Point of View

Maurice Backett

The first forty years: a personal view

Discussed below are some of the great public health issues and trends of the period that has elapsed since the foundation of the World Health Organization. They were dominated by the new Malthusian nightmare, the tussle with malaria, the eradication of smallpox, the improved control of some other serious infections, the struggles for family planning, breast-feeding, immunization, and clean water, among other things, and above all, perhaps, by the decline of the doctor and the rise of the planner and manager. More recently there have been the policy changes affecting international health which came from the Declaration of Alma-Ata, and the emergence of primary health care.

The rise of social medicine

Probably the most important development during the past forty years has been the broadening of the public health field; one of its constituent subjects, epidemiology, expanded to such an extent around the middle of the century as to influence most of the rest of medicine. Public health became social medicine. Thus, for example, concern about the mode of spread of pulmonary tuberculosis gave way to questions about the social, educational and nutritional factors producing vulnerability to the disease.

The new practitioners began to make elaborate, sometimes outrageous, claims that epidemiology was the only truly numerical basis of medicine. “One case is clinical, two or more are epidemiological”, might have been the slogan of the new specialty. Even more abrasive and threatening to pompous medical establishments was the challenge initiated in the early nineteen fifties by social scientists, who wished to measure, observe and criticize medicine, the providers of medical services, and their clients. The marriage of social science and medicine has not been a complete success; doctors are still arrogant, although less so than they used to be, and social scientists are still rightly critical of them. Nevertheless, joint studies on the effectiveness of health care have had a major impact on both curative and preventive medicine.

Forty years ago, well-qualified doctors in Europe who wanted to study social medicine were often suspected of being

The author is Professor Emeritus of Community Health in the University of Nottingham, England. His address is Lidstones, South Town, Dartmouth, Devon TQ6 9BU, England.
dangerous liberals, missionaries or woolly idealists. It is true that the post-war move into social medicine was often made first by liberals, almost all influenced by the great social reformist movements of the nineteenth century, and that there was quite a lot of idealism about. But of overriding importance were a determination to get on and do something and an exasperation with the existing order.

Many health professionals had seen the developing world during the Second World War: health care in these places was usually unjust, almost always incompetent, and rarely built on the great ethical heritage of the past. Most of these people had been educated exclusively in Western curative medicine, much of it centred on "interesting" cases, and for them the notions of prevention, evaluation, clinical trials, control programmes and so on opened up new vistas. World health was the logical next step. The broadening of public health into social medicine, however, was not without pitfalls. Two seem to have been of particular importance during the decades that followed.

Firstly, there was the widespread belief that only doctors knew enough to bring about the desired changes. In other words, the achievement of good health was largely a matter of the distribution of doctors and their skills, a facile assumption that was soon shattered.

Secondly, it was expected by many that progress would be easy. This optimism was based, among other things, on exaggerated ideas of the power of the new antibiotics and the new internationalism. There were plenty of warnings from orthodox public health professionals who had been struggling for decades with the reactivity of human ecosystems and knew the difficulties that lay ahead. Their warnings were listened to but not allowed to slow the pace of change.

Studies on health care

As public health was transformed into social medicine, world health problems rapidly went to the top of the list of priorities. Disputation accompanied every problem that was tackled and vital statistics flowed in from all over the world to support or refute the arguments. The data were not always of the highest quality, but the very fact of their availability helped to start the next great advance—the realization that health care and its delivery were proper subjects for investigation. At first this was frowned on by academics and the newly formed International Epidemiological Association, but the fight for acceptance was eventually won when some of the great medical journals began reporting the new studies. Initially, academic epidemiology moved its enquiries cautiously from communicable to chronic diseases and later to the distribution and effects of health care.

In this very important process the status of the subject of epidemiology suffered greatly. Some distinguished epidemiologists moved, under protest, from communicable to noncommunicable diseases and thus away from the developing world, but drew the line at getting involved in the morass that was health care delivery. It was only when the philosophy of the double-blind trial began to permeate the epidemiological world that health systems research became acceptable. We were at last prepared to ask whether health care actually worked.

About this time it was realized that, for a huge proportion of the world population, there was no organized health care at all. National health services were rare, and
where they did exist, whole segments of populations fell through the net, usually the most vulnerable people who could not pay enough for the often questionable care that was available. This state of affairs induced a massive invasion of the medical citadel by people specializing in such subjects as health economics and management studies.

At this time, many students were gathering material for Ph.D. theses. Sometimes they left chaos behind them, sometimes anger and ill-feeling; only rarely did they produce helpful data. The demand for doctoral theses based on material from the developing world was an error on the part of the many universities who were beginning to specialize in international health studies. They used the “top-down” approach, and research was done primarily with a view to publication rather than as a contribution to usable knowledge.

The early international studies on health care revealed deficiencies and, often, a surprising degree of therapeutic worthlessness. This led to an important, still continuing controversy about the extent to which health care affects health. However, the stark adversarial positions have been blurred as a consequence of enormous advances in pathophysiology, genetics and therapeutics.

The doubts about the value of health care gave rise to the study of traditional medical practices and to the notions of participation and primary health care. If so much care was therapeutically useless, why was it so highly valued? What was the vital element in caring which did not demonstrably affect pathology? (The influence of psychological factors on immunity became apparent later.) A more holistic or interactive approach led to a new respect for community and family care in the developing world, clearly reflected in the Declaration of Alma-Ata.

One reason why so many mistakes were made in the early days was that survival was the principal criterion of success in medicine. Once it was realized that this was a poor measure of health, the long trek began towards today’s concern with the quality of life.

With the advance of biological science and studies of its impact, cautious optimism evolved. The new keywords were integrated care, intersectoral and appropriate, to which must be added all the other jargon implying that allopathic medicine is not a panacea but does have much to offer if it can reach the people.

Towards more prevention...

The medical and nursing schools of forty years ago were not orientated towards prevention: public health or social medicine received minimal attention. This was also true of the majority of the world’s communities, where there was a pressing demand for curative care. People have not found it easy to grasp the notions of risk in relation to future need for health care, although the quality of risk data is steadily improving. So the popular choice has been mainly for curative care, and there has been a readiness to pay for it.

There has been less willingness to pay for prevention. Campaigns against smoking,
for example, seem to impress the public much less than the largely ineffective surgery that may be the alternative. This is perhaps because it is easier to comprehend what happens to individuals than to extrapolate to populations. There are also epidemiological difficulties: even very good risk data must be used with great caution, given the ever-present possibility of false negatives and false positives. So the balance of evidence points to the whole community as the best target for prevention.

Attributable risk is therefore as important as relative risk. The risk factors associated with many major diseases are at last being given numerical values—an important guide to priorities in intersectoral social and legal policy-making.

The prevention of illness is an intensely political matter, particularly now that so much is known of the determinants of health. Education, nutrition, social class, and the distribution of care are some of the sensitive issues involved.

There is now less hostility to social medicine than formerly. With improving general health and with the threat of AIDS and other incurable diseases, primary prevention, like health systems research, has become respectable. Secondary or presymptomatic prevention, consisting of early diagnosis followed by appropriate treatment or behavioural changes, has been less fortunate. It is still difficult to say whether “earlier” means “better”, but this question is of considerable theoretical significance in social medicine and has a bearing on the future control of chronic disease and on international health. In addition it has always presented a particularly difficult health systems research problem. Positive results from prospective studies on cervical and breast cancer took a long time to obtain; for heart disease the situation was not much better. Eventually, however, screening for predisposition or early pathology, usually as a guide to behavioural change but sometimes to radical intervention, became a widely accepted feature of primary care in many communities.

... and better integration

As in clinical medicine, so in social medicine a large number of specialties developed. By the middle of the 1950s there was a general assault on the notion of single causes; simultaneously, the techniques of statistical analysis were improved. Interest developed in methods of assessing the relative contributions of various interacting factors responsible for the occurrence of common diseases. These methods, mostly involving regression analysis, are among the most useful in the epidemiological armoury and the most widely employed. More importantly, they do not have to be understood in mathematical terms in order to be used.

There were other specialties resulting from the growth in understanding of interacting systems, in systems analysis, country health programming, mathematical modelling, health econometrics, risk analysis, development modelling, pattern analysis, and many additional fields. Multidisciplinary teamwork challenged the absurd idea that everyone should be skilled in everything.

One of the reasons why many of the new methods did not catch on was that they were presented as if health care planning always started against a background of no services at all. In fact, this was rarely the true position. Instead, there was usually a conglomeration of cultural, political and financial pressures that distorted the new applications. The methods thus acquired an undeservedly bad name.
With the spread of ideas about interaction in disease control many of the much-valued vertical, or single-subject, programmes slowly adopted more integrated approaches, although some of the better known programmes of this kind remained unaffected for a long time.

**The balance of evidence points to the whole community as the best target for prevention.**

**The participation revolution**

During the 1950s it became clear that projects involving community participation were more successful than others and that they were more democratic and satisfying. Most doctors, however, disagreed with this, and over the next thirty years or so, their "top-down" methods were repeatedly criticized by patients and consumer groups. There was, of course, much that deserved criticism in the "top-down" way of doing things; most important was the lack of respect for the value systems and cultures of the recipients of care. Nevertheless, some "top-down" programmes worked well and the public did not always object to them. People were more subservient when there were fewer women's movements, fewer community or village health committees and no people's representatives who wanted to know what was being done on their behalf.

The projects most in need of community participation were those aiming to bridge the widening gap between what was known and what was applied in the field. To have applied even half of what was known would have substantially improved people's health, so it was important to try and understand why this did not happen. Action from the bottom up may be one of the answers.

**Educating the health professional**

An unusually frank young doctor returning from compulsory work in a distant tropical rural health centre confided that if what he had been doing was community medical care then he would have none of it ever again. An equally frank senior medical student in London who had opted for some experience in a city centre general practice in 1958 said that he could never practise medicine under such conditions and was determined "to escape" by specializing. Today, as in the past, it seems that graduates from our medical schools would have to be very dedicated or very hard up to want to work in communities with a dire need for health care. Many of the educational assumptions of the early years were wrong; in particular, the notion that the prospect of contact with real community need in distant villages and city centres would attract young doctors proved to be nonsensical. It soon became clear that among the attractions of a medical career were the opportunities of being looked up to and admired, having power and access to modern technology and being highly paid. This was understandable and largely reasonable, but meant that what used to be exclusively doctors' skills were never likely to be available where they were most needed. The response to this situation was often to train more doctors. Only in a few countries was an effort made to achieve extensive distribution of skills (not doctors) and to improve the referral chain from self-care to specialized care. With these changes came a new emphasis on the importance of care at the periphery and, eventually, primary health care.
Already in the 1940s there was a suspicion that doctors might not solve all the world’s health problems; by the 1950s there was no longer any doubt about the matter. By the early 1980s, considerable unemployment of doctors coincided with a pronounced maldistribution of health care. The distribution of skill has still a long way to go.

It soon became clear to medical educators not only that too many doctors were being produced but also that they were disinclined to go to where they were most needed and were weak on prevention and health promotion. This produced a crisis in medical education; the traditional skills, insights and caring, along with new preventive and promotive abilities, were obviously needed, but whether they should or could be encapsulated in something called a doctor was quite another matter. It seemed probable that they would be more effective if distributed among a variety of other workers who were willing to go where they were needed.

The crisis was not resolved for a long time, although a ripple of enlightenment spread through many medical schools and revolutionized curriculum planning and teaching methods in a few new ones.

By applying up-to-date learning theory it was intended that medical students would discover both how to learn and teach. The health educational role of doctors was thus emphasized, while new tools were provided for them in the form of group and project work, less didactic and more interrogative problem-solving methods, and early and continuous reference to the characteristics of the populations to be served.

Even in the new medical schools more problems were encountered with the content of curricula than with the new methods of teaching. The balance of subjects was still a matter of acute contention, although some schools avoided disputes either by abolishing departments or appointing enlightened staff. In the latter cases, attempts were made to produce doctors of a new kind who were at once dedicated to their tasks and orientated towards preventive and community action. Departments of community health and primary care grew up in many new medical schools, and epidemiology and family medicine were taught as distinct subjects. However, there continued to be powerful advocates of exclusive islands of excellence in curative medicine and of low status for the new subjects. This did not go unnoticed by students.

**Health problems**

The formidable health problems encountered during the last forty years have ranged from the familiar but intractable chronic diseases to the socially divisive question of birth control and the epidemic of road accidents. The health effects of the low status of women and of illiteracy have had to be confronted, along with all the difficulties associated with culture, religion, poverty and the delivery of health care. Some of the outstanding problems tackled are discussed below.
Birth control

In the 1950s and 1960s the population explosion provoked anguished discussion, most of it rather naive. Eventually, however, an understanding of the significance of time in the development of human populations began to be acquired. We were remarkably slow to realize that, whereas death rates may change very quickly, changes in fertility occur very slowly. If the gap is large there may be some disasters before suitable balance is reached. In order to be able to act in favour of balance, it is necessary to know more about what is going on in societies where death rates have come down and fertility rates are expected to follow. How far and for how long must death rates fall before birth rates follow? How will the decline in death rates be understood and how will it affect attitudes to family size? How do education and literacy influence birth spacing? What happens to family aspirations when a rural community becomes urbanized, when the extended family breaks up or when there is youth unemployment? How are these issues affected by women’s status and gender preferences? Perhaps even more important, how does the pattern of family fertility affect the health of women and children? Some of the answers to these and related questions are known in particular societies, far too few in number.

Inequalities in health

The short answer to the question “Why are there inequalities in health?” is “Because of inequalities in wealth”. About 1000 million people live in abject poverty and the correlation with ill health is high. This seems to hold for many measures of health, including those of mental health and some of well-being. Moreover, affluence does not necessarily have to be measured on a scale from poverty to riches: health has been shown to correlate with each aspect of relative affluence, from literacy and education to job status.

The numerous factors involved have been called the poverty complex. It is easy to see how some of them work, whereas for others we need to know much more about the causal pathways. Poverty, malnutrition and infection are a readily understood sequence but in England and Wales, for example, the differences in income, nutrition and housing conditions between manual and non-manual members of the same social class are very small indeed, yet, in practically all measures of health, manual workers fare significantly worse than non-manual workers. Subtle differences in lifestyle are undoubtedly responsible for this situation. A comparable state of affairs exists in the developing world. The vulnerable are not just poor, although the poor are always vulnerable. The list of associated factors is long; it includes regions, occupations, unemployment, social groups, poor education, and inadequate transport. Migrants and refugees are relatively vulnerable in some ways, as are certain classes, castes and age groups. Lonely people, adherents of certain religions and cultures, the socially disturbed, the unmarried, the single divorced, the single parent family, the unemployed urban adolescent, the insecure and the unhappy are all more likely than others to be ill.

But poverty accounts for most of the inequalities in health and it is outrageous that it should be increasing everywhere in the presence of plenty. The causal pathways have only a little to do with medicine and much to do with intersectoral action for development and with primary care and personal responsibility for health.
Measuring health

The World Health Organization has suggested certain yardsticks of improved health. The first, political commitment, is not only difficult to measure but is also one of the most difficult to achieve. The second, community involvement, also poses measurement problems. A major obstacle to its attainment in some countries is the authoritarian and hierarchical nature of health service organization. Even where participation of the community is encouraged there is often a confrontation of health professionals and people, between whom there are huge gaps in knowledge and wide social differences. Thirdly, there is either the effectiveness of measures taken to ensure that everyone has access to the essential elements of health care or the extent of population coverage by services. Most of the other yardsticks are also concerned with equity. The question arises as to why, when health improves generally in a country or region, the differences between rich and poor remain nearly constant. An equitable allocation of resources evidently does not yield a solution. Sustained inequalities are a strong argument for compensatory resource allocation, favouring the people who are most in need. There is no good reason why resources should not be allocated using a formula expressing the need to catch up, rather than equity. Indeed, the solid justification for this is that some groups have so very far to go in development. Finally, a literacy rate exceeding 70% for both men and women should be attained.

Malaria

In 1955 the World Health Assembly adopted a resolution aimed at the eradication of malaria. As a consequence, by 1966 about 1000 million people who would otherwise have been at risk were living in malaria-free zones. However, half the world population still lives in areas where antimalarial measures are carried out, and 400 million people inhabit regions where there is no protection but great risk. Although the prevalence of the disease has increased in the last 15 years it seems likely that the case fatality rate is slowly declining, thanks to improved treatment.

WHO malariologists have studied patterns of success and failure in the long fight against malaria. Local understanding and cooperation are important factors making for success, while the intensity of transmission is affected by functioning health services, agricultural practices, and

About 1000 million people live in abject poverty and the correlation with ill health is high.
Clearly, preventive measures against any disease need to be sustained by an infrastructure of economic and social development. Above all they need understanding and cooperation from the people, whose behaviour and life-styles might have unfavourable effects.

The malaria experience can, perhaps, be turned to advantage in confronting AIDS, the emergence of which has presented both biological and social challenges. Much of what has been learned in the past about interacting factors in the ecosystem is of value in this matter. The infrastructure that was vital in the malaria campaign is, at least until the virus can be controlled, crucial in the fight against AIDS. Control programmes are already demanding a very high degree of individual and community involvement, collaboration between disciplines, behavioural changes, compassionate understanding, high technology, legislation, insightful non-partisan policies, and large amounts of money. And it should be remembered that, against malaria, the low cost of the drugs used made a great contribution. It is to be hoped that controls will be imposed on the prices of any drugs that may be developed for the treatment of AIDS.

**Outlook**

There have, of course, been some spectacular successes in disease control, as with smallpox and yaws. But just as attention has shifted away from vertical campaigns, so WHO is inevitably becoming more concerned with problems which have been somewhat neglected, yet which can be tackled within the framework of primary health care. Among them are diarrhoea, bronchitis, accidents on the roads and in the home, malnutrition, blindness, loss of autonomy in the old, drug addiction, maternal mortality and morbidity, pertussis, measles, tuberculosis, tetanus, poliomyelitis and diphtheria.

It is widely agreed that the environment and socioeconomic conditions in the developing world are deteriorating, that the AIDS virus and other mutant viruses pose very serious threats, and that increases in population and changes in age distributions will present difficulties. It is also clear that there have been changes in patterns of chronic disease, and that injury, drug addiction, irradiation, and the resistance of pathogenic organisms to drugs are causing problems. Most people will agree about the dangers of war and famine, the wastage represented by military spending, and the profligate use of non-renewable resources. There is less agreement, however on what are the key issues in the immediate fight to improve health.

The equity objective poses important practical and ethical questions that are closely associated with the effectiveness of health care. While the very rich go in for heart transplants, the rest of the world struggles to afford antimalarials or aspirins. Community participation and the status of women are both intimately linked to education and literacy.

The background issue of laissez-faire versus organized health care and the linked problems of management structures and private health care are bound to continue intruding. The outcome will determine the
speed with which improvements in health are achieved for up to about a third of the world population. A major problem will be to select information that matters; too much useless information is being collected. It is likely that health information will be processed increasingly on cheap portable micro-computers capable of giving answers to many epidemiological and possibly some managerial problems at community level. Such developments should help to reduce the widening disparity between what is known and what is applied, although this gap will probably remain the single most important brake on progress.

Some possible sources of optimism are worth underlining: the new focus on maternal mortality and morbidity; the campaign in favour of breast-feeding; the rapidity with which studies on the AIDS virus have progressed; the implications of the newer techniques of recombining DNA; and the contributions of sociologists and mathematical modellers.

There is a hidden conflict between altruism in health care and the exploitation of the sick. The very existence of an altruistic tendency is something to be thankful for. Prevention has assumed its due place at last. Increasingly, health care is being evaluated not only in terms of mortality but also in relation to the quality of life. Paternalism is on the decline, multidisciplinary and multisectoral approaches to health care are becoming more widespread. It has become absolutely clear that health is too important to be left entirely to doctors. We stand at the dawn of the DNA revolution and the information revolution. The interrelationships between health and social factors are now well understood. The tackling of health problems in isolation is a thing of the past.