

## II. THE TEACHING OF PREVENTIVE MEDICINE IN EUROPE AND IN THE UNITED STATES

E. MAURICE BACKETT

### INTRODUCTION

Preventive medicine is alone among the disciplines of the medical school in being in no strict sense a specialty. To a world increasingly full of esophagologists, electron microscopists, and cytogeneticists, the teacher of preventive medicine is a generalist, and as such he must get used to the low status which is nearly always associated with a lack of specialization.

Evidence from many countries produced in the Technical Discussions at the Sixteenth World Health Assembly<sup>1</sup> suggested strongly that status was not the only thing lacking from departments of preventive medicine in the medical schools of the world. In addition to status, the glamorous departments of specialized curative medicine had more than their fair share of money, equipment, staff, and premises. This inferior status of preventive medicine was deplored in the World Health Organization Technical Discussions, and attention was drawn to the relatively greater importance of preventive than curative medicine in most of the countries in the world today.

It was emphasized in these discussions that for those countries with either a great shortage of doctors, or an uneven distribution of doctors, much of curative medicine in the traditional sense is not

only a luxury but it is amazingly wasteful of economic resources and manpower. Economic pressures combined with the sheer weight of controllable infectious disease are forcing the rapidly developing countries to pay more and more attention to preventive medicine—both in their medical services and in their medical schools.

At the other end of the development scale, the highly industrialized countries are faced for the second time in a century with a challenge from diseases which call more loudly for prevention than for cure. Yet against this background of changing need the prestige of curative medicine (the “wonder” drugs, the “miracles” of modern surgery) has never been higher. It was felt that perhaps for the first time in thousands of years medical care can offer real hope for a successful cure of many of the more dramatic ills. Small wonder that medical students all over the world have more concern for what they (and the societies in which they live) call *real* medicine; that is, for curative medicine. It is more than money which pulls the student toward the curative medical sciences—though there is no doubt that that is where the money lies. The emotional rewards from the successful treatment of a sick patient, the attractions of a real position of power to do good *at once*, and the less tangible advantages to the physician of the traditional doctor-patient relationship have all conspired—as one delegate to the World Health Assembly put it—to make preventive medicine the “Cinderella of the medical school.”

We in Europe are inclined to believe that preventive medicine in the medical schools of the United States does not suffer so much as with us from these disadvantages. Though getting off to a rather late start, we are inclined to think that United States departments of preventive medicine do not experience our own clear-cut, damaging antithesis—curative versus preventive. We look longingly at them and suspect that, without this impediment, the growing prestige of epidemiology, biostatistics, and the behavioral sciences in medicine is enough to allow preventive medicine to take its proper place in the training of the American medical student. And in a way this is true, but it becomes abundantly clear from the excellent study by Shepard and Roney<sup>2</sup> that not all is well in these departments in the United States.

A number of underlying problems show similar, though of course not identical, features. The sources of conservatism are different, but much of the reaction in the medical schools of the United States to departments of preventive medicine is the same as in Europe. Although the kind of basic doctor which is needed is, of course, different, many of the arguments about curricular decision-making are much the same. The need to foster drives more starry-eyed than "businessman's" medicine is preoccupying teachers on both sides of the Atlantic, and the doctor's role in social policy-making (so much bound up with the changing role of medicine in society) is also worrying us all.

Among the more basic differences between us, the inevitable inevitable involvement of United State departments of preventive medicine in the explosive politics of comprehensive care must come high on the list. Solid conservatives from Britain or Scandinavia may be used to being described by their liberal friends as "far to the right," and it is for this reason all the more amusing to find them supporting what in the United States would be a dangerously radical stance on medical care. The stark problems there, which are often associated with the cost and irregular distribution of medical care, have done much for the teaching of preventive medicine. Few doctors could disregard their implications. Not only is there a burning topic of social policy always ready for creative discussion, but the very lack of uniformity in the distribution of medical care has offered to departments of preventive medicine wonderful opportunities for the development of special local community services. Some of these examples of comprehensive care are well ahead of those in Europe.

In addition, ideas about the need for prevention, ideas about methods of teaching and the content of curricula are, in some schools, well ahead of us in Europe. These differences have been accentuated by a number of differences between European and American medical education and particularly by the much clearer role of the United States Public Health Services in medicine. In Britain, at least, preventive medicine is bedeviled with the controversy about the changing role and the future of the British Public Health Services. At present their status seems low, their prestige

linked perhaps to a past age of privation and infection, and some of their problems rub off on the departments of preventive medicine—nearly all of which undertake the graduate training of public health officers.

And so there are many points of similarity and some of sharp contrast between the teaching of preventive medicine in Europe and in the United States. From them it should be possible to learn how to increase the prestige and contribution of the subject, but this kind of communication is not, and should never be, a substitute for the physical exchange of personnel which is really the only way to facilitate the intellectual exchanges which are needed.

#### SOME IMPRACTICAL PROBLEMS

Most departments of preventive medicine all over the world can be contrasted sharply with other medical school departments in their sheer teaching efficiency, their use of balanced courses, projects, seminars, and visual aid methods. One reason for this is that many departments have a close contact with educationists and learning theorists; another is that the general nature of the subject lends itself to a multitude of teaching methods. A third is the urgent need to capture the interest of students who are often in the process of "seduction" by specialized hospital medicine. It is clear from this and other reports that the main problems in the teaching of preventive medicine lie not so much in the mundane matter of teaching methods, nor even in the content of courses, but in the more complex and involved notions of the purpose and contribution of the subject. In many places preventive medicine comes close to teaching that a new kind of medicine is needed and must be evolved. This is hardly calculated to win friends among those practicing more traditional medicine. In this review (and at grave risk of seeming horribly impractical) a few examples of apparently critical areas have been selected for brief discussion. They are examples only, and it is held that the teaching of preventive medicine will achieve its real contribution in our medical schools only if these and kindred subjects are frequently in mind.

## *The Sources of Conservatism*

There is an intangible "establishment" in medical education as in most other aspects of medicine. In Europe "the establishment" reflects the curative European tradition and finds its apotheosis in the great teachers of the recent past. In an amusing leader in the London "Times"<sup>3</sup> the whole notion of preventive medicine (that is, any aspect of medicine practiced without the sick patient calling for help) was ridiculed and derided. The *emotional* origin of the antagonism was clear: "The time of doctors is too valuable to waste on examining the transparently hale and hearty when there is an unflinching supply of those who are really sick." The *intellectual* notion of the economy of prevention, of getting there in time, and of the adjustment of ways of living to preserve health was out of the question. Maintenance medicine was just not understood. Health was the absence of *felt* illness, and the folly of equating demand and need was perpetuated.

In Shepard and Roney's account of the teaching of preventive medical education in the United States, we sense the same kind of reaction, though probably its determinants are different. "Preventive medicine" (and particularly the one department calling itself "Social" Medicine), probably has more political connotations in the United States than in Europe. The impressive advocacy of comprehensive care and the striking political cleavage of American society over this and kindred issues makes neutrality impossible, and the medical schools seem to divide more on political grounds than do the Europeans. But behind the politics it is possible still to detect the same underlying notion, which is so common in Europe, that curative medicine is the only *real* medicine.

In one aspect of this struggle for recognition, the teachers in the United States may have a real advantage over their European brothers. To most doctors in Europe, preventive medicine still means clean water and milk, and vaccination, whereas in the United States there seems to be not only a *popular* demand for *personal* preventive measures to protect the health of the family, but the medical profession also recognizes this need. In their attitude toward the

prevention of a wide range of problems from heart disease to such "peripheral" problems as delinquency, neurosis, or motor vehicle accidents, doctors play a larger part—or at least some of them do.

So the opposition to preventive medicine may be more clearly defined in the United States, but then the subject itself is more clearly defined; there is not so far to go as there is in Europe. The greater familiarity with personal preventive medicine is reflected in the curricula of the teaching departments in the medical schools.

### *What Kind of Doctor?*

Most discussions about the kind of doctor we seek are fruitless, though there would be general agreement about the resilience and adaptability required of the product. Perhaps it is here that we are most in agreement. Almost all teachers insist on this one theme: that the doctors we are producing should be able to change to meet changing circumstances.

Three categories of medical change are going on in our respective societies, and to be the kind of doctor which we need, our medical students must learn how to adapt to each. First, there are the changes in the diseases with which we are faced; next, there are the striking changes in the demands of society on medicine—particularly of our patients; and, finally, there are the dramatic technical developments in medicine. Unless we can teach our students how to adapt to these changes, our educational efforts will be far from successful. In each of these areas of change preventive medicine has made substantial theoretical and practical contributions; in fact, the changes that are going on are themselves a call for more attention to preventive medicine in the medical curriculum and, indirectly, evidence of its stature as a subject.

In both European and American societies, long-drawn-out chronic disease is rapidly replacing the short-term diseases of the recent past. Chronic degenerative diseases will soon account for well over 50 per cent of the mortality in both our cultures, and with their rise in importance comes a new frustration for curative medicine—for very little success follows treatment if we wait for the disease to present itself. This would be a new frustration for preventive medicine, too,

if the chronic degenerative diseases were evenly distributed through our populations. In that case, preventive measures might hope for little success. However, secular, economic, and social differences in the experience of these newly important diseases prove conclusively that the environment is involved in their etiology. But this is unlikely to be the crude environment of, for example, industrial toxins, dirty drinking water, or of excessive heat or cold (the orthodox items for the attention of the environmental control experts). We are more likely to be involved with subtle differences in ways of living as predisposing factors, and these are likely to be much harder to manipulate than was the drinking water or the milk. Here is what has been called a new challenge to preventive medicine—certainly it is a new challenge which threatens to upset many of the preconceptions of ordinary medicine. For one thing, the doctor can do little to help if he waits for symptoms to present themselves. His new role is likely to be much more that of a maintenance man—maintaining the health of a well population.

Patient demand for medical care of different kinds is changing quickly in Europe as well as in the United States. In Europe the enormous biological sophistication of highly educated populations is already showing signs of producing a new demand for personal preventive medicine, as well as for increasingly high-quality care in the face of chronic disease. It is also changing the traditional doctor-patient relationship in a way which does not always please the doctors. Not only do patients now know a lot about disease and the factors which predispose to it, but they also know that much of the traditional medicine we associate with “curing the sick” is irrelevant in the face of the need to combat the chronic diseases. These changes, which are of particular interest to preventive medicine because of its stake in the organization of medical care, are only grudgingly conceded by the medical profession.

Medical technology is progressing at an almost alarming pace, and having pride of place in this advance are the new techniques in medical statistics and computing. Because of the association in preventive medicine of epidemiology, biostatistics, and survey medicine, departments of preventive medicine are particularly involved in these re-

cent changes. It has been said that the art of medicine is truly giving way to a science in which there is quantification of everything—from prognosis to the transference situation. Knowledge of the “longitudinal picture” or “natural history” of many diseases—vital to any preventive approach—has come largely from the epidemiologists working in departments of preventive medicine. This kind of basic descriptive epidemiology is probably the single most important contribution of preventive medicine in recent years. But the next steps are even more exciting. Data linkage, the sophisticated joining of summaries of all medical records, the development of so-called “population laboratories,” the unraveling of the epidemiology of cardiovascular disease and some cancers, and the endless applications of predictive techniques in medicine lie in the immediate future. The final application of all this new knowledge is in prevention. The medical student of today must be able to understand these techniques and he must be able to use and apply them in his work. His chances of learning all about this “brave new world” (a world much more concerned with preventive medicine than ever before) are brighter than they have ever been—at least it appears so in some European and quite a number of American schools. Yet the striking fact in both continents is that of resistance and apathy, of slow progress, or, in a few disaster areas, of complete breakdown.

At least one reason for this slow progress is that the processes of social change are so little understood and even the techniques used in their study are almost unknown to medicine.

The behavioral sciences and what, in Europe, is called “operational research” can help here. For these groups a principal interest is the study of changing institutions and the recognition of the implications of these changes. Their contribution to medicine is increasing, but progress—at least in Europe—is slow, largely because they are presenting a completely new way of thinking and sometimes because their terminology is not understood.

#### *What Has Become of Dedication?*

Among the least fashionable of subjects for discussion are the special features of the incentives of the doctor. The notion of social pur-



pose, special dedication, or of a special kind of drive as peculiar features of medicine perhaps oversimplifies the incentives of everyone aiming to work with people. Yet it has recently been suggested that one of the neglected duties of medical education is to ensure that these drives—where they exist—are fostered. It appears that the association of these rather special incentives with the teaching of preventive medicine is strong—perhaps stronger than with some other subjects. This is not to say that any of the teachers quoted in the Shepard and Roney report sound particularly like traditional “do-gooders.” However, it may be worth reflecting that some teachers on both sides of the Atlantic feel there is a growing problem of incentives among medical students, and that the departments of preventive medicine (perhaps because of their close links with the community) have a special part to play. Perhaps, too, because the tangible remuneration of any aspect of prevention is likely to be so much less than that of, say, surgery, more attention has been paid by preventive medicine to incentives in medical education.

Another reason for the special involvement of preventive medicine in the problem of incentives is its preoccupation with the organization of medical services—a subject loaded with conflicts of incentives. In many rapidly developing countries there is a straight conflict, for example, between the countryside as a place to practice medicine (where there is medical need but little money) and the towns (where there are enough doctors already, but where the money is to be found).

### *The Doctor's Role in Making Social Policy*

As has been remarked already, to a European a striking feature of some departments of preventive medicine in the United States is their commitment to social policy change (comprehensive medical care, needs of the aged, etc.). In Europe, and more particularly in Britain, almost all departments of preventive medicine carry out operational research into the organization of health services, estimating quality of care in one way or another, and thus they are indirectly involved in advocating various social policies. Few adopt a stance as involved in social change as that hinted at in the remarks

of a number of department chairmen in the United States. Yet most are inclined to teach that medicine should be increasingly involved in social policy. For example, as disease patterns change in industrialized societies, so demographic patterns follow and their economic and social impacts are increasingly important and complex. Medicine is more and more involved in all these changes and traditionally it has been the job of departments of preventive medicine to teach about medicine as a social science. Perhaps because several European countries have already achieved comprehensive medical care in one form or another, the involvement of their departments of preventive medicine is more reserved and academic than some in the United States. The kind of social policy decision may be only whether cigarettes should be advertised without appropriate warnings, or it may be concerned with birth control or long-term fiscal policy in the face of an aging population, with drug-testing or with aircraft accidents. Medicine is increasingly involved in all of these and it is the experience of some European schools that students are not uninterested in this aspect of medicine. For example, it is reported that where a deficiency in teaching exists it is frequently made up by students who organize their own meetings and discussions on the subject.

From this, we may conclude that while the social role of medicine is becoming more important as our societies become more complex, there is probably an increasing need to teach about this aspect of medicine. This is by no means universally agreed, but if anyone is to do it, then clearly the departments of preventive medicine, with their demographers and social scientists, are in the best position to undertake the teaching.

### *Intellectual versus Emotional Satisfaction*

"Disease is exciting, health is not." This statement sums up one of the major problems in teaching preventive medicine. It is hinted at in much of the commentary in the Shepard and Roney report, and has been a much-discussed feature of the teaching programs in European schools. In Britain the organization of medical schools and the absence of a clinical role for teachers of preventive medicine

exaggerate the distinction between the curative and preventive disciplines. In the United States almost all departments of preventive medicine have a clinical job to do. In terms of crude satisfaction, this clinical role seems of very great importance to us for, however interested we are in our subject, the direct emotional rewards from treating sick people cannot be overstated. The effect of clinical work on the status of the subject in the eyes of the student has already been mentioned. In our experience, the more intellectual satisfactions to be derived from practical work in prevention only rarely compensate for a lack of clinical work as well. There is much to be said for the community services, general practices, student health services, and family medical care, offered by a number of United States departments, which are found so much less often in Europe.

#### SOME PRACTICAL PROBLEMS

##### *Career Structure and Pay*

To judge from the careers of chairmen of departments of preventive medicine which are reported in "The Teaching of Preventive Medicine in the United States," there seems almost as little uniformity in the United States as in Europe. "There are no basic qualifications and no core curricula which are widely accepted as essential to this profession" (Chapter 7, page 128). The highly unsatisfactory career structure in preventive medicine is reflected in many countries by an equally unsatisfactory financial reward. Only recently has the shortage of second- and third-generation staff been recognized and the pay adjusted accordingly. The result is a scramble for staff. It is to be hoped that recent improvements in the salaries of teachers of preventive medicine will, in turn, assist in recruiting; but pay is not enough. The first generation of chairmen (as well as the older founding fathers of preventive medicine) have to some extent "let down" the rest of us by paying scant attention to agreement about careers. In Europe the position is even worse than in the United States. No recognized qualifications exist and the situation is rather akin to the recruiting and training of race horses. Teachers are judged mainly by the stable from which they come, and compe-

tion for the few well-trained horses is intense. In this, the great research units (as opposed to teaching units) are sometimes behaving quite irresponsibly in buying and selling staff rather than in training them. One result is very high quality at the top in some countries, with an amazingly poorly trained "do-it-yourself" generation coming along behind.

### *Relations with Graduate Schools of Public Health and with Universities*

A growing subject leaning heavily on the contributions of the behavioral sciences and with its roots (very tenuous roots, in some countries) in formal public health can hardly afford to be separated from universities or graduate schools of public health. In Europe a number of separate "institutes" are growing up apart from the universities, and in America separation is often found. In both of these cases there is a danger of losing not only the inspiration of the rest of the university but, above all, the right of unprejudiced academic thinking; that is, a danger of separation from the notion of *universitas*. How important this is we do not know, but in those few places where the subject has its back to the wall, it must be very important to grasp at the traditional freedoms of the university.

### SAFETY IN DIVERSITY OR SOME KIND OF SYNTHESIS?

It is not quite true to say that there must be eighty or so different kinds of preventive medicine taught in the United States, but it must be very nearly true. In Europe there are probably two or three kinds, the range being along the axis from orthodox public health and environmental control (the largest and oldest) to "pure" epidemiology (the smallest and newest). Probably it is the rather superficial differences (for example, in service roles) in the United States schools which tend to obscure underlying similarities, but even then there must be nearly twenty "mainstreams" of teaching. This diversity has helped greatly during the period of exploration of the whole field of activity of preventive medicine, and has helped also to carry the subject over the difficult period of transition from infectious to

chronic disease. Whether this diversity is now so useful remains to be seen, but it is at least possible that the time has come for more formal recognition of what is meant by preventive medicine and for a much more formal recognition of the kinds of career structure offered to teachers in this subject. In the United States much progress has been made by recognition of the teacher of preventive medicine as a specialist (thus conferring status on the most obvious of generalists!).

A casual glance at European and American preventive medicine presents us at once with a list of common interests and topics—shared starting points from which some kind of synthesis might some day emerge. These are:

1. Preventive medicine is a subject full of generalists, people more interested in the relationships between subjects than are most doctors.
2. It is not so much *preventive as social* medicine—concerned with interacting *social* variables. Only one outcome of this activity is preventive medicine—though, of course, “social” is here used in its true meaning as relating to society, without political connotation.
3. Running like a thread through all the work of the departments under review is the reverence for quantification. This finds its outlet in the common and basic subjects of epidemiology and biostatistics, and in the universal interest in the environmental components in etiology—particularly of the chronic diseases.
4. Preventive medicine is clearly concerned with groups rather than individuals, and the group most often studied is the community.
5. A common theme is social policy in health matters, and particularly the organization of health services.
6. Preventive medicine as described here appears to attempt a synthesis of medical skills with the insights of the behavioral sciences—particularly social psychology and sociology.

Among the very many practical ways of running departments of

preventive medicine, the authors have emphasized a number of features which to them are important. It is unlikely that exception will be taken to their list, and any review will be an expression of personal feelings—perhaps of prejudice.

It should be noted that over the years there have been far more reviews of the teaching of preventive medicine than of the teaching of any other medical subject. This extraordinary tendency to self-scrutiny is not found in the much more confident and established sciences of, say, internal medicine or even surgery. There is thus no guarantee that were such scrutinies made similar doubts about the effectiveness of the teaching would not arise.

In the opinion of this reviewer there are three essential features of practical departmental organization:

1. The department must have a service role. It must offer the community as well as the medical school a service.
2. It must be protected—liberated would perhaps be a better word—by an academic setting. By this is meant that it must have the freedom and lack of “strings” which come only from the traditional freedoms of the university department.
3. The subject has now grown up. It is a “subject,” albeit a “rag-bag full of generalists.” It teaches in a well-understood area about phenomena vital to the future of good medicine. It follows that it is no longer possible to share this teaching between older and more orthodox departments. There must be a department which *is itself* responsible for the teaching of preventive medicine in each medical school.

## REFERENCES

<sup>1</sup> Backett, E. Maurice, Education and Training of the Physician for the Preventive and Social Aspects of Clinical Practice, World Health Organization, A16/Technical Discussions/1, March 25, 1963.

<sup>2</sup> Shepard, William P., and Roney, James G., Jr., The Teaching of Preventive Medicine in the United States, *The Milbank Memorial Fund Quarterly*, Vol. 42, No. 4, Part 2, October, 1964.

<sup>3</sup> Calling All Hypochondriacs, the *London Times*, June 27, 1964.