

# National Health Care Reform Minus Public Health: A Formula for Failure

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## INTRODUCTION

**B**ECAUSE renewed energy for health care reform springs from perceptions of risk that center more on economic than on physical vulnerabilities, so too do the remedies. Detailed attention from dozens of consultants to cost containment and to financing universal access to medical services has obscured what should be a decisive distinction between proposals. Do they attend to improving health and reducing disease or only to paying for diagnosis and treatment for those already ill?

Proposals now under serious consideration by the Congress would guarantee Americans payment for doctor visits and hospital services. A great start! But none promises to integrate the medical care system with the public health structure and assure participation of medical care providers in those functions necessary to detect and respond early to health threats. If we accept the pervasive perception that universal access to medical services will address all important health needs, we will miss a magnificent chance to prevent disease—and to hold off unnecessary medical care expenditures. Moreover, if we do not get this right now, the door of political opportunity may not open for a second chance for many years.

Impending health care reform could take advantage of the extensive medical services system, at little additional cost, to accomplish many previously unattainable health goals for the nation, but nothing about the planning process or debate so far makes that outcome seem likely. Repeated references during the debate on health care reform to “access to prevention services” belie a failure to understand the difference between insuring personal health services and assuring

public health gains. The distinction is a strategic one. Public health is grounded in the Constitutional authority to protect the health and safety of the entire population. In contrast, medical care is oriented to the needs of the individual. Medical services can be preventive, curative or palliative. Good medical care can have a favorable effect on public health even if the services were not offered as features of a population-based strategy. But our nation will never achieve optimal health from our enormous investments in the medical care system without explicitly integrating public health guidance and accountability into the reform of medical care management and finance. Medical care is an element of public health, but the sheer enormity of the medical care system means that it is seen as being separate.

Attention to public health authority has waned. Few professionals remaining in the states or in the Public Health Service can imagine how to marry the tremendous momentum for reform of the medical care industry to a public health strategy designed to achieve gains in public health (1). Yet each state needs to make use of the expanding federal role in health care reform and of the state's Constitutional police powers to regulate aspects of medical practice that would achieve health benefits for all. The federal health care reform law should make it possible.

Public health reaches far beyond the current popular notion of prevention, which focuses on individual lifestyle rather than on social, economic, and environmental hazards that few individuals can avoid without strong protective legislation and enforcement by the state. Chemical hazards in workplaces, polluted air and water in residential communities, contaminated food in supermarkets and restaurants, and spread of infectious diseases by people, animals and food all pose health risks that can be reduced more efficiently by public health interventions than by medical care. Even when costly medical services can diminish or cure the harm to individuals caused by environmental exposures, other deadly threats remain for which medical care is impotent regardless of how much the individual or society would be willing to spend.

Medical practitioners and institutions can be effective players in public health by systematically performing certain functions: 1) detecting problems in patients which may provide early warning of health threats to others in the community and reporting these to public health authorities for investigation; 2) relying on public health

alerts to target preventive, diagnostic and therapeutic services; and 3) delivering certain services with high public health value to every patient, even if the patient is not sufficiently aware of the risks and benefits to seek care.

In the following section we analyze why the architects of reform have concentrated on insurance and the organization of medical care while neglecting to integrate public health functions that can conserve resources and enhance effectiveness. Next we identify crucial functions missing from all reform plans, the absence of which will inhibit gains in health and allow unnecessary escalation of costs. We summarize essential uses of public authority, federal and state, to direct and discipline medical care institutions to fulfill their public health potential in concert with public health authorities. Finally, we use immunization to illustrate how medical care can be employed effectively in pursuit of public health.

#### UNIVERSAL SICKNESS INSURANCE POSING AS COMPREHENSIVE HEALTH CARE REFORM

Why has the debate about health care reform neglected public health? Health insurance is a necessity for every American. It buys medical services and avoids personal financial disaster. The ultimate purpose of health care reform as currently debated in the United States is to pay for insurance against the costs of illness. This narrow focus on sickness insurance misses opportunities to improve health, yet it is perfectly tuned to the concerns of the public.

In the 1992 presidential election, concern about medical care and insurance placed second only to that for the overall state of the economy. Insurance is not a luxury but a necessity. During the campaign, the private foreboding of hard-working voters was televised so the entire electorate was exposed to their pain and shared in a growing sense of national insecurity.

Testimonials brought the national statistics to life. An uninsured worker who had lost his health, his job and his life savings to an illness was one of 35 million Americans who had been without insurance during an average month of 1990 and risked the same fate. By 1990 there were 11 million more uninsured citizens sharing this jeopardy than there had been ten years earlier. Another trend was the increasing share of vulnerability borne by families in which someone was employed. Of all full-time workers, 13 percent were uninsured in

1990—and a full two-thirds of the uninsured were workers and their families. Overall, one-quarter of the entire U.S. population—or 63.3 million—had been uninsured for at least one month in a 28-month period during 1986, '87, and '88 (2).

The astonishing rate of growth of medical care expenditures—more rapid than any other part of the consumer price index—is a focal point for apprehension. Patients receive an ever mounting quantity of services. Services are increasingly complex, and cost more per unit to produce. The Health Care Financing Administration predicts that expenditures will continue to grow by 9.2 percent per year. Each year there are new legislative proposals to contain medical care costs and the Congressional Budget Office estimates anticipated “savings” which never materialize. And each year Americans dedicate more weeks of work exclusively to paying their share of medical costs—just over three weeks of average wages in 1980 and almost five in 1989 (3).

Those who foot the bill for medical care—government, non-government insurers, employers, and citizens—are all engaged in efforts to reduce their financial responsibility and to shift the burden to others. Government tinkers with eligibility rules and benefit limitations for Medicaid to limit spending growth. Under these pressures Oregon initiated rationing for Medicaid patients, limiting recipients to those medical services the state deemed most cost-effective. No similar limits have been placed on insurance plans for the more affluent. Insurance companies raise premiums, screen out applicants and limit coverage. This reduces workers' ability to change jobs when a “pre-existing condition” may be grounds for exclusion from the new employer's group plan—if there is one. Employers in the squeeze are likely to increase each employee's contribution or to cut health benefits from the package. According to a 1991 *New York Times* poll, one-third of those with family incomes below \$15,000, and more than one-half of those with incomes above \$30,000, had been subjected to this practice within the previous year (4).

Entirely appropriate national anxiety about health insurance has shaped the proposed solutions. There will be the inevitable protracted battles over details but three characteristics dominate most versions of national health care reform:

First, we will begin by paying for all existing resources in the health sector: doctors, nurses, hospitals, nursing homes, and most of their

administrative staffs. Even health insurance companies or similar entities—and the administrative costs associated with billing and payment—are likely to survive. To assure payment for less than we buy today would result in economic dislocation and slowing of general economic growth. That would be politically unacceptable. The health sector represents almost 15 percent of the gross domestic product and accounts for a comparable fraction of employment.

Second, restraining future expenditures will be a principal goal. The President's advisors envision a combination of rationing and an aggregation of buying power in the hands of "informed" representatives of consumers, employers, and government—not unlike insurance companies or HMOs today.

Third, enrollees will be guaranteed standard or minimum insurance coverage for medical services expenditures. Not everything will be included, so life-saving medical services will undoubtedly come first.

No proposal before the Congress approaches reform from a public health perspective. Yet, if we fail to build into the reformed structure of medical services a way to guarantee those measures that can improve health and dampen the need for medical services, it will be a formula for failure. The costs of unnecessary disease will burden the medical care system, and the health of our people will improve far more slowly.

#### BEYOND INSURANCE: INCORPORATING BETTER HEALTH INTO REFORM

To achieve the full health potential of the one trillion dollars already spent in the health care sector we need to recognize additional ways to improve health, protect life and make effective use of our medical care resources.

The reformers started down one promising path when they anticipated incorporating in the benefit package a class of personal health services known to have positive impact on the health status of the population. Within this class there are two distinct categories: 1) medical services which are protective for the community as well as for the individual, such as immunizations or treatment for tuberculosis, and 2) those which tend to improve health when provided systematically to all at risk. Screening and treatment for high blood pressure or cancer of the cervix are examples. Reformers talk about reaching

optimal coverage for these services through quality control mechanisms, such as "report cards" (5). Today our coverage for pap smears and high blood pressure detection is rarely complete, even in managed care settings (6). Under health care reform, if the quality control approach works, we are likely to see improved preventive services. But will we see successful control of tuberculosis, toxic exposures, and other public health threats?

In 1983, the Centers for Disease Control was planning a campaign to eliminate tuberculosis. Effective antibiotics were available to render each TB patient noninfectious. All that was needed was a systematic way to screen, treat and monitor several thousand people. Yet without organized and accountable medical services, state tuberculosis programs in health departments had no way to insist that providers of personal health services help. Ten years later the situation is far more grave. Resistant TB organisms are increasingly common, rendering antibiotics ineffective, and the national objective has slipped from elimination to control. If medical practitioners had been engaged in the tuberculosis elimination plan that was proposed in 1983, today our nation might not be searching for over a half billion dollars of new money to control the spreading epidemic of multi-drug-resistant tuberculosis which so threatens health care workers and others (7).

In such programs success in public health terms depends on how public health makes use of the medical care system. Public health authorities should be able to deputize health plans and practitioners, engaging them in managing treatment to protect individuals and the community. Success in the face of challenges to health like tuberculosis remains unlikely under reform. Medical care lacks a tradition of reaching out to patients in need of care who may not seek it. Thus we remain unlikely to provide these people with the therapy to treat themselves and protect the community around them. Society as a whole will suffer little if physicians wait for patients to seek medical care for most problems, but we all pay for missed public health opportunities. Later in this paper we use immunization to illustrate how doctors can become more effective protagonists of public health in a reformed scheme.

Fundamental public health information systems and intervention strategies—the health care analogs of smoke alarms and fire fighting—should be integrated into the health reform bundle. Epi-

demology, research and public health information systems are not personal health services. They do not slip easily into an existing niche in medical insurance schemes—the benefit package. But public health systems should be so embedded in reform that they cannot be uncoupled from medical care now or in the future. If cohesion is not assured at the start we will consume our limited resources caring for the equivalent of increasing numbers of smoke and burn victims as preventable problems spread—unnecessarily (8).

The medical care system can do more than respond with targeted treatment. Medical practitioners can and should strengthen public health capacity by detecting in individuals medical problems which might have been preventable if discovered earlier, and reporting such occurrences to the authorities responsible for controlling further exposures. For example, when a physician discovers that a patient with a neuropathy is suffering from solvent poisoning from his job in a plastics plant, it should be standard practice to report the event and the danger to public health authorities who may be able to protect fellow workers. Similarly for lead poisoning, rat bites, and exposures to environmental toxins, the medical practitioner must be linked to public health authorities who can intervene at the source as well as directing populations to early treatment.

Reporting of disease is critical for public health, yet there is no reliable system in place to ensure that doctors will report suspicious cases or that public health authorities will investigate them in the field and in the laboratory and act to prevent additional illnesses. Everywhere diseases are under-reported because physicians do not see themselves as part of a public health system to prevent disease, except for the patients in their own practice. Too often physicians do not make the effort to comply with state reporting requirements because in caring for sick patients they may not see the cumulative consequences of failure to report—or the benefits of public health interventions.

Practitioners can respond to public health information as well as provide it. For example, research may reveal that certain chemicals and physical agents cause cancer, but only many years after initial exposure. For individuals exposed to carcinogens, screening and monitoring may save their lives. Bladder cancer caused by azo dye exposures in the textile industry, as an example, can often be cured if detected early. None of the health care reform proposals as yet in-

corporates a systematic way to identify, contact and offer early treatment to all those at risk. No plan yet contemplates making health plans a clinical arm of the public health departments. At best, plans will be graded for their success in providing preventive services, such as pap smears, to everyone in the plan for whom the test is appropriate.

Optimal public health gains will be more difficult to achieve if populations remain outside the reformed medical care system, that is, if they are not enrolled. From the public health point of view, a policy decision to leave some individuals outside the health care system does not remove their contribution to health or disease in the United States. Yet Congress is already debating just how *universal* health care reform should be, further evidence of inattention to medical care's role in public health. If the Congress chooses to limit insurance for health services to some categories of residents, its members should recognize that there is no economic or health justification for withholding payment and limiting access to those measures which protect the community from the spread of preventable problems.

The precise list of the services for delivery to populations at risk and to populations posing risks to others can be argued about and revised over time as health conditions change and knowledge grows. Similarly, the specific data needed from providers to bolster epidemiological information systems and research will evolve. But all these activities which unify public health and medical practice into an effective and efficient health care system cannot be grafted onto reform after organizational, management and financing mechanisms have been legislated. Instead, the overall design needs to contemplate how to use enrollment, management and finance components as incentives, checks and balances to improve performance and health.

Most proposals appear to isolate public health from health care. They separate medical care spending from the federal and state budgets while leaving public health at the mercy of annual Congressional and state appropriations, where they compete under a spending cap against other popular programs (9). In the 95th Congress, Senator Robert Stafford of Vermont understood the problem, and proposed to establish minimal standards for public health programs before legislating national health insurance (10). The requirement was intended to protect public health programs from the pervasive conviction that national health insurance would solve all health problems, including

those traditionally in the domain of public health. But no system of national health insurance was enacted in the 1970s, and the Department of Health and Human Services (DHHS) never made a serious attempt to develop standards to protect public health programs. While Senator Stafford's contribution remains on the books, it has no practical value in the absence of a standard-setting process within DHHS. Another essential ingredient is political will to make federal funds or participation in a national insurance scheme contingent—for each state—upon meeting national standards for state and local public health programs.

In the absence of structural modification of reform legislation, the political process is likely to repeat the costly mistake of providing chronically insufficient and unstable support for the core public health functions, leaving them on the fringe of the medical care system rather than developing an integrated national system capable of vast efficiencies in the use of medical resources.

When the World Bank evaluated investments that improve health, public health interventions were repeatedly found to be more cost effective than medical services. Even if not all members of the Congress and of state legislatures are familiar with the World Bank's well documented analysis of national health systems around the world, the drafters of reform proposals should be. The *1993 World Development Report* shows that the United States elicits extraordinarily low health value for the economic investment in health services (11).

#### PUBLIC HEALTH AUTHORITY—A NEGLECTED FOUNDATION FOR REFORM

The need to protect the health of the public will not disappear with health care reform. Public health authority will still exist in the states, even if this topic is neglected in federal health care reform legislation. To protect the public, states should be able to harness the medical care system's highly trained workforce, capable laboratories, linked records system, and billions of contacts with the population.

Authority to regulate human behavior to avoid harm and to enhance health, called the "police power," is contained in Article X of the United States Constitution. The framers included this power among those "not delegated to the United States by the Constitution, nor prohibited by it to the States," thus among those "reserved to the States respectively, or to the people" (12).

States began establishing authority in boards of health more than a century ago, and expanded their activities through state and local health departments. Quarantine of people capable of spreading communicable diseases, searches of housing, restaurants and factories for health hazards, seizures of dangerously mislabeled goods, injunctions to refrain from or engage in certain acts, and licensure of practitioners and of facilities to enforce minimum standards of practice have all been sanctioned by courts as legitimate efforts to protect the public's health.

A measure of federal health regulation began early under the "commerce clause" of the Constitution (13). Federal interventions in health have expanded in this century. Food and drug laws, and worker, environmental and consumer protections have invoked federal preemption of state authority. Many federal health programs offer grants and financial incentives to the states. The dominant force is financial assistance under the Social Security and Public Health Service Acts to encourage states to expand services for special populations such as children, the poor, the elderly, and migrant workers.

In many state health departments, federal programs and funding for providing personal services to specific populations have overwhelmed maintenance of core public health functions and regulatory activities. Even as Presidents Reagan and Bush reduced federal funds for domestic programs, states increasingly structured their health and welfare programs to capture remaining federal funds. Medicaid, known throughout the recession in the 1980s as the "budget buster," induced many state health departments to rebuild population-oriented programs into fee-for-service offerings. In so doing, public health administrators, who at an earlier time in history might have been more cognizant of the fundamental role of the state to protect the health of the entire population, became modern managers of medical care for the poor, judged by governors and legislators for their success in reducing state spending and in maximizing the federal contribution. This neglect of public health could worsen with health care reform (14).

No one asserts that states can protect the public's health without assistance. The tools for improving public health, such as surveillance and information systems, research and development for new diagnostic tests, vaccines and therapies depend on national investment and coordination. Health care reform must assure continued support

for the National Institutes of Health, the Centers for Disease Control, the Food and Drug Administration, and programs at the Department of Labor and Environmental Protection Agency created to protect the public health. Yet no health care reform proposal explicitly takes advantage of state public health authority and the federal institutions that support it. Where private medical service providers deliver the bulk of services, public health officials should remember that the states have the Constitutional authority to define the public health and to regulate providers to protect the public health. Where the incentives in the medical care system prove insufficient to protect the public health, states can and should insist on effective and efficient use of resources.

The federal government has resources essential to helping states meet the public health and medical needs of their residents. Federal programs in the Public Health Service should retain and expand their roles in setting health goals for the nation. Federal health care reform legislation should allocate a proportion of medical care funds to states for core public health functions and use the federal guidelines to assure compatible data collection, epidemiological research and reporting systems—and sufficient scope of effort and competence to provide the basis for holding medical practices accountable to public health goals.

Reform legislation should reaffirm the states' Constitutional power to protect the public health, giving them the needed financial and managerial leverage to use the restructured health care system, including its private sector participants, to reach public health objectives. States should translate national health targets into local ones and assist medical practices to improve and contribute to statewide and national gains. Beyond management systems and rewards, the states will need to use their public health authority to regulate medical practice. When attempting to alter physician behavior, it is "especially important that physicians perceive the proposed changes as beneficial to patients (or at least not harmful)" (15). Thus it will be particularly important for public health regulation to be developed and evaluated in conjunction with the medical care system, rather than imposed from the outside.

States' primary contribution under reform will be public health leadership, technical assistance to medical providers, core public health regulatory systems, and management techniques to squeeze

the most health from each medical dollar. Many health departments are unprepared in one of two ways. Some have little experience with regulating medical services, and concentrate regulatory efforts on health hazards in the community. The very idea that such a health department could provide wise guidance and exercise an important measure of control over medical resources may seem incredible. Other departments are principally providers of medical services for the poor and neglect broad-based, strategic public health interventions. These departments seem poorly equipped to exercise regulatory control for the benefit of the whole population. But as poorly equipped as the states may be, they remain the only entities with broad public health authority. National reform architects have neglected to reinforce these powers or to propose any statutory substitute at the federal level.

#### IMMUNIZATION

To illustrate the risks we face if we bungle health care reform and to suggest the shape of a solution, immunization serves as a useful example. This is a challenge President Clinton is already confronting. The basic public health authority of states can be used to make medical services achieve public health objectives. Failures and subsequent success in the United Kingdom suggest that it will be possible, even before National Health Care Reform is enacted, to know whether the Clinton administration and Congress have recognized the public health element.

Immunization fits perfectly into a reformed medical care system. It is a personal health service, like diagnosis or treatment, but is best understood as a public health strategy to reduce the burden of treatment costs and of disease for society as a whole. If, as our nation designs health care reform, we fail to require that public health interventions like immunization reduce the burden of disease, we will pay for avoidable doctor and hospital visits and escalate the tension around rationing of medical care for the ill (16).

A fundamental difference separates public health programs prescribed for populations from decisions of individuals to seek treatment. Immunization, for example, generates greatest savings only when it is applied so completely that disease outbreaks are averted altogether (17). Short of "herd immunity" (a high level of immunity in the population that reduces disease transmission), the unprotected—

unvaccinated individuals and those in whom vaccine failed to stimulate immunity—remain vulnerable.

Historical lessons about immunization, starting with Edward Jenner, the inventor of the vaccine against smallpox, should guide reform. Jenner realized that simply administering vaccine to patients seeking medical care would not fulfill his dream of global eradication. Although Jenner understood them intuitively in 1796, two lessons need to be relearned: First, only systematic immunization of entire populations protects society from epidemics. Second, however central the role played by medical practitioners in administering vaccines, an explicit, population-based strategy must exist to assure participation by physicians and immunization of *everyone* who may be at risk. No society has achieved the public health benefit of vaccines simply by waiting for individuals to seek immunization, even where “access” and payment were guaranteed.

In 1979 the U.S. Public Health Service set national goals, asking each state to increase immunization rates for children from 60 to at least 90 percent (18). A crucial element of the strategy was federal pressure on states to enact and enforce laws requiring full immunization before a child can enter school. The striking operational success of this first systematic program, measured by the number of children fully immunized at school entry, masked a design failure revealed in the 1980s. The initial strategy focused on school age children whose immunization status could be checked on their first day in school. There was no comparable “check point” or enforcement plan for younger children who were not entering school.

About half of preschool children, especially those aged 0–2, remained incompletely immunized. A measles epidemic in 1989–91 brought the error of omission to the front pages of American newspapers. The U.S. Public Health Service acknowledged that a two-year epidemic had resulted in more than 55,000 reported cases of measles, more than 130 measles-related deaths, and 11,000 hospitalizations (19). President Clinton estimated the hospital costs alone at \$20 million for an epidemic that \$1 million worth of public health could have prevented (20). If past experience holds, for every measles death there will be three additional children with permanent brain damage who will continue to add costs to the medical care system throughout their lives (21). The epidemic was diagnosed as due to failure to immunize preschool children on time (22).

For immunization monitored at school entry, public health agencies could rely on practitioners and clinics to immunize children identified to need vaccine. Without a tracking and notification system to alert health authorities and families for each immunization visit, there was no population-based accountability for infants and toddlers, as at school entry. In the 1980s diminished federal public health funding, increasing vaccine prices, and increasing demand on public clinics compounded the problem. Even families who sought immunizations for their preschoolers could not always find them.

A reformed medical care system could cure these flaws and assure timely immunization of preschoolers (and adults, too), but only if practitioners are held accountable to a national public health strategy. Everyone must be guaranteed payment for services and a regular place to seek them. Moreover every person should be enrolled in a medical plan or practice which can be held responsible for the results—full and timely immunization of all enrollees. The difference between guaranteed “access” to medical care for those who seek it, and accountability of medical practices to public health authorities to render services that may never be sought by the consumer, is decisive. Bearing the distinction in mind, immunization is not the only public health service which can make use of a reformed medical care system.

When delivery of vaccines is fully integrated into a universal medical care program, public health support will be required as much as ever. We must assure that cases of vaccine-preventable disease are reported to public health authorities so that vaccine failures can be detected and flaws in the delivery system investigated and remedied. Disease surveillance based on competent laboratories will be needed to detect emerging and re-emerging infections. Our capacity to vaccinate with safe and effective vaccines will also depend on government research and development, and regulation. As a public health tool and because they have usually provided less return on investment than pharmaceuticals, vaccines are unlikely to attract sufficient investment without government assistance.

It is not clear that health care reformers understand the difference between clinical and public health laboratories, and no reform proposal acknowledges the difference or incorporates the public health function in its scheme. Public health laboratories perform tests to determine threats to the population even if there will be no diagnostic

or therapeutic benefit to the individual from whom a sample is drawn. For example, we now have an effective vaccine for H flu type B, a disease which causes meningitis, predominantly in young children. When the vaccine was introduced in the state of Massachusetts it reduced the incidence of the disease by 70% in the first year. Similar results have occurred wherever the vaccine has been delivered universally.

There is no vaccine for other types of H flu, or for the nontypeable strains which also may cause invasive disease. With increased use of the H flu type B vaccine the relative importance of the other types and nontypeable strains is increasing as public health officials attempt to distinguish disease caused by strains against which there is no vaccine from failures of the vaccine to protect vaccinated children against type B. Similarly it is laboratory testing which allows public health officials to identify outbreaks which can be quelled by immunizing children who may have missed one or all doses of the type B vaccine.

Because there may be no clinical benefit to the individual patient to determine the particular strain, many clinical laboratories do not perform the tests. In the absence of a funded public health laboratory or of public funds to pay a clinical lab for this function, the lab may bill the patient or the patient's insurer, either of whom may refuse to pay the claim because the typing test does not enhance treatment. With increasing emphasis on cost containment, clinical labs are likely to avoid such testing. But most medical care reformers have not appreciated the distinction nor have they made provision to assure that technically competent laboratories handle public health testing—and guarantee remuneration. Public health officials also worry that cost containment-conscious physicians concerned only with their individual patients may not think to order these sorts of tests or to provide samples to their colleagues in public health laboratories. Many states are doing less of this sort of testing as appropriations shrink—or are less equipped to produce reliable results as the technology available in public facilities lags behind the clinical labs.

#### UNITED KINGDOM EXPERIENCE

Should one doubt that attention to public health strategies is needed when planning health care reform, consider the history of immunization in Britain. Failure of public health authorities to intervene in the

National Health Service and of medical practitioners to practice public health subjected Britons to forty years of unnecessary exposure to vaccine-preventable disease.

The British adopted their version of national health care reform in 1947 by establishing the National Health Service. Its designers made the erroneous assumption that universal access to and payment for medical services would suffice. It took forty-four years before they understood the flaw in their original blueprint and were able to correct it. We need not replicate that misjudgment.

Since 1947 basic medical services in England have been provided by general practitioners, salaried by the National Health Service. Since the start every child was on the list of a general practitioner paid and equipped to provide recommended immunizations. The vaccines were available free to doctor and patient which eased the process. Even so, in the 1960s children unimmunized against pertussis fueled the spread of frightening epidemic disease. Whooping cough outbreaks were evident in hospital admission rates. How was this happening with universal, fully paid access to medical services?

The answer was almost too simple: medical practitioners left to their own devices were not very good at public health. Even where they administered vaccines to children whose families sought them at appropriate intervals, physicians did not seek out all those on their lists who came in late or not at all. Doctors saw only the individual child, rarely encountering the broader consequences of missed immunizations. In the absence of data showing that practitioners were giving preventive services principally to patients who sought them, never reaching many who remained at risk, epidemic pertussis erupted before health authorities knew national rates of immunization were too low to maintain herd immunity. Even assigning every child to a doctor had not guaranteed high levels of immunization coverage.

Belatedly the national public health agency (Department of Health) asserted leadership and enlisted the medical care system (National Health Service) in a joint effort to avert further epidemics. In April 1990 the Department set targets and reviews for all levels of operation of the NHS. This time they assured good results (23).

By 1991 immunization coverage in England rose from a national average of approximately 70 percent to an unprecedented high of 90 percent for children in every age group. The remarkable and swift

success is credited to a public health strategy adopted by the medical care system. Its elements include: 1) setting numerical targets nationally and at every level down to the individual practitioner; 2) appointing immunization coordinators in every health district; 3) using computers extensively for appointments, recall and identification of defaulters; 4) simplifying the immunization schedule; 5) issuing immunization guidelines that progressively narrowed the acceptable medical reasons for withholding vaccine from a child; and 6) changing the payment system to establish significant incentives to the providers to seek out their patients to reach the new targets (24). Surveillance for vaccine-preventable disease has also been a priority in the U.K. The Department of Health has participated in the development of a rapid field diagnostic test for measles. When fully tested the diagnostic kit will be provided to practitioners in the National Health Service (25).

Although all of the elements were significant in achieving success, the imposition of incentive payments was the most radical departure from custom—and perhaps the essential feature of success. The United Kingdom long ago adopted capitation payments for general practitioners. In 1990 they abandoned a supplemental fee-for-service payment for each vaccination. Instead, they divided compensation for immunization into two payments. Every physician administering immunizations who reaches at least 70 percent coverage is now paid the amount that same practitioner would have received for achieving 70 percent under the old fee-for-service program. Second, each physician who meets the 90 percent target level is paid a substantial bonus—three times the amount paid for 70 percent. No bonus payment is made to any physician who falls short of reaching the target.

Because success was so impressive, new target levels have been set to raise coverage levels to 95 percent of all children (26). British public health authorities have made doctors a contributing part of the national immunization effort, and today no one suggests that a separate public health program is required to achieve universal childhood immunization as public health guidance and support has purposefully been integrated into daily medical practice.

Childhood immunization is a powerful example, but other public health objectives can be realized as well—if we articulate the strategy and assign to the medical services delivery system those tasks its medical practitioners can perform most effectively and efficiently. To-

gether, the federal government and the states should build a system in which:

- medical services providers detect, obtain necessary laboratory confirmation (27), and report cases of disease in a prescribed manner, helping public health inspectors and investigators find and control sources of exposure in the community;
- medical services providers respond promptly with early diagnostic testing and treatment when individuals at high risk (or their characteristics) are identified by public health workers in the community;
- medical services providers reach every member of the population who can benefit individually or when “treatments” are needed to protect others;
- medical services providers know if their interventions are succeeding and if new or different health problems threaten our people.

#### CONCLUSION

An expanded prescription would require the reformed medical care system to perform certain functions systematically that in the past have been optional for medical practitioners or left to health departments by default. The challenge to reformers is to rebuild the core public health capacity of the states to create a competent national system; and to assure that the medical services that we will pay for under health care reform perform certain functions critical to the health of the public. How can we know that the federal reformers are incorporating every intervention that can improve health and hold off unnecessary expenditures? Do they have a thorough analysis of how medical services will contribute to public health? And if so, does their analysis indicate which of these services require assistance and guidance from public health departments? Have they made sure in each instance to *secure* resources for the public health component as well as for medical services?

This advice is not new, but it is timely. Seventy-five years ago, a warning about inattention to public health agencies was issued to the Medical and Chirurgical Faculty of Maryland. It must be heeded today as we reform medical care:

With the appropriations for health insurance running into millions of dollars annually it goes without saying that legislative bodies will not materially increase the appropriations for their health departments. Owing to this fact, there is a decided probability of sickness insurance acts endangering the very existence of State health departments by absorbing all of the funds available for health work. Our statesmen and lawmakers must, therefore, be careful that proper and ample provisions are made for health machinery in any sickness insurance act. (28)

#### REFERENCES AND NOTES

1. Minnesota provides a notable exception. The Minnesota Department of Health has been the state's lead agency for public health since the late 1800s. In 1992 it was designated the lead agency for health care reform. With careful attention to its mandate, the department maintained a clear sense of its dual role in designing legislation for reform. A departmental discussion paper, "Public Health in a Reformed System," Minnesota Department of Health, September 1993, divides the state agency's responsibility into two subsystems: one for health care and one for local public health. The two have parallel and integrated responsibilities as envisioned by the department as of September 1993. These principles were translated into a bill filed in the Minnesota legislature for consideration in 1994.
2. Himmelstein, D. U. and Woolhandler, S. *The National Health Program Chartbook*. Cambridge: The Center for National Health Program Studies, 1992: 3-7.
3. *Ibid.*, 1.
4. *Ibid.*, 18.
5. In the Clinton plan a National Quality Management Program would develop a core set of performance measures that would apply to all institutions, plans and practitioners. The National Health Board would publish annual performance reports. These have been called "report cards." See The White House Domestic Policy Council. *The President's Health Security Plan*. New York: Times Books, Random House, 1993: 113-4. Title III of President Clinton's Health Security Act, H.R. 3600, S. 1757 provides for core public health functions, but without guaranteeing a source of funding.
6. Even completion in testing the entire population at risk is not sufficient protection. If quality of laboratory procedures is not maintained, results

- of pap smears or other tests become unreliable and of little benefit to prevention and early intervention.
7. Centers for Disease Control. *Addressing Emerging Infectious Disease Threats: A Strategy for the United States*. Atlanta: Centers for Disease Control, April 1994.
  8. Thanks to Michael Osterholm, Ph.D., State Epidemiologist, Minnesota Department of Health, for this vivid analogy between fire fighting and public health.
  9. Even public health specialists, often unfamiliar with Congressional process, misunderstood that the proposed authorizing language in Title III of the Health Security Act in no way guarantees a source of funding. The decision whether or not to maintain these public health functions would be left to yearly appropriation decisions where these programs will compete against all other programs needing discretionary funding. Other reform proposals fail to include critical health functions in their authorizing language in addition to making no provision for funding outside the appropriation process.
  10. Robert Stafford introduced S. 48, "A bill to provide for minimum standards for public health programs directed at identifiable populations," on 10 January 1977. On 1 August 1977, the 95th Congress enacted legislation, P.L. 95-83, that incorporated Stafford's bill, directing the Secretary of Health, Education and Welfare to develop "model standards."
  11. World Bank. *World Development Report 1993: Investing in Health*. New York: Oxford University Press, 1993.
  12. U.S. Constitution, art. X.
  13. A statute gave federal agents authority to detain merchant seamen in quarantine when they were thought to be carriers of dangerous infections; the seamen were provided medical care under the same statute.
  14. Robbins, A. "The Threat of National Health Insurance to Preventive Programs," *New Eng. J. Med.* 293 (1975): 503. Senator Stafford cited this article when proposing public health standards in 1977.
  15. Greco, P. J., and Eisenberg, J. M. "Changing Physicians' Practices," *New Eng. J. Med.* 329 (1993): 1271-4.
  16. For a complete analysis of U.S. immunization programs and their failure to achieve and maintain "herd immunity," see Freeman, P., Johnson, K., and Babcock, J. *A Health Challenge for the States: Achieving Full Benefit of Childhood Immunization*. An Occasional Paper, John W. McCormack Institute of Public Affairs. Boston: University of Massachusetts, February 1993.
  17. Unpublished reports prepared by the Medical Technology Assessment and Policy Research Center for the National Immunization Program, Centers for Disease Control, indicate that up to \$16.30 in direct costs is

- saved per dollar spent (for MMR), and a comprehensive immunization strategy integrating every recommended immunization given on time reaps a cost savings of \$7.60 per dollar spent. See Hatziafreu, E., Palmer, C. S., Brown, R. E., and Halpern, M. T. "Cost Benefit Analysis of DPT Vaccine," *Centers for Disease Control* (19 January 1994); Hatziafreu, E., Brown, R. E., and Halpern, M. T. "Cost Benefit Analysis of MMR Vaccine," *Centers for Disease Control* (25 January 1994); and Hatziafreu, E., Palmer, C. S., Halpern, M. T., and Brown, R. E. "Cost Benefit Analysis of OPV," *Centers for Disease Control* (8 February 1994). Cost savings of vaccine use are even higher when indirect costs such as lost workdays are taken into account.
18. Public Health Service. *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*. Washington, D.C.: U.S. Department of Health and Human Services, 1979.
  19. Public Health Service. *Morbidity and Mortality Weekly Report*. U.S. Department of Health and Human Services, 4 February 1994: 58.
  20. Clinton, W. J. Speech, Fenwick Center, Arlington County Department of Human Services, Arlington, Virginia, 12 February 1993.
  21. Preblud, S. R., and Katz, S. L. "Measles Vaccine," in Plotkin, S. A. and Mortimer, E. A. Jr., eds. *Vaccines*. Philadelphia: Harcourt Brace Jovanovich, Inc., W. B. Saunders Company, 1988: 183.
  22. National Vaccine Advisory Committee. "The Measles Epidemic: The Problems, Barriers and Recommendations," *J. Am. Med. Assoc.* 266 (1991): 1547-52.
  23. Salisbury, D. "The Immunization Program in England," *Proceedings of the 25th National Immunization Conference*, Washington, D.C., June 1991. Atlanta: Centers for Disease Control, 51.
  24. *Ibid.*, 49.
  25. Salisbury, D., personal communication, 28-9 September 1993.
  26. Salisbury, D. "The Immunization Program in England," 51.
  27. This includes laboratory confirmation essential not only for diagnosis and treatment of individual patients, but also to identify presence of new pathogens, or increasing incidence of those thought to be waning or of little significance to public health because they were not known to cause serious disease.
  28. Warren, B. S., and Sydenstricker, E. "Health Insurance, the Medical Profession and the Public Health," *Pub. Health Rep.* 34 (1919): 775-89.

#### ABSTRACT

Universal access to medical services will not address all important health needs. Impending health care reform, guided by public health strategies,

could achieve many previously unattainable health goals. However, such a public health role seems unlikely. Public health reaches beyond the current popular notion of prevention focused on individual lifestyle, yet attention to public health authority has waned. The history of immunization, a personal health service effective only within a public health strategy, illustrates the dilemma. Britain required 40 years of National Health Service before it invoked a public health strategy to assure effective immunization. Reformed health care must perform certain functions systematically that in the past were optional for medical practitioners or left to health departments by default. Reformers must rebuild public health authority in states, to assure that medical services we will pay for under health care reform accomplish functions critical to the health of the public.