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Sounds from a Different Drum

HALSTED R. HOLMAN

Some 14 years ago when I first came to these meetings there was an air of excitement, optimism, and momentum. The impact of modern biology on medicine was widely appreciated, and the academic community was striving to harness this new knowledge to understand perplexing disease. During the subsequent decade biomedical research flourished, and the buoyancy of the late 1950's was retained. In the last three or four years, fortunes have changed. Biomedical investigation has come under sharp criticism, support has been curtailed, and the atmosphere has become subdued and pessimistic, no less in our schools than at these meetings.

In general terms, the reason for the sudden sag in appreciation and support of medical research is the crisis in health care. We now know that precisely during the halcyon days of biomedical research, costs of medical care were mounting astronomically, the availability of care throughout the nation was not appreciably improved, and the indicators of the state of the nation's health remained unimpressive. It is illustrative that health expenditures rose by 50% in the 1960's and that, in 1968, health insurance covered only 29% of personal health expenditures.

The current problems in biomedical research and training have been thoroughly examined by others. I shall mention only briefly what they have explored in detail. Medical research and especially clinical investigation arose in significant part from the incapacity of physicians to understand disease and hence to care for patients effectively. It was a response to the health care crisis of yesteryear created by medical ignorance. The fruits of research in the past two decades are striking in terms of illnesses understood, treatments devised, and suffering alleviated. We are on the threshold of even more impressive gains against major causes of morbidity such as cardiovascular disease, malignancy, emotional illness, and arthritis. Virtually every time that calcula-

tions have been made on the cost effectiveness of research, the money saved through reduction in morbidity, diminished hospitalization costs, and increased work productivity, has far outweighed the costs of research.

The spectacular increase in cost of medical care is not due to costs of research. As a nation, we spend on medical research something less than 5% of our total expenditures for health care, a figure quite consistent with research investment in other developing activities. This relationship may be viewed in another way. There are 17 million arthritics requiring medical care in this country. Arthritis is the second leading cause of limitation of activity. The annual cost of arthritis in terms of lost income and medical expenses is \$3.6 billion. The estimated loss in taxes to the government due to activity limitation from arthritis is \$200 million annually. The total national expenditure on research in arthritis is but \$15 million; this is only 7.5% of the lost tax income alone and 0.4% of the cost of the illness to the public.

Despite the rapid recent rise in medical faculty size, the total number of faculty members, who constitute the majority of medical investigators, is approximately 6% of the total number of physicians in the country. The university hospitals where they work account for roughly 20% of hospital admissions and outpatient visits. In the absence of substantial direct support for the costly process of medical education, the development of medical schools and medical faculties has been in substantial part subsidized by federal training and research programs. It can accurately be said that much of what is basic in our medical knowledge and practice today derives from rigorous study of disease and patients, especially as developed through the National Institutes of Health. Our research efforts are hardly excessive in comparison with the magnitude of either our ignorance or our expenditures on health care. To

curtail our effort in this area would be to mortgage the future health of the nation.

We must recognize however that defense of biological and clinical research, no matter how accurate or spirited, does not address the problem. Just as it is meaningless to attack research as a fundamental cause of the health care crisis, it is equally wide of the mark to defend research without addressing the origin of that crisis.

Certain general characteristics of the health care crisis are evident. Perhaps a third of the population of this country receives good medical care; the remainder receives only adequate care or none at all. Amongst those whose care is poor or inadequate are most of the minority people and those with lower incomes, people who suffer a disproportionately high incidence of disease. Medical care when it is available is predominantly curative not preventive. The costs of hospitalization, special procedures, and physician services have risen so steeply that care for moderate illness is expensive, and the cost of a serious illness is catastrophic. Throughout the country physicians are inequitably distributed in terms both of geography and medical skills. General medical care to the community is less and less readily available. In the past decade physicians' fees have risen at twice the rate of the Consumer Price Index. The physician, once firmly atop a pedestal in public esteem, is now listing heavily under charges of avarice, hypocrisy, and self-seeking.

As these problems have become insistent, the profession has been increasingly challenged concerning its efforts to remedy matters. In medical schools the challenges have been, amidst vigorous biomedical research, a much smaller attention to the health crisis. They rightly view the schools as public institutions built and nourished with public funds. Small wonder then that they call into question the current activities of schools and that public representatives announce that they shall henceforth use public monies to force redirection upon schools.

Under the onslaught of criticism, we and our institutions have undertaken various new actions. We are enlarging class size, training more nonphysician health personnel, analyzing our institutional health care programs, diversifying curricula, and joining in community health projects. This is good. I think it is fair to say however that these steps at times have been taken as expedient measures to decompress hostility or to qualify us for continued public support, rather than as a result of searching redefinition of the obligations of the profession and its schools. As a consequence there is a distinct possibility that many of our new programs will be inadequately designed or sustained, will be in-

efficient or fail, and may result in heightened anger and disaffection amongst the public.

This country needs a system of medical care, teaching, and research, which provides all citizens with attention of high caliber when they are ill, which addresses itself meaningfully to the prevention of illness, which is humane yet efficient, and which creates enthusiastic public support for development including medical research. While these goals are hardly new, they are far from a reality today. Their achievement is a challenge to us and our institutions, which is more immediate and profound than any in medicine our generation has faced.

Knowledge is the product of centuries of man's experiences, work, and thought. It is the heritage of all people; the contributions of each man to the body of knowledge are based upon the efforts of countless others before him. The social utility of knowledge is to permit man to understand himself and his surroundings, and to enable him to better his life and those of others. Knowledge in this sense is not a private possession of those who have attained it; their responsibility includes the transmission of knowledge to all who wish and need it.

The ideal role of the physician embodies this relationship perfectly. He learns what those before him have created, and has the purpose of applying it for the health and well-being of his fellowman. His social role is therefore one of translating human knowledge for the benefit of individuals or groups. It is his obligation to seek means whereby each citizen benefits from the best of medical knowledge.

The organization of medical care in this country has not been based upon these premises. At its heart has been the concept that, once medical knowledge is learned by the physician, it is his possession to sell to those who can afford it. The physician commonly sets the price, and those who cannot meet it are not his primary concern. Guilds of physicians have functioned to restrict the number of physicians and to protect the price structure of medical care rather than to strive to guarantee care for all people. In its baldest form, this is a usurpation of public knowledge for private gain. The violation of social trust which it exemplifies is all the more pronounced when the education of the physician and even his private fees are subsidized by public funds. The contradiction is further aggravated when schools of medicine, enjoying large public subsidy, fail to apply to the study and solution of the health care crisis an energy and a rigor similar to those applied to biomedical research.

The conflict between the public nature of knowledge and its use for private gain may be viewed in another context. As science and technology have grown in power and scope, they have greatly increased the ca-

capacity of man to change nature for good and ill. The uses of these powers whether in industry, agriculture, or urban planning have an impact far beyond the immediate products, respectively, of an automobile manufactured, a crop freed of pests, or a slum replaced by office buildings. The establishment of public control over such actions in order to protect the enduring interests of society has become a major political issue. No less a problem has appeared in medicine. Science has transformed the physician from a kindly but impotent sympathizer with the patient into an intervener in biological processes, who alters the patient through an increasing array of drugs and procedures. Not all of these interventions are successful; many leave the patient changed both physically and mentally. Amongst the obligations which these new powers place upon the physician is the education of the patient concerning the consequences of different actions and the choices before him, and the involvement of the patient or his family in the decisions concerning the course of action. Thus the relationship of the physician to the patient has become a microcosm of the larger relationship between science and society. Our success in defining the doctor-patient relationship in this setting will condition profoundly the nature of the relationship between the profession and citizens in years to come.

From these generalizations I think certain conclusions flow for those of us in medical education and research. First, just as many years ago we defined the absence of understanding of disease as the fundamental impediment to improved medical care and mounted a concerted effort to introduce science into medicine, now we must define those factors which are limiting the availability of medical care and undertake actions to overcome those limitations. Subjects which demand attention include:

- development of integrated, regionalized health care systems which provide comprehensive care, avoid duplication, and are economically efficient;
- training and testing of nonphysician health professionals and their insertion into care delivery programs and health care teams;
- re-evaluation of the role of institutions such as hospitals to diminish utilization by transferring functions to less expensive facilities;
- rigorous analysis of the learning process in clinical medicine so that the structure of clerkships and postgraduate training can be based upon the content and speed of learning rather than upon the convenience of the institution;
- redesign of medical information handling so that practicing physicians can evaluate and learn from their own practices and can engage in clinical investigation in the course of their practice; and

—the development of educational programs in community hospitals and clinics, which will sustain physicians and other health personnel at a high level of performance throughout their practicing lifetimes.

These and similar undertakings will require the same attention and imagination that mark good biological investigation and teaching. Such an effort need not be a substitute for, nor a competitor with, clinical care and biomedical research; rather it needs to be a new third major area of concentration. Just as good biological research heightened extraordinarily our capacity to give good medical care, so success in these programs will add a major dimension to health in our country.

Second, an alliance is needed between our clinical departments and the disciplines of economics, sociology, management, and law, which will bring them to focus on the health care crisis. This alliance would be analogous to that with the basic sciences which provided the foundation for the burst in biological understanding of disease. In some cases one can visualize these disciplines establishing residence in medical schools; in other instances we should reach out to them on campuses and in communities. One consequence will be the training of a new type of physician who possesses simultaneous skills in clinical medicine and these nonbiological disciplines, and who will be an analogue of the physician-scientist of today. Some of these men and women will then join and change our faculties and provide leadership to these new programs. A more important consequence will be the operational recognition that medical care represents a major intersection of science and social organizing, and our schools will begin to reflect that reality in their composition and activities.

Third, recognizing the social nature of medical care, we need to join with citizens and their representatives in the planning and conduct of new health care programs. Fully developed, this approach will have the most far-reaching impact. It will also be the most difficult to do well. It may be visualized most easily in terms of community programs such as those organized by the Comprehensive Health Planning Agencies. There, ours will be the classical advisory role. But much more is needed. If good medical care requires a partnership of physician and patient, then the organization of health delivery systems requires a partnership of the profession and citizens. In the partnership physicians will have a significant voice in the design and function of a health care system; citizens will have a significant voice in the types of services provided and the performance of the installations in which physicians function, teach, and do clinical investigation. No longer will the physicians dominate the decisions; they will function by persuasion or they will experience

great difficulty. Are we prepared for this? Not well, if at all. Our traditions are more geared to domination, or to the form of consultation but not the substance. We will need faculty and administrations who perceive community problems, who can work imaginatively at the interface between science and society, and who are gifted at community organizing. We will need to seek and be responsive to community views concerning the quality of our services, the patterns of our teaching, and the sensitivity and purposes of our research. Such circumstances are not entirely foreign to us. We have long dealt with Boards of Trustees or Directors and Visiting Committees of Laymen. Their successors in the new relationship however will be far more representative of the community served, far more involved and critical, and probably far more helpful to us. If we can bring our minds and our schools to welcome this, or at least to tolerate it, the needed partnership will be born.

It is often argued that these approaches are not the responsibility of educational institutions and that by embarking upon them we will damage the quality of existing programs. This is a common argument against change and was employed against the introduction of science into clinical medicine. This Society and most of our departments stand as evidence against its validity in that setting. Expansion to encompass science improved rather than harmed clinical medicine. In this new setting, change will be harmful only if we do the job poorly. If it is true that our fundamental obligation is the improvement of health, and if there are major obstacles to that improvement at present, then there can be no greater obligation for institutions of medical education and research than to address these impediments vigorously.

It is also argued that such departures will significantly alter our academic institutions to their detriment. That they will be altered is true and desirable. That the alteration will be detrimental is untrue. Institutions have no intrinsic worth; they exist to serve purposes. Their value is gauged by the quality of their performance. The scientific revolution changed medical institutions strikingly. New change is now essential for

us to meet new obligations. History is cluttered with the rubble of institutions which could not respond to their times.

Institutions have character, even personality. They are warm or cold, responsive or rigid, farsighted or complacent. These attributes determine our allegiance to them. Institutional immobility is quickly recognized, especially by the young, and leads to attrition in allegiance, a condition widely apparent in education today. It will be precisely our capacity to welcome and to accomplish change which will make our institutions exciting and vibrant places to work in the future.

Finally, it is asserted that such changes will undermine our scientific thrust. I would argue the converse; they are essential to safeguard it. Because scientific knowledge is public knowledge, because its development is publicly sponsored, and because its effects upon the public are profound, science must be understood, used, and appreciated by the public. Through their involvement in the planning and organization of medical care, citizens will come to understand its complexities, and its educational and scientific needs. Thereby, physicians, educators, and citizens will become allies in support of the extension of knowledge, not adversaries. Thereby also the conditions will be created for both health and science to thrive.

It is easy to criticize others for the health crisis and to leave to them its resolution. Both the American Medical Association and the Pentagon deserve to be scalded for their respective, deep contributions to the crisis. But can we in clinical departments recognize our own culpability, born of neglect and myopia, and change ourselves sufficiently to make a critical contribution to the solution? The stakes are high; the health of our nation and the health of our medical institutions are both in the balance. Nothing short of new directions and changed institutional character and structure will do. The changes will be difficult, especially if we are to assure quality in the new. But if we succeed, we will recapture enthusiasm, excitement, and the exhilaration of accomplishment. And it will not only be present at these meetings, but also everyday in our institutions.