” The protection of health and the promotion of general social welfare should not be confused, according to Chapin (Cassedy,

⁴Lilian Brandt wrote her *Directory of Institutions and Societies Dealing with Tuberculosis in the United States and Canada* (1904) for the New York Charity Organization Society after she had circulated a questionnaire to 78 cities with a population of 50,000 or more.

1962). When the validated objectives of the scientist and the avid enthusiasm of the social reformer were not clearly separated, preventive medicine became involved in "the terrible incubus of politics," that most deceptive and ultimately dangerous nightmare.⁵

The young economist, Fisher, and the aging physician, Chapin, were both convinced that science obligated social responsibility for the promotion of health. Precisely how this obligation should be implemented was less clear. Each viewed the state as the instrument of the informed, and saw the public good served through calculated intervention that would unleash personal and social resources otherwise neglected or abused. Fisher and Chapin also assumed that physicians were among the elect for whom personal interest and public service coincided by virtue of knowledge and commitment. Fisher's analysis of the health needs of Americans led him to conclude that the scope of curative medicine would soon be reduced through the application of publicly endorsed hygienic practices. Chapin voiced a far more conservative and constrained viewpoint. He feared that misplaced confidence in preventive medicine would lead to dangerous expectations and subsequent confusions about the legitimate objectives of public health, professional medical services, and personal hygiene. At a moment when prevention and treatment of contagious diseases inspired public confidence in medicine, personal health care was seen by Fisher and Chapin, for quite different reasons, as outside the range of social policy.

Social Welfare and Personal Health

The complex social, medical, and personal problems encountered in the prevention and treatment of venereal diseases (VD) exemplified the futility of a search for simple connections between diagnosis, treatment of disease, and definitions of adequate health care. Prior to the 20th century, VD infection was viewed primarily as evidence

⁵Chapin's findings were reported by the AMA in *A Report on State Public Health Work Based on a Survey of State Boards of Health*, Chicago (1915). His interest in establishing standards through which achievement could be measured and compared was exemplified by a rating sheet on which points were earned for fulfilling various public health objectives. With the potential for 1000 points, Massachusetts, Pennsylvania, and New York each earned slightly more than 700. Other states fell far below. For a biography of Chapin, see James H. Cassedy, *Charles V. Chapin and the Public Health Movement*, Cambridge, Mass., Harvard University Press (1962).

of moral turpitude. "Reglementation," the attempted control of VD through medical inspection of prostitutes, met with stern opposition from moral reformers and most American physicians. Moral reformers objected to the implicit legal acceptance of prostitution; physicians doubted the efficacy of such a measure because of the uncertainty of diagnosis and treatment.

In the early years of the 20th century, advances in medical knowledge dramatically altered the grounds upon which control of the venereal diseases was debated. The same issue of *JAMA* (1907) that carried a somewhat guarded response to Fisher's announcement of the Committee of One Hundred on National Health, also carried an editorial, "The Cause of Syphilis." Noting that years of research confirmed the morphological characteristics of the organism responsible for syphilitic infection, the author commented that though "practical aspects of the discovery are at present not much dwelt on . . . it seems certain that great practical benefit must result." Accuracy of diagnosis seemed most imminent, but in the future the development of a "curative serum" seemed a reasonable hope. In less than a decade, relatively accurate serological tests for diagnosis of syphilis, improved methods for diagnosing gonorrhea in women, and Ehrlich's discovery of Salvarsan as a powerful chemical therapeutic for syphilis, encouraged both social reformers and public health officials in their fight against the spread of VD. Indicative of this greater optimism was the participation of the dermatologist, Dr. Prince Morrow, and other respectable physicians in the treatment of VD, and cooperation with "purity" reformers in the area of social hygiene (Pivar, 1973).

This new alliance was institutionalized in 1914 with the formation of the American Social Hygiene Association (ASHA). Rejecting inspection of prostitutes as an ineffective method for control of VD, the ASHA argued that medical knowledge must be united with social responsibility leading to social hygiene. Rehabilitation was to be achieved through an explicit moral prophylaxis, combining improved medical knowledge and practice, promulgation of this knowledge through education, and, where possible, legal action. For the new social hygienists, repression of vice, sex education, and treatment of diseases were indissoluble. Medical knowledge *could* form the basis for social reform (ASHA, 1919).

Members and affiliates of the ASHA agreed that VD was widespread and, since it damaged the health of both the innocent and

the guilty, was as much a problem of social as of personal health. Of even greater significance, the coalition formed within the ASHA agreed upon the methods and objectives for control of these social diseases. But, ironically, conflicts emerged when there was a public discussion of the goals and methods of achieving social hygiene; the fragile coalition between those committed to reform of behavior and those concerned with medical treatment of the diseased broke down.

In 1910, a debate in New York City on the merits of the proposed Page Law, which would require a medical examination for VD of all women convicted of prostitution and mandatory treatment when disease was discovered, revealed the contradictory assumptions and responsibilities subsumed under social hygiene. Dr. Morrow, speaking for the ASHA, took exception to both the social objectives and consequences of the Law (American Society of Sanitary and Moral Prophylaxis, 1910). The Law was flawed in its social and epidemiological implications because it singled out the prostitute for inspection and possible therapy, while ignoring the disease in her customers. Furthermore, the Law required the police to act as sanitary inspectors, a province of the physician. If physicians aided the police, the medical profession was implicitly sanctioning unwarranted confidence in medical inspection and treatment, since certification implied assurance of freedom from disease. If police assumed authority, it would imply unwarranted professional knowledge. In place of this Law, Morrow proposed obligatory notification of VD in all persons (as in tuberculosis and smallpox) and public education on the consequences of infection. The ASHA believed that the VD menace could only be combatted after public sentiment demanded stringent sanitary measures. "The need," Morrow quipped, "is for general enlightenment and antiseptic publicity."

The arguments of two of the supporters of this bill, Homer Folks and Dr. John Shaw Billings, revealed a different set of assumptions, and consequently a different social logic. Homer Folks, a leader in the movement for professionally organized social welfare and chairman of the State Probation Commission, argued simply that treatment would reduce the prevalence of VD among prostitutes. For Folks, this bill was not a measure to control "the social evil," but merely "a straightforward way of reducing the active foci of disease." It was impossible to keep prostitutes off the streets of New York City, but this law could make them less of a

hazard. Dr. Billings, who was near the end of his long and well-respected career of public service, supported Folks, pointing to the cooperation of 188 prostitutes; only one of the 188 had objected to an examination and therapy when indicated. Without condoning the social consequences of such legislation, Billings saw that the short-term possibility was simply to treat the prostitute as a patient (American Society of Sanitary and Moral Prophylaxis, 1910).

These dilemmas represented conflicting perceptions of the medical and social function of health care that persisted. New knowledge gained from medical science and health statistics reaffirmed previous assumptions of private physicians and public health officials, as well as the social hygienists. The data available showed both the immediate and far-reaching hazards of syphilis. Two bodies of statistics were frequently cited: first, in the Merchant Marine and the Armed services, 20% of all treated illness was for venereal diseases; second, 75% of the children born to parents with syphilis were afflicted with such serious disease of malformation at birth that only 17% survived beyond infancy (Kerr, 1911; Bartlett, 1917; Guyer, 1917). These were the stark realities during a time of improvements in diagnosis, as a result of the perfection of Wassermann tests and the use of dark-field microscopes in the clinics.

The ASHA leaders supported better facilities for diagnosis and treatment. They stressed the importance of reaching middle-class patients, concentrating efforts on popular education, and lectures to educational and religious organizations. All the while, they continued to seek compulsory registration of the infected. The potential divergence between the purposes of persuasion and compulsion was not necessarily apparent. Mrs. Whitin, executive secretary of the ASHA, recommended closing all but seven of 27 newly established clinics when inspection showed that the majority of these facilities failed to meet the association's explicit criteria. These public clinics had become identified with treatment, and she felt they did not adequately assure education and counseling (*Survey*, 1911). Buoyed by evidence that "public opinion has changed . . . [and] there are societies for sex education everywhere," the ASHA appealed for implementation of its entire program. State and local health agencies, in response, began to require registration of active cases of VD. Not surprisingly, as this occurred, the reported rate of VD increased. Social hygienists continued to elucidate the broad objectives that had originally informed this movement.

Dr. William F. Snow, who came from the California State Board of Public Health—the first state organization to require compulsory registration of the venereally infected—took over leadership of the ASHA just before World War I. Like his predecessors, he perceived VD as “a symptom of social and individual disorganization.” Treatment without education could not eradicate disease, both because of the limitations of chemotherapy and because the disease resulted from social and personal characteristics that would continue to lead to exposure. Snow’s paper, read before the section on Public Health Administration of the American Public Health Association in 1915 and published a year later (Snow, 1916), reviewed an earlier report of the Committee on Venereal Diseases that called for education, temperance, personal cleanliness, and early marriage as countervailing influences to sexual promiscuity and consequent disease. Although Snow urged continued support for these measures and argued that they had been demonstrably effective, he suggested that the campaign against VD had reached a new stage. Taking successful work against typhoid fever as his example, Snow now asked that the identification of infected individuals not be the focus of control. In typhoid, aggregate statistics had become the measure of efficacy and “individual patients are not known to the public or condemned, even though many of them might be censured for having failed to protect themselves; and every effort is made to restore their health while protecting the public from infection. Venereal diseases,” Snow continued, “have not been so accepted and recorded largely because of the moral stigma attached to the individual victim. Every effort should be made to direct attention, as in typhoid fever, to the community responsibility” (Snow, 1916). Snow seemed to be searching for an approach to the control of VD that would reduce the onus of personal culpability without totally embracing medical therapy. The alliance he represented, through the ASHA, could not countenance invasion of the physician’s prerogatives or the implication that more promising treatment might free sexual contact from the dangers of disease.

The same statistical data and scientific knowledge led public health officials to a different emphasis. For instance, a physician in the Marine Hospital Service, Dr. J. W. Kerr, observed that the “mode of life and social relations” of merchant seamen made them generally irresponsible, and he expressed sympathy with their plight. Kerr suggested that “the sailor must be regarded rather as a victim

of vice than the purveyor of it." Kerr's enthusiasm for chemotherapy, even in 1911, led him to look forward to eventual eradication of the disease. Education was important as an adjunct to treatment, but the methods of education should be adjusted for efficacy: "The mental capabilities of each must be considered in selecting the facts to be taught." He warned against propaganda, which might lead to fear and disgust that might impede access to treatment. Not only was there danger that the scare tactics of some leaders of the social hygiene movement would lead VD victims to patronize charlatans, but negative attitudes toward the infected would close doors of general hospitals to those very individuals most in need of treatment. "How can a self-righteous population expect immunity from these diseases . . . ," Kerr asked, "when it denies treatment to those afflicted, and even ignores the existence of such infections?" (Kerr, 1911: 195–196). The Permanent Committee of the International Office of Public Hygiene (Geneva) raised a similar concern in 1914. Treatment should be available, it argued (Keyes, 1933), to all classes of the population and "every condition that tends directly or indirectly to prevent or retard the treatment of these maladies during their contagious period should be suppressed radically and without hesitation."

Physicians, especially those whose practice brought them in contact with syphilitic patients and their offspring, implored that: "For the proper control of syphilis, it is necessary to consider the problem from the standpoint that it is a communicable disease rather than as a social or moral problem." It was one thing to advocate education, and another to place this responsibility upon the physician. Legal intervention and imposition of social criteria on medical practice was "scarcely possible within our present political system, except as a war measure" (Bartlett, 1917). Physicians were less sanguine than social hygienists about *preventing* syphilis through education. The needs of the sick were the province of the physician, and the place for the physician to perform his role was not the schools, churches, and public forums, but in medical offices, hospitals, and clinics.

America's entry into World War I came at the time of this confrontation over who should be responsible for VD prevention and treatment. The wartime fever of nationalism that passed through the country kindled a patriotic desire for improved national health, spurring the establishment of health goals and programs. While

adolescents and young adults were suffering and dying in France, public health organizations, women's groups, local political clubs, and other concerned citizens gave their time to teaching and learning the skills required to develop happy, well-adjusted, physically fit men, women, and children. Their efforts led to the passage, at war's end, of the 18th Amendment prohibiting the sale of alcohol, and the Volstead Act (1919) enforcing this measure. During this wartime period, as the statistical data on draftees began to emerge, citizens became increasingly concerned. Intelligence (IQ) tests apparently warned them of the growth of a significant population within the nation with less than average intelligence; physical examinations turned up an incredible proportion of disabilities, not the least of which was the higher than anticipated prevalence of VD among draftees.

On the home front, this national calamity temporarily breached the differences between social hygienists, public health officials, and physicians. As American society believed itself threatened by enemies from within as well as on the battlefield, there was a new alliance formed between social reformers and physicians. Surgeon General W. C. Gorgas, in an address to the American Public Health Association (1918), supported the social hygienists in their plea for extensive education and rehabilitation of America's citizens. Everyone must be informed, maintained Gorgas in words reminiscent of the social hygienists, of the threat VD posed to the nation's health. But Gorgas pointed out that even more was necessary:

For military purposes and the purposes of this war, it would be obviously unwise to wait for any slow process of this kind, and any general degree of education. We have to do as we did in yellow fever, load our gun as we would a shotgun, and fire at everything in sight, and such are the plans we are evolving in the army and around our military camps, appealing to all the assistants we can get, to every possible assistance that the civil population in contact with the army can give us in this direction, and at the same time doing everything we can do in the army towards individual prophylaxis of the men. (Gorgas, 1918)

With this consensus on the need for action, Congress acted quickly to pass the Chamberlain-Kahn Act (July, 1918), which provided extensive education, strict enforcement of laws against prostitutes around army camps, registration and follow-up of individuals infected with VD, and, finally, wide dissemination of therapy for the diseased.

If the figures on VD at induction were appalling, the rate of new infection of men in the American Expeditionary Force confirmed the nation's worst fears about the temptations open to the ignorant abroad. The first troops landing in St. Nazaire had reportedly been met by "a very large number of French prostitutes," and the Medical Corps shortly registered a disease rate of 240 per 1000 for white and 625 per 1000 for "colored" soldiers. Continnence, and prophylaxis where caution failed, were the guiding disciplines. Mandatory "treatment" was imposed upon black regiments who were "found impossible to induce . . . to appear voluntarily . . . after exposure." White troops were exhorted "to maintain that high standard of citizenship which America rightfully expects . . . and return to their homes as clean in person as they have been brave in battle." As French officials protested that the American ban on prostitutes led to sexual behavior dangerous to the health of all French women, the Medical Corps discussed whether instruction on the use of prophylactics increased promiscuity. A peculiar resolution of this familiar debate was reflected in the differential regulation of white and black troops. Medical men reported, after a year's work, that the disease rate was reduced to 35 per 1000. This figure, arrived at by combining VD rates for both white and black troops in 1918, was considered "extremely gratifying" (Walker, 1922) since it represented successful prophylaxis under conditions where "71 per cent exposed themselves with highly infectious women."

At home, the Division of Venereal Diseases was added to the U.S. Public Health Service (USPHS), and the Interdepartmental Social Hygiene Board (ISHB) was created to carry out the mandate of the Chamberlain-Kahn Act. The ISHB distributed \$1 million among the states for the first year's work and made a similar sum available contingent upon matching state funds and suitable programs in the second year. In addition to educational materials, each state board of health was required to report all infected persons, establish the administrative apparatus for locating and treating carriers of VD, and fix penalties for non-reporting. Dr. C. C. Pierce (1918) voiced the determination of the USPHS "to combat this menace to national efficiency in an open fight, and to keep up the work until these dangerous communicable diseases shall no longer menace the welfare of the people, nor posterity need to bear the burden of a tainted heritage." In 2 years, 44 states qualified to receive federal support as they established programs to diagnose and

treat VD in public clinics. Whatever the prior objections to wholesale intervention into medical practice, and whatever the misgivings over providing easy access to therapy, all doubts vanished as the government provided enough support to satisfy everyone concerned.

The justification for this policy, predicated on a national emergency, extended briefly beyond the War. The vocabulary of health care had provided an umbrella to cover the tensions that previously threatened the association of educational programs directed at altering attitudes and sexual behavior, and medical programs directed toward treatment of the diseased. Furthermore, financing of this program was temporarily brought into a medical calculus. The 1922 report of the ISHB argued for mandatory standards of medical care for persons with VD, and justified continued public funds for therapy because:

[E]verybody will continue to pay until scientific research has discovered less expensive and more rapid methods of treatment and everybody will pay until the basic principles of general hygiene, group hygiene, and intergroup hygiene have been made the common educational and informational property of the youth and the maternity of the nation with no longer a discrimination of silence concerning the hygiene of syphilis, gonorrhoea and chancroid; and everyone will pay until provision shall have been made for the treatment and control of illness of venereal disease at least until they are no longer communicable; and finally everybody will continue to pay until protective social hygiene shall have been made an effective part of every community program.

These arguments were not heeded, however, as large-scale federal funding began to be withdrawn, and VD again became a matter for private consultation. Statistical data on the incidence of VD showed a decrease, but no one interpreted this to mean that the prevalence of disease was lessened. Throughout the 1920s, the Division of Venereal Disease (of the USPHS) continued to warn of the dangers of silence, but only those whose social status drew them to public institutions (jails as often as hospitals) received public attention. Meanwhile, social hygienists refocused their attention on educating Americans to behave properly. The social consequences of a new sexual permissiveness attracted more popular attention than did disease; the debate over whether this was pathological or merely an expression of “new freedom” revealed generational, class, and

ethnic fissures in American society which most physicians preferred to sidestep. Treatment of VD and dissemination of information were not reunited until the next national emergency, the Depression of the 1930s.

In 1931, the United States Public Health Service reported that the greatest deterrent to control of VD was inadequate medical care (USPHS, 1931). Not surprisingly, this statement coincided with complaints of private physicians that patients' inability to pay kept them from seeking treatment. At that time, when a course of treatment involved 76 separate office visits, the actual cost of serology and medication was estimated at \$78 for an early case of syphilis; the average fee charged a patient who saw a private physician was \$650, which included laboratory tests and drugs that cost the physician about \$380 (Dowling, 1977:101). Although private philanthropy had been successfully attracted to campaign against TB, VD remained outside the pale of respectability, as potential contributors feared their interest would be misinterpreted. Skillfully using the economic drought to open the conspiracy of silence, Thomas Parran, first as the Director of the Division of Venereal Disease and later as Surgeon General, called for a new federal campaign that would link funding, publicity, and treatment. His widely acclaimed articles and book, *Shadow on the Land. Syphilis* (1937), galvanized Congress and revitalized the social hygienists. With the Social Security Act and further funds made available to the USPHS in 1938, public VD clinics were opened once again. Politically astute public health officials had learned from earlier experience; anticipating that the coalition with social hygienists might be short-lived, they asked Congress to provide long-term funding for treatment facilities.

There were indications from the start that public health officials had different conceptions of the relation between treatment and control of disease than physicians in private practice. Public health officers defined their responsibilities in terms of evaluating and protecting the health of the population; thus, they endorsed registration of infected individuals and used the information to argue for more clinics. Private physicians saw their obligations in terms of personal and permanent relations with their patients. To protect the anonymity of patients who were receiving treatment, physicians frequently did not report VD cases to the local and state boards of health (Cleere, Dougherty, Fiumara et al., 1967). Whether this failure to register symbolized acceptance of the hygienists' notion

that VD was an indication of underlying social pathology, or whether it reflected the private physician's rejection of public intervention in their practice, is immaterial.

The remarkable story of VD and penicillin is too familiar to repeat, except to note the familiarity of social patterns of response to therapy for diseases as resistant to "cure" as some gonococci. The introduction of penicillin in sufficient amounts for massive treatment at the height of World War II no doubt accentuated the enthusiasm of its initial reception. But the discovery of a new pharmaceutical treatment for gonorrhea, probably the disease most frequently treated in private practice at the outset of the century, would inevitably have signalled a change in attitudes toward VD prevention as well as therapy. When penicillin proved less effective than anticipated in gonococcal infections, its overwhelming success in the treatment of syphilis at all stages continued to fundamentally alter VD control. The efficacy of penicillin was not only because of the absence of resistant treponema, but fully as much because improved preparations allowed increasingly shorter courses of treatment. After 1951, the use of benzathine penicillin stimulated the vision of a single injection eradicating the necessity of vigilance and recrimination as well as repeated treatment. As widespread use of penicillin reduced the incidence of syphilis after the War, methods of VD detection that were well established in principle, at least, were abandoned as inexpedient (Dowling, 1977).

Public support for registration of VD and preventive education diminished in the 1950s, although there was reason to believe that exposure had increased across all age groups and all social strata. More permissive sexual activity—hence more "exposure"—had apparently become more socially and psychologically acceptable, although few doctors or informed laymen believed that this acceptance of the risks of exposure was rationally based on more adequate diagnosis, treatment, or increased access to personal health care. On the contrary, both public health authorities and physicians in private practice warned of the increased rate of untreated VD, and disease that resisted effective treatment. Rarely in the past have professional efforts to establish a broad program of prophylactic and therapeutic services been so clearly frustrated by social tolerance of behavior that risked infection. Charles Chapin, with his comparatively modest expectations, would have seen this as confirmation of the limitation of preventive and curative medicine.

Relationship between Knowledge and Authority

Responsibility and Risk

The hope that science would provide both the ideology and the technology for equitable and effective professional health care was neither naive nor callous. The growth of scientific knowledge about disease in the first quarter of the 20th century offered opportunities to improve everyone's health, but Americans were not oblivious to the unequal distribution of personal resources that skewed the relationship between risk of disabling illness and entitlement to professional medical care. Confidence in the march of progress helped marshal support for subventions from federal, state, and municipal governments to compensate for what Fisher (1907) characterized as "the weak and spasmodic efforts of charity and the philanthropy of physicians." If the explicit normative judgments that assigned responsibility for much disease to personal behavior and circumstances could be replaced by objective scientific analysis and insight, then social hygiene and personal habit would become one and the same thing.

However, this suggestion met with a mixed response. While reformers searched the slums and factories to uncover the social conditions in which disease festered, biological and social scientists produced the weapons to compensate for the risks of an urban and industrial civilization. In 1910, ignorance and inefficiency seemed the major obstacles to good health; by the 1930s, ignorance and inefficiency were seen as the symptoms of intractable social and personal pathology. The notion of preventive public and personal hygiene that had inspired Irving Fisher was dwarfed in comparison to the miracles of surgery and medical chemistry. The sanction of effective treatment tended to remove both political and medical professionals from responsibility for the inequities that affected differential risk of disease.

The answer to unequal exposure was sought in more efficient distribution of health care services. Not surprisingly, hindsight gives perspective on the way that medical care justified and legitimated social values. The limitations of therapy were implicitly faced when differential prophylaxis was prescribed for black and white troops in the AEF. The criteria for risk of infection inevitably took into account, however indirectly, those circumstances that appeared beyond

control; preventive practice calculated the advantage of acquired information or the disadvantage of defective behavior as though they were similar, fixed, independent variables. The criteria of treatment measured success in terms of control over active disease; the problem was thus reduced in size, and the solution was more evident. Secure in the presumption that science freed medicine of contaminating subjective influences, curative medical services were judged most effective. The record indicates that it was possible to reach agreement on standards of treatment for specific diseases; conflicts over perceptions of risk, and over those socially acceptable clinical accommodations that acknowledged differential risk, led to social policy and medical practice that emphasized access to medical care.

Although today the financial cost of this resolution is what most Americans find troubling, reflection suggests that the complicated biological, epidemiological, and societal problems that were involved in determining the relationship between risk of disease and efficacy of treatment were most often willingly left outside the domain of medical care by both doctors and their patients. The optimism that once aroused enthusiasm for organizing an array of experts in the medical and social sciences to address these issues gave way, typically, to more modest and less hopeful cost-benefit analyses in the past decade. But persistent tension among physicians, and between professionals and the public, over the criteria of good medical services has remained, despite confidence in science and better health.

Interests and Responsibility

In 1930 Louis Dublin and Alfred Lotka, statisticians for the Metropolitan Life Insurance Company, published *The Money Value of Man*, in which they showed the saving in earnings and lives that followed wise investment in public health. "Standardization and systematization" paid off where knowledge was adequate; costs and services could both be controlled when the administration of established measures was delegated to the laboratory, and public health departments brought "order and uniformity" to the delivery of important health care services. From the most practical point of view, the consequences of uneven risk could be abated. Where knowledge was lacking, Dublin and Lotka advocated unrestrained support of research.

Although they saw no possibility of advertising most risk, they proposed a rationalized program of medical care directed to the family of moderate needs and income. Physicians would certainly not be replaced by public services, although in a "Utopian state of affairs in which no medical services of any kind were needed . . . physicians, nurses, druggists and the cognate trades . . . should be turned aside to more constructive employment,"—but this was "highly academic" (Dublin and Lotka, 1930). For the present and foreseeable future, a realistic commitment to health departments for specific services could eliminate such costly diseases as typhoid and diphtheria. Bringing scientific knowledge and public interest together altered the terms of responsibility. Medical skills could be employed in the service of social policy once objective criteria for health services were established.

For Dublin and Lotka, the choice between public and private medical services depended on efficiency rather than the traditional division between preventive and curative medicine. They assumed that the power of special interests and the importance of subjective values would dissipate once knowledge was sufficient to control disease. Social and personal expenses were greatest when responsibility for prevention and treatment were juggled between the individual physician and patient; efficiency would be enhanced through establishing standards for service that could be objectively assessed. In Dublin's and Lotka's analysis, differences among individuals were an obstacle to be discounted in actuarial terms; imperfection reflected inadequate knowledge. The perspective of scientific management left little room for the reality of biological and social variation.

Health care that found advantages in accounting for the biological and social differences among patients was considered outmoded. Nineteenth-century medical diagnosis had used variability in susceptibility to disease to determine the choice of therapy. Early 20th century social hygienists defined pathology in terms that were sufficiently heterogeneous to compensate for inadequate social and medical authority. Most often, as the etiology of disease was located outside the patient, variation in patients remained, but by the 1930s the strength of medicine was best demonstrated as it focused on the anonymous and relatively "standard" character of disease. The mediation of practice to meet individual circumstance was seen as inefficient, a holdover from prescientific days.

Recently, two health policy analysts (Shepard and Zeckhauser, 1977) have argued that "explicit recognition of heterogeneity can aid the physician dealing with an individual patient in a) formulating diagnoses, b) predicting response to treatment, and c) selecting the therapy that best meets the patient's preferences." They suggested, in a study of several kinds of surgical procedures, that it would be useful to identify the distinguishing factors not ordinarily weighed in determining risks and benefits. For instance, in choosing between surgery and medical management for patients with acute abdominal pain, evaluation of clinical symptoms is refined when the greater variety of causes for intra-abdominal pain in women than in men is systematically accounted for. In the presence of acute abdominal pain, the risk of death from surgery, measured against the risk of death from a perforated appendix, is different for men and women. As Shepard and Zeckhauser note at the outset: "The effective physician is an intuitive statistician." Thus, statistical analysis that introduces population data contributes to the clinician's diagnosis and choice of treatment.

Their study further suggests that the organization and distribution of health services can also gain from explicitly accounting for variations associated with specific groups in the population. Rather than search for characteristics that are common to the population at risk, Shepard and Zeckhauser seek out heterogeneity. If this kind of calculation improves medical care for the individual patient, why not extrapolate to social policy? With insight the authors conclude as follows (*ibid.*, 68):

This information may make some allocation decisions more sensitive politically. This is likely to occur when the information indicates that some programs are particularly helpful to certain ethnic, social, or economic groups, or to collections of individuals with particular diseases or symptoms. Sometimes society may feel more comfortable because certain issues involving fundamental values are not addressed explicitly when resource allocations are made.

More could be said. The implication that, just because social policy has not been clearly articulated, specific interests and values have not been served, would clearly be mistaken. Although it is

relatively easy to show how dominant social values have shaped standards of health care in the past, we delude ourselves if we think another course is possible. More than 60 years ago, Dr. William Snow (1916) advocated that community responsibility replace personal accountability in determining the character of VD control. The community, for Snow, represented an amalgam of values that he believed could offset the constraints of conflicting interests. Seeking a measure of greater freedom for a rigorous program of medical intervention, he looked for a way to bring scientific standards and social criteria into line.

Confidence in the community has less credence today. The search for an authority to relieve society of the dilemmas of choice goes on. If good science cannot abolish inequity, we turn back to the good physician to make decisions that have little to do with medical science. It is deceptively convenient to think that social accountability is merely personal accountability writ large. The physician's role is aggrandized not so much by scientific skill as by the image of responsibility.

There have been moments when this role was shared. One such instance was reported in 1938 when an audience watched a WPA production of the play *Spirochete* (Sundgaard, 1938) which dramatized the conspiracy of silence about syphilis. The play traced the history of the disease and the triumph of scientific diagnosis in a campaign for public support of mandatory serological tests. The message was carried further than intended, perhaps. A reporter from the *Chicago Daily News* (1938) wrote that: "If someone had called out, 'Is there a doctor in the house?' the audience would have risen as a man." But it takes more than theater to evolve effective and judicious social policy. The issues involved in determining criteria for health care eventually face the burden of unequal responsibility as well as heterogeneous risks. Clearly, a society is derelict if it ignores the special claims of the needy; just as clearly, determining need requires rational skill as well as self-restraint and compassion. Despite the colorful scene in the Chicago theater, doctors are not prepared to have their patients act as "stand-ins," and most often patients would not, except in the warm glow of footlights, willingly take on that role. At the same time, the criteria for the social choices required in meeting special needs and allocating services are not likely to be found in the laboratory or the sickroom.

References

- Adams, S. H. 1907. *The Great American Medical Fraud*. Pamphlet. Chicago, Ill.: American Medical Association. (Reprinted from *Collier's Weekly* 1905-1906, vol. 36.)
- American Social Hygiene Association. 1919. A History and a Forecast. A Story. *Journal of Social Hygiene* 5: 553-55.
- American Society of Sanitary and Moral Prophylaxis. 1910. Summary of a meeting, reported as a news event under "The Common Welfare." *Survey* 25 (Nov. 19): 276-280.
- Bartlett, F. H. 1917. Effect of Venereal Diseases on Infant Mortality. *Transactions of the American Association for the Study and Prevention of Infant Mortality (Baltimore, Md.)* 8: 110-120.
- Brandt, L., ed. 1904. *A Directory of Institutions and Societies Dealing with Tuberculosis in the United States and Canada*. New York: New York Charity Organization.
- Brieux, E. 1911. *Les Avariés* (trans., *Damaged Goods*). In *Three Plays by Brieux*, trans. J. Pollack. London: A. C. Fifield.
- Burrow, J. G. 1963. *AMA, Voice of American Medicine*. pp. 5, 22, 49-50. Baltimore, Md.: The Johns Hopkins Press.
- Cassedy, J. H. 1962. *Charles V. Chapin and the Public Health Movement*. Cambridge, Mass.: Harvard University Press.
- Cathell, D. W. 1882. *The Physician Himself and What He Should Add to His Scientific Acquirements*. Republished in Rosenberg, C. E., ed., 1975, *Medicine and Society in America*. pp. 18, 55-56, 121. New York: Arno Reprint Series.
- Chapin, C. V. 1888. *What Changes Has the Acceptance of the Germ Theory Made in Measures for the Prevention and Treatment of Consumption?* Fiske Fund Prize Dissertation No. 38. Providence, R.I.: Providence Press Co.
- . 1900. *State Control of Tuberculosis*. Providence, R.I.: Providence Press Co.
- . 1915. *A Report on State Public Health Work Based on a Survey of State Boards of Health*. pp 193-194. Chicago, Ill.: American Medical Association.
- Chicago Daily News*. 1938. Review of the play, *Spirochete*.
- Cleere, R. L., Dougherty, W. J., Fiumara, N.J. et al. 1967. Physicians' Attitudes Toward Venereal Disease Reporting. *Journal of the American Medical Association* 202 (Dec. 4): 941-946.

- Committee of One Hundred on National Health. 1909. *Report on National Vitality, Its Wastes and Conservation*. Bulletin 30, p. 15. Washington, D.C.: U.S. Government Printing Office.
- Davis, M. M. 1941. *America Organizes Medicine*. New York: Harper and Brothers.
- Dowling, H. F. 1977. *Fighting Infection: Conquests of the Twentieth Century*. Cambridge, Mass.: Harvard University Press.
- Dublin, L. I., and Lotka, A. J. 1930. *The Money Value of Man*. pp. 122, 133–134. New York: The Ronald Press Company.
- Fisher, I. 1907. Report on National Vitality, Its Wastes and Conservation. *Journal of the American Medical Association* 48 (Jan. 19): 251–253.
- Fox, D. M. 1975. Social Policy and City Politics: Tuberculosis Reporting in New York, 1889–1900. *Bulletin of the History of Medicine* 49 (Summer): 169–195.
- Gorgas, W. C. 1918. Venereal Diseases and the War. *American Journal of Public Health* 8 (2): 107–111.
- Guyer, M. F. 1917. Review of Wisconsin “Eugenics” Information. Committee Report on Venereal Diseases and Marriage, with Recommendations. *Transactions of the American Association for the Study and Prevention of Infant Mortality* 8: 101–109.
- Journal of the American Medical Association*. 1907. Editorial. The Cause of Syphilis. *JAMA* 48 (January 19): 229–230.
- Kerr, J. W. 1911. Venereal Diseases Among Seamen of the Merchant Marine. *Journal of the American Public Health Association* 1 (3): 192–197.
- Keyes, E. L. 1933. The Present Status of Venereal Disease Prophylaxis—Social and Medical. *Journal of Social Hygiene* 19 (1): 1–13.
- McDermott, W. 1977. Evaluating the Physician and his Technology. In Knowles, J. H., ed., *Doing Better and Feeling Worse: Health in the United States*. pp. 135–157. New York: W. W. Norton and Company.
- . 1978. Medicine: The Public’s Good and One’s Own. *Perspectives in Biology and Medicine* 21 (Winter): 167–187.
- Mechanic, D. 1977. The Growth of Medical Technology and Bureaucracy: Implications for Medical Care. *Milbank Memorial Fund Quarterly/Health and Society* 55 (Winter): 61–78.
- Parran, T. 1937. *Shadow on the Land. Syphilis*. New York: Reynal and Hitchcock.
- Pierce, C. C. 1918. Public Health Service Problems for the Nation-Wide Control of Venereal Diseases. *Transactions of the Interdepartmental Social Hygiene Board* 9: 157–166.

- Pivar, D. J. 1973. *Purity Crusade, Sexual Morality and Social Control, 1868-1900*. Westport, Conn.: Greenwood Press.
- Rosenberg, C. E. 1974. Social Class and Medical Care in 19th Century America: the Rise and Fall of the Dispensary. *Journal of the History of Medicine and Allied Sciences* 29 (1): 32-54.
- . 1977. And Heal the Sick: The Hospital and the Patient in the [sic] 19th Century America. *Journal of Social History* 10 (Summer): 428-447.
- Rosenkrantz, B. G. 1974. The Search for Professional Order in 19th Century American Medicine. *Proceedings of the 14th International Congress of the History of Science, Tokyo, Japan*. Tokyo: Science Council of Japan.
- Rosenthal, G., and Fox, D. M. 1978. A Right to What? Toward Adequate Minimum Standards for Personal Health. *Milbank Memorial Fund Quarterly/Health and Society* 56 (Winter): 2-3.
- Sedgwick, W. T. 1915. American Achievements and Failures in Public Health Work. *American Journal of Public Health* 5 (Oct.): 1108.
- Shepard, D. S., and Zeckhauser, R. J. 1977. Heterogeneity Among Patients as a Factor in Surgical Decision-Making. In Bunker, J. P., Mosteller, F., and Barnes, B., *Costs, Risks, and Benefits of Surgery*. pp. 56-59. New York: Oxford University Press.
- Shyrock, R. H. 1957. *National Tuberculosis Association 1904-1954*. New York: National Tuberculosis Association.
- Snow, W. F. 1916. Report of the Committee on Venereal Diseases. *American Journal of Public Health* 6: 592-593.
- Stevens, R. 1971. *American Medicine and the Public Interest*. pp. 75-171. New Haven, Conn.: Yale University Press.
- Sundgaard, A. 1938. *Spirochete*. In *Federal Theatre Plays* (Introduction by Hallie Flanagan). New York: Random House.
- Survey*. 1911. Editorial. Pioneer Society With a New Program. *Survey* 36 (April 22): 92.
- U.S. Public Health Service. 1931. Division of Venereal Disease. *Annual Report*. pp. 284-285. Washington, D.C.: U.S. Government Printing Office.
- Vogel, M. 1976. Patrons, Practitioners, and Patients: The Voluntary Hospital in Mid-Victorian Boston. In Howe, D. W., ed., *Victorian America*. pp. 18, 55-56, 151. Philadelphia, Penn.: University of Pennsylvania Press.

- Walker, G. 1922. *Venereal Disease in the American Expeditionary Forces*. pp. 8, 32, 71, 101, 102. Baltimore, Md.: Medical Standard Book Company.
- Welch, W. H. 1925. Quoted in *State Charities Aid Association News*.
- Winslow, C.-E. A. 1929. *The Life of Hermann M. Biggs . . . Physician and Statesman of Public Health*. pp. 131-152. Philadelphia, Penn.: Lea & Febiger.
- Young, J. H. 1961. *The Toadstool Millionaires*. Princeton, N.J.: Princeton University Press.

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