

MEETING OF DEANS, TEACHERS IN MEDICAL SCHOOLS AND
100 SENIOR ADMINISTRATORS, *Copenhagen, 1974.*

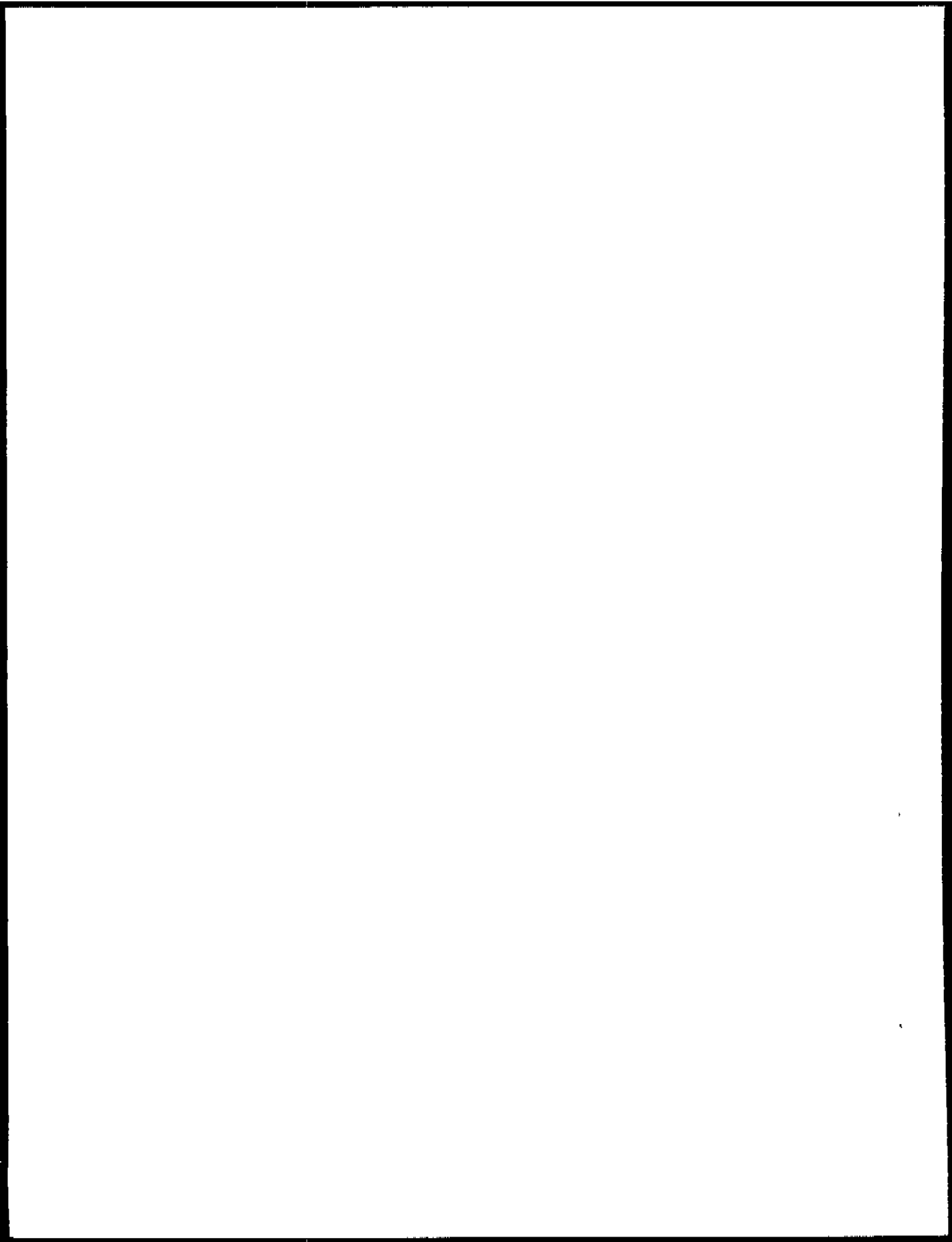
Report

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Note

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This report is also available in French and Russian.

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1. INTRODUCTION

The WHO Regional Office for Europe organized a Meeting of Deans, Teachers in Medical Schools and Senior Administrators of ministries of health and education at the Regional Office in Copenhagen from 26 to 29 November 1974.

Forty-nine participants nominated by 22 Member States of the European Region attended. Five temporary advisers were invited and the International Federation of Medical Student Associations (IFMSA) was represented.

The participants were welcomed by Dr Leo A. Kaprio, Regional Director of the Regional Office for Europe. He explained that the meeting was, in a sense, a continuation of the Conference of Deans of Medical Schools held in Copenhagen from 30 April to 2 May 1973 (EURO 6007) and that it was hoped to pursue further some of the topics which had been raised at that time. The main topics chosen for discussion were:

- (1) development of medical school policies; a joint responsibility of ministries of health and education;
- (2) assessment of the quality of medical care;
- (3) the education and training of the general practitioner;
- (4) the training of environmental health manpower.

Dr Kaprio spoke of the need for each Member State to find its own solutions through country programming. He referred to Europe's obligation to educate for world needs: in a sense the world problem was not one of manpower but of distribution and quality. He stressed the importance of the trend away from hospital care and the development of new roles for primary care.

Continuing education was too often left to the pharmaceutical industry and not only medical schools but ministries of health and education had a responsibility to ensure that knowledge was updated. The rapidly changing environment and the growth of technology, for example the use of atomic energy, threatened health to an extent far greater than had hitherto been realized. Finally, he suggested that a case could readily be made for a joint meeting of deans and rectors of universities, teachers in medical schools and senior administrators, who could make an important contribution to the solution of certain health manpower problems.

Professor B. Paccagnella was appointed Chairman; subsequent plenary sessions were chaired by Professors H. A. Tiddens and J. F. Isakov. Professor J. McCormick was appointed Rapporteur. The list of participants is given in Annex IV.

2. DEVELOPMENT OF MEDICAL SCHOOL POLICIES: A JOINT RESPONSIBILITY OF MINISTRIES OF HEALTH AND EDUCATION

This topic was introduced by Professor S. Halter, who presented the point of view of a ministry of health. He listed the responsibilities of the medical faculties under these headings:

- (1) to provide basic medical education;
- (2) to undertake research, both fundamental and clinical;
- (3) to provide high-quality medical care both within the hospital and for out-patients;
- (4) to provide not only curative medicine but also prevention and rehabilitation;
- (5) to provide postgraduate training for specialists in clinical medicine;
- (6) to provide postgraduate training for public health physicians;
- (7) to undertake biomedical and social research;
- (8) to assist the authorities in defining health policy;
- (9) to contribute expert advice to government departments.

To date, medical schools have been interested primarily in the first three of these tasks.

Turning to some current health problems, Professor Halter spoke of the increase in the number of doctors in Belgium, from 5.7 per 10 000 inhabitants in 1910 to 17.7 per 10 000 inhabitants in 1974, of whom more than one-half were specialists. In 1973/74 there were 17 256 medical students and it might be anticipated that by 1983 there would be 28.2 doctors per 10 000 population. There had been a rapidly increasing expenditure on health care, but that increase had been in the field of curative, not preventive medicine.

Professor Halter went on to stress the importance of health education, pointing out that the higher income of clinicians as compared with public health doctors tended to perpetuate the imbalance between curative and preventive medicine.

He also emphasized the importance of research - the fuel for keeping knowledge alive - and regretted that so much money was allocated for non-programmed, non-directional research.

He listed the wide variety of experts needed to provide for the public health needs of the community:

- (1) doctors expert in: (a) hygiene; (b) epidemiology; (c) biostatistics; (d) occupational health; (e) sports medicine; (f) schools; (g) health insurance; (h) ecology; (i) ionizing radiation; (j) health education; (k) genetics;
- (2) sanitary engineers;
- (3) ecologists in a variety of disciplines: (a) biologists; (b) agriculturalists; (c) zoologists; (d) chemists and toxicologists;
- (4) administrators: (a) public health; (b) hospital;
- (5) medical sociologists;
- (6) auxiliary health personnel: (a) nurses; (b) kinesitherapists; (c) logopaedic therapists; (d) ergotherapists.

He stressed particularly the importance of administrators.

Finally, the medical school must encourage a reorientation towards public health and primary health care and must work in close collaboration with departments of education and health.

During the discussions a number of important points were made. Professor Isakov pointed out that the young medical student now beginning his studies would spend some of his working life in the twenty-first century. All those concerned with his training needed to be conscious of their responsibility to the future and to become much more dynamic in their response to change.

Professor Renier suggested that relatively short periods of retraining, much shorter than those required for specialists, could equip doctors to meet local needs in such fields as occupational health and sports medicine.

Dr van Leeuwen then presented the ministry of education point of view. His position as a doctor of medicine in the department of education was, in some respects, a public recognition of the joint responsibility of departments of health, departments of education and medical schools. His function was that of bridge-builder. In The Hague there was now an interdepartmental committee to achieve close coordination between health and education.

The department of health should decide, as part of health planning, the number and quality of the required personnel. However, the problem of selection of students had not been satisfactorily solved. At times of economic stringency research budgets were often the first to be cut and that would increase the need for international cooperation in research.

There was a danger in the growth of professionalization, which tended to weaken the ties between the university and faculties of medicine and might lead to increasing isolation.

In the discussion which followed the Chairman stressed the need for medical schools to retain their autonomy. He was supported in this by Professor Borghgraef, who pointed out that the price to be paid for external financing was external supervision and control. However, multiple sources of financing diminished the threats to autonomy.

Professor Tiddens noted that universities sometimes felt threatened by the cost of medical education and that they found it difficult to understand the relationship of service commitments to the traditional academic roles of teaching and research. He stressed the importance of social scientists and the contribution which they could make to much-needed research into the effectiveness of health care delivery.

Dr Bannerman referred to the need for Europe, which trained one-half of the world's physicians, to continue to provide medical education for doctors of the developing countries. Sometimes that might best be achieved by sending doctors to help with training in the developing countries rather than by bringing students to Europe.

Dr Fulöp stressed that medical education was still disease-oriented, not health-oriented, and that there had been little success in relating the products of medical schools to the needs of society. He warned that if medical faculties continued to disregard the needs of the people they would be by-passed. He outlined a cybernetic system in which health services would influence the training of health care professionals and in which the performance of health manpower would be constantly monitored. One should not think of "health manpower development" but of "health service and manpower development". Unfortunately, the cybernetic model did not yet exist. Health planning was rudimentary and did not influence production, while monitoring of the performance of health manpower was almost totally absent.

The third plenary session, devoted to the university point of view, was opened by Professor Geindre, who began by stressing the need to train the doctor for his social role and for ecology and preventive medicine to be more adequately represented in medical curricula. It was much easier to grasp the essentials of a medical specialty in educational terms than it was to understand the essentials of general practice. It was essential for teachers to be clear about their educational objectives and to become skilled in educational methods and in the educational media for achieving the objectives. There was a growing need to establish more chairs of medical education.

Assessment was too often merely a test of memory. Teachers, as well as students, required assessment of their effectiveness and a cybernetic model of planning, execution and evaluation was required. Medicine

was an art, the art of human communication. The quality of a faculty depended upon the clarity of its sense of objectives and upon its teachers. Professors should be recruited from a wide field, not merely co-opted from among available clinicians.

The next speaker, Professor Trzebski, pointed out that increased emphasis on research and clinical work, especially as they determined advancement, had led to a relative neglect of teaching skills. The medical school should take account of health needs, but it also had an important role in providing the data on which departments of health and education could base estimates of future requirements. Medical schools should define or redefine their educational objectives in the light of those needs.

Medical schools had to respond not only to the expanding demand for medical education but also to the growing number and diversity of specialist disciplines, while at the same time striking a balance between the quality of the product and the cost of production. The medical school's primary aim should be to produce a "pluripotential" basic doctor capable of later specialization.

The medical school should also have a role in training health care professionals other than doctors, for example pharmacists and nurses.

During the discussion which followed, Professor O'Dwyer raised the problem of attracting medically qualified personnel to teach preclinical subjects. Many contributors referred to the inappropriateness of training to needs. That was particularly obvious in the case of those students from developing countries. Professor Tiddens stressed the need to examine the process of decision-making and enquired if training in some 33 disciplines was appropriate to those whose destiny was to work primarily as problem-solvers. An understanding of the process was necessary before the problem could be solved.

Miss Dittrich deplored the increasing emphasis on science at the expense of care, and on disease at the expense of health promotion. She also stressed the importance of the health team.

Summary

While no consensus was reached, there seemed to be very general agreement that:

- (1) departments of health, departments of education and medical schools were not only all concerned, but each had an important part to play in medical education and that they had to work together;
- (2) much medical education was inappropriate or took too little account of health needs; in particular, medical education had neglected preventive aspects as compared with curative aspects, and had paid insufficient attention to health promotion;

- (3) monitoring and evaluation were neglected and the processes of education should be studied as a cybernetic model;
- (4) medical education itself required much more intensive academic study and recognition as a discipline and a service to a teaching institution;
- (5) the responsibility of medical schools extended beyond the training of medical students to the training of other health personnel;
- (6) the medical school was part of the national fabric and should not only train to meet the needs of the nation but also help to define those needs in terms of advice and appropriate research.

3. ASSESSMENT OF THE QUALITY OF MEDICAL CARE

Dr Glyn Thomas introduced this subject (see Annex I). Reference was also made to the study entitled Education of the health professions in the context of health care systems¹ and to A new perspective on the health of Canadians.²

The meeting then divided into eight discussion groups. The following points represent an attempt to delineate the major areas of agreement in the various groups.

1. The concentration of attention by health services and medical schools on established disease and curative medicine has produced an imbalance, in which our resources, which are now much more clearly seen to be finite, are being used in ways which produce a progressively diminishing return in terms of cost-effectiveness.

2. Insufficient material and educational resources have been devoted to primary health care as distinct from secondary health care.

¹ Organisation for Economic Co-operation and Development (1974) Education of the health professions in the context of health care systems, Study by the Centre for Educational Research and Innovation, Paris (doc. CER I/CD(74)16-restricted)

² Lalonde, M. (1974) A new perspective on the health of Canadians; a working document, Ottawa, Ministry of National Health and Welfare

3. Notwithstanding their importance, mortality, morbidity and other health statistics provide an inadequate measure of the quality of care.

4. The medical profession has insufficient awareness of the economics of health services and such knowledge should form part of the undergraduate curriculum.

5. Continuing education is essential and in some countries mechanisms which would ensure that doctors can avail themselves of such opportunities are still lacking.

6. Systems of medical audit or quality control are now considered as an essential; audit is an important feedback to educational planning and teaching.

4. EDUCATIONAL PLANNING FOR GENERAL PRACTICE

Dr J. Gallagher introduced this subject.

As general practitioners constitute such an important component of health manpower, the planning of their education and training provides a very suitable subject for a study of communication between health services and education systems. A rational approach to educational planning requires that health administrations should have clear policies on primary care and general practice, that these should be reflected in the health manpower planning process, and that the roles and functions of general practitioners should be clearly described. On such a basis it is possible for practitioners and curriculum designers to identify the skills which students, whether in the undergraduate, postgraduate or continuing education phases, should acquire and to design suitable learning experiences. However, there must be a suitably organized and administered educational system with its own goals in relation to meeting health service needs, and with well defined objectives in respect of primary care practitioners.

The educational system on which health services depend for the training of general practitioners comprises medical schools (mainly for undergraduate education), professional bodies and associations, and a variety of health service facilities (mainly hospitals). There is in most countries little coordination between these three components of the educational system and it is therefore very difficult to direct their activities towards specific health service needs. Also, training for a service implies that students should acquire professional competence, while most educational systems emphasize the acquisition of information. Undergraduate curricula which are organized and administered on the basis of departments and disciplines are not appropriate for training students to be problem-solvers. It is unusual to find special attention being given to the training

of students in the skills which are considered crucial to medical practice, such as clinical and medicosocial problem-solving, diagnostic and therapeutic interviewing, applying critical judgment to complex situations, clinical decision-making in ambiguous situations, evaluating one's own performance, and independent continuing learning.

The emphasis in most medical curricula is on excessively didactic education organized on the basis of academically designated disciplines and departments rather than on the basis of the skills needed to practise medicine. Examinations are used not so much for teaching and learning purposes as for tests of memory, often divorced from medical competence. Educational systems are, in general, not administered or managed with a view to the attainment of educational objectives but rather, it would seem, to support organizational structures which have developed piecemeal over the years and have become increasingly dysfunctional educationally. As a rational approach to programme evaluation is almost nowhere a feature of medical education, it is generally not possible to say to what extent the outcome of an educational programme is consistent with either the needs of a health service or the goals of the programme.

It was generally agreed:

- (1) that the objective of the undergraduate curriculum was to produce a "pluripotential" basic doctor;
- (2) that while postgraduate training was necessary for specialists in primary care, all doctors should, as part of their basic training, have had experience and taught in that area: some of that teaching should take place in the early years of the course;
- (3) that existing traditional attitudes within medical schools were a bar to progress;
- (4) that research in primary care was insufficient and was essential, not only on its own account, but also to provide a firm academic base;
- (5) that not only demography, but the social sciences, behavioural sciences and psychology were important in making students aware of the needs of society, the impact of social and emotional factors on illness and behaviour, and, perhaps most important of all, in improving skills of communication;
- (6) that the role of the primary care physician (general practitioner) was continually changing and that he had an important and relatively neglected part to play in health education and preventive medicine;
- (7) that coordination between health administration, primary care and medical school should be close and continuing.

5. THE TRAINING OF ENVIRONMENTAL HEALTH MANPOWER

This topic was introduced by Professor Valic (see Annex II).

It was generally agreed:

- (1) that environmental health had not been given a sufficiently prominent place in faculties of medicine; the topic should be introduced early in the curriculum and a multidisciplinary approach was necessary;
- (2) that the profession had failed to respond quickly enough to the threats to the environment posed by modern technology and population growth;
- (3) that existing State departments had not, as a rule, been able to deal adequately with environmental changes; because the problem involved not only faculties of medicine and universities, but even more departments of health, industry and commerce, land, finance and economy, there might sometimes be a case for creating a new and independent ministry of the environment;
- (4) that not only were physicians, engineers, scientists (e. g., chemists, physicists, ecologists, agronomists and toxicologists), economists, lawyers and administrators involved, but psychologists, sociologists and statisticians were also needed;
- (5) that higher specialist training in environmental health should be equivalent in length to that in other branches of the profession and lead to the same status and rewards;
- (6) that because of the rapidity of change in the nature of environmental hazards, continuing education in that field was essential;
- (7) that education in environmental health required a multidisciplinary approach involving disciplines not necessarily included within the ambience of medical schools or faculties;
- (8) that public awareness should be increased by all possible means, including the use of the mass media.

The general reaction in the discussions was that medical curricula were too disease-oriented and the time had come to change their orientation in favour of environmental health. There was general agreement that an environmental health course should be included in the curriculum of the medical student. As an alternative, a multidisciplinary approach was suggested, not only for multidisciplinary teachers but also for interdisciplinary students in mixed classes. An environmental health course should be offered, at least as an option.

It was also suggested that inter-faculty multidisciplinary departments of environmental health be developed. Schools for health professionals (medical schools and schools of public health) should participate in the training of environmental health professionals, preferably by offering multidisciplinary courses and postgraduate courses to multidisciplinary students or, if that was impracticable because of lack of staff or teaching facilities, by covering health aspects of environmental protection educational programmes organized in other schools.

Professor Valic, reviewing the reports of the group discussions, stressed that:

- (1) the approach to environmental health should be multidisciplinary in respect of students as well as teachers;
- (2) the multidisciplinary departments of environmental health should be university-based.

6. CLOSING PLENARY SESSION

Professor Isakov, in his closing remarks, said that he felt that the meeting had been well worthwhile. The meeting had been enriched by the participation of nurses and medical students. It could be argued that medical students were, indeed, the most important participants. On behalf of the participants he thanked Dr Kaprio for making the meeting possible and for ensuring its smooth running and success.

ASSESSMENT OF THE "QUALITY" OF CARE

by
Dr R. Glyn Thomas

There is an old Welsh proverb which, literally translated, states that "the greatest gift is the gift of knowledge". Unfortunately it does not go on to explain how knowledge once attained shall be communicated. Considering the subject of the quality of medical care we find that there are many problems - problems, which we may have the knowledge to solve - but the difficulty is how to apply such knowledge.

Likewise, one may have knowledge but no skill. The application of skill implies action and the identification of tasks becomes necessary.

In a WHO document the statement is made that one of the most effective ways to obtain "efficiency" of a service is to reassess from time to time the skills and tasks of people within such a service. However, there seems to be evidence of the reassessment of the nature of required knowledge but very little reassessment of the skills and tasks necessary for conveying such knowledge in practice.

Attempts to define parameters of the efficiency of medical care are hampered by a lack of particular information, or more strictly, the difficulty of translating data into "meaningful" information which can be used and applied by those with knowledge at any given level. We should not forget that as the "knowledge" in a community grows, this "knowledge" in itself must contain the possibility of application to skills and tasks, and thus extension of "self-care" by individuals. Medical care, however, in the connotation of this paper implies strict application of what the doctor does, and I would like to concentrate on this point, rather than try to cover the whole field of the quality of "health care". There is, however, an immediate paradox, well defined in an article, "On the limitations of modern medicine", written by John Powles for the journal, Science, Medicine and Man.¹ I quote: "One of the more striking paradoxes facing the student of modern medical culture lies in the contrast between the enthusiasm associated with current developments and the reality of decreasing returns to health for rapidly increasing efforts."

It may be noted that it is precisely during the last two decades that scientific medicine is alleged to have blossomed, the quantity of resources allocated to medical care has been rapidly increased, and the decline in mortality associated with industrialization has tapered off to virtual zero. We may be forced to ask the question of whether we should now be studying the quality of life rather than the care of life.

¹ Powles, J. (1973) Sci., Med. & Man, Vol. 1, No. 1, pp. 1-30

Annex I

There is need for concern with a situation in certain countries where, although services are available, they are not accessible or acceptable, not only from a geographical point of view but also because of cost to the consumer, professional attitudes and legislative constraints, so that even if an ideal and comprehensive medical care structure may exist, its availability and in turn its acceptability by the community becomes less and less. I refer not only to the problems of rural areas, but to populations even within highly-developed communities which for many reasons have difficult access to medical care centres. If this is so, then how much more difficult it must be to decide whether the quality of such medical care is adequate. Surely, it would be impossible to define the quality of any particular facility if it is not available or acceptable to the majority of people at the time that they require it. We must also think not in terms of waiting lists but of waiting time in relation to access to existing services, and the constraints brought to bear to prevent their use and their acceptability.

It has often been said that many services are developed to satisfy the needs of the professional health provider rather than those who use such services. The definition and the identification of quality is once more difficult, especially when we identify this through the eyes of the provider, not through the eyes of the receiver. In the field of teaching and the conveyance of knowledge, do we teach the essentials of any good managerial process, the setting of an objective, the attainment of such an objective, and the need to constantly qualify objectives by evaluation?

Do students, do doctors, in fact, constantly evaluate the application of their knowledge and their skills? Should medical schools accept the prime responsibility of teaching the processes of patient management, decision-making, evaluation, monitoring, and of "social conscience"? If so, they must be directly involved in service delivery and the evaluation of such services.

I should like to quote from an interesting book by Dr Richard Cabot: "Social Service and the Art of Healing". Dr Cabot states that in his view "the modern doctor is afflicted with a blindness to backgrounds". He gives this example: "I see a case of tuberculosis in a sad-eyed Irishman, but I cannot see, as he does, his children at home, the coldness of his employer when he asks if his job can be kept for him, the dreariness of this great hospital with its suggestion of nameless horrors behind doors which open for a moment and are swiftly closed again, a self that is pushing painfully through these experiences. I fail to see, though it is all written in the stoop of his shoulders, the fear in his eyes, and the swift snatches of hesitating speech as he questions me about his lungs." This may be a very dramatic example.

I have personally been struck by the fact that when one attends meetings attempting to identify, evaluate and provide parameters for the efficiency of medical care, there often seems to be a lack of coordination and understanding between the problem-definers and the problem-solvers. Further, both groups often forget a third group, those who must implement whatever findings may come from the decision-makers, based on investigation and research.

It seems to me that before one can define the quality of medical care, one must involve very closely and teach very effectively those who have the responsibility of implementing change within any given system. How we do this is a problem beyond my knowledge and experience, but there seems to be a constant relationship, often forgotten, between those who need medical care and those who provide it. We need very clearly to identify our priorities, which are based not on the success of any particular technological achievement, but on whether such an achievement will improve the quality of health and consequently the quality of life of the particular individual.

One is again conscious of all the problems related to priority. I quote from a recent document prepared by Miles Hardy, director of the King's Fund Centre in London, in which he states that at the middle of 1973 there were seven professional chairs in the field of geriatric medicine in the United Kingdom, but only 43 beds out of some 50 000 teaching hospital beds in the country were allocated to geriatric patients.

And what has all this to do with quality of care? I would like to make the following points.

Quality surely should always be related to outcome, and this implies the following:

- (1) Every decision needs to be evaluated and the outcome must also be evaluated in terms of the set objective.
- (2) If it is not possible to cure, then we should say so, and indicate that we are maintaining rather than curing.
- (3) If it is accepted that the trend is towards a multi-disciplinary or multi-professional group, then we must study the interaction and interrelationships between various sectors of health care so as to ensure that the group is aware of these interactions.
- (4) Are we always right in using the hospital, which is inevitably case-selective, as the basis not only for the assessment of quality of care, but also for teaching and training health personnel?
- (5) Problems of operational costs need to be solved so that facilities can be used effectively in narrowing the widening gap between the potential range and sophistication of medical care and that which is economically feasible.
- (6) Quality of medical care implies quality control, a system of monitoring and audit. This has been described in various ways but has usually been rejected for various reasons. This may imply that a change in attitude, particularly among the professions, is required.

(7) The growing incidence of duplication and fragmentation of medical activities leads obviously to lack of "quality of care" as well as being a complete waste of resources. There surely cannot be any justification for the duplication of procedures at various levels within a medical care system, within a short time-span, apparently because each level does not necessarily trust the other level, and yet all levels have at one stage or another been taught the same basic principles - or have they? So often an organizational structure is changed in the hope of changing the pattern of delivery, but how often is this the case?

It is significant that in other fields of human endeavour there is a trend, whether this be good or bad, to do away with large, self-perpetuating institutions and to change them into small, individualistic entities. If one is to adopt a similar analogy, should one change the large, multidisciplinary major teaching hospital which may not meet true needs, not only in teaching and training, but also in the quality of care it provides? Can we really objectively state that we shall have sufficient health personnel to provide individualized care for all, care that is of the best quality?

It appears that the measurement of the quality of medical care requires the determination of priorities on both community and personal levels. It is necessary to define the roles of the different parts of the system and the processes of care (patient management), and we need to define more accurately methods to measure physical, social and mental disability.

All such measurements must be related to the availability, accessibility and acceptability of the services to the consumer in the context of his family circumstances and social situation. Let us not forget that morbidity experience of a community shows that two-thirds of all illness does not bring the patient to the doctor.

Most important of all perhaps is the problem of the communication of ideas and purposes so that all concerned, whether at central or local level, are tuned in, as it were, to the same wave-length. Thus it is hoped that any steps taken to improve the existing unsatisfactory situation are for the ultimate benefit of patients and those responsible for their treatment and well-being.

I began with a Welsh proverb and I shall end with one which, literally translated, states that if you wish to save, you must begin at the "neck of the sack". Similarly therefore, in my view, if one wants to change quality of care, one must do this at the beginning, that is at the level of the primary conveyance of knowledge and education to those who are to serve the public and who deliver medical care in its broadest sense.

ENVIRONMENTAL HEALTH MANPOWER PLANNING

by
Professor F. Valic

Taking into consideration the rate of environmental degradation, the education or development of environmental health manpower has become a topic of high priority.

In 1973 WHO recommended that Member States provide adequate resources and infrastructures for national environmental health programmes, and take an active part in the WHO long-term programme in environmental health (EH), particularly in the formulation of EH criteria and in programmes on the monitoring of pollution levels and trends and the effects on health of environmental factors in air, water, food, soil and the working environment.

The WHO long-term programme in EH can be summarized as follows:

1. Direct assistance to governments
 - 1.1 Appraisal of the sanitary quality of the environment
 - 1.2 Environmental health services development
 - 1.3 Planning and management of EH programmes
 - 1.4 Human resources development.
2. Development of EH criteria, guides and standards for environmental quality and guidelines for preventive measures and control.
3. An EH code consisting of a set of principles, rules and practices applicable to all countries in the planning, establishment and implementation of EH programmes. In order to assess the effects of the environmental influence on health, two further points have to be considered: first, the development of sensitive indicators of deterioration in health and, second, the development of surveillance and monitoring systems.

The WHO Expert Committee on the planning, organization, and administration of national EH programmes stipulated in 1970 that EH includes or is related to the following:

- (1) water supplies, with special reference to the provision of adequate quantities of safe water, sanitary surveillance of community water supplies;
- (2) wastewater treatment and water pollution control, including the collection, treatment, and disposal of domestic sewage and other water-borne wastes, and control of the quality of surface and ground water;

Annex II

- (3) solid waste management, including sanitary handling and disposal;
- (4) vector control, including control of arthropods, molluscs, rodents, and other alternative hosts of disease;
- (5) prevention or control of soil pollution by human excreta and by substances detrimental to human, animal or plant life;
- (6) food hygiene;
- (7) control of air pollution;
- (8) radiation control;
- (9) noise control;
- (10) occupational health, in particular the control of physical, chemical and biological hazards;
- (11) housing and its immediate environment;
- (12) urban and regional planning;
- (13) EH aspects of sea, land, and air transport;
- (14) accident prevention;
- (15) public recreation and tourism, in particular the EH aspects of public beaches, swimming pools, camping sites, etc.;
- (16) sanitation measures associated with epidemics, emergencies, disasters and migrations of populations;
- (17) preventive measures required to ensure that the general environment is free from risk to health.

The majority of countries lack the methodology and organization necessary for the assessment of the comprehensive environmental impact. However, only a comprehensive approach to human ecology and the integrated assessment of the effects on human beings of all adverse environmental impacts can provide a justified basis for the forecast and prevention of long-term harmful effects.

There is no doubt that the health aspects of control programmes are essential parts of environmental policy, but it is obvious that a comprehensive environmental programme must consist of a wider infrastructure of services. These are often provided by departments other than that of health. Environmental problems concern many government

departments, such as those dealing with social affairs, town planning, water resources management, agriculture, trade, science and industry.

Main arguments against a health department being responsible for environmental protection

1. It focuses its attention on the delivery of health care, giving second priority to environmental health programmes.
2. It does not cover large segments of environmental parameters such as transportation, land use, energy needs and alternatives, nature conservation.
3. Comprehensive environmental planning is impossible if only health-related problems of the environment are considered.

Main reasons why a health department should be responsible for environmental protection

1. Many environmental problems are based on health effects; the primary purpose of environmental control is health protection and promotion.
2. It has well established contacts with epidemiology, vital and health statistics.
3. It has the longest experience in the field of environmental health and, in many cases, the most qualified manpower.
4. Criteria and environmental standards are based primarily on primary standards which are of a biological nature and related to the response of the organism.
5. The general public is most sensitive to health-related problems.

As far as environmental protection legislation is concerned, there is a tendency in a number of industrialized countries to consolidate various items of environmental protection legislation and to introduce comprehensive legislation covering the environment as a whole.

Main profiles of environmental manpower mix (professionals only)

Environmental health manpower planning is virtually non-existent, nor does an accepted methodology for planning exist. The WHO Regional Office for Europe initiated a study on environmental health manpower requirements in pilot areas of five European countries in 1972. On the basis of the preliminary results of the study, which is still in progress, the conclusion can be drawn that the number of environmental health professionals per million population is similar to the number of physicians per million population in countries with, say, mid-level development of health services. The present expenditure on environmental health expressed as a percentage of annual GNP per capita already amounts to over 6%.

ANNEX III

PROGRAMME

Tuesday, 26 November

- | | |
|---------------|--|
| 09.00 - 09.30 | Registration |
| 09.30 - 10.00 | Opening of the meeting |
| 10.00 - 10.45 | Plenary session:
Medical School Policy - A Joint Responsibility of Ministries of Health and of Education: The Ministry of Health Point of View |
| 10.45 - 11.10 | Plenary session: Continuation and discussion |
| 11.40 - 12.25 | Plenary session:
Medical School Policy - A Joint Responsibility of Ministries of Health and of Education: The Ministry of Education Point of View |
| 12.25 - 13.00 | Plenary session: Continuation and discussion |
| 14.30 - 15.45 | Plenary session:
Medical School Policy - A Joint Responsibility of Ministries of Health and of Education: The University Point of View |
| 15.45 - 16.15 | Plenary session: Continuation and discussion |
| 16.15 - 16.45 | Other business |

Wednesday, 27 November

- | | |
|---------------|--|
| 09.00 - 09.45 | Plenary session:
Continuing Education and the Quality of Medical Care |
| 09.45 - 11.00 | Group discussions |
| 11.30 - 13.00 | Group discussions |
| 14.30 - 15.45 | Group discussions |
| 16.15 - 17.00 | Plenary session: Reports on group discussions |

Thursday, 28 November

09.00 - 09.30	Plenary session: Training for General Practice : Educa- tional Planning
09.30 - 11.00	Group discussions
11.30 - 12.45	Plenary session
14.30 - 15.45	Group discussions
16.15 - 17.00	Plenary session

Friday, 29 November

08.30 - 09.15	Plenary session: Environmental Health Manpower Planning: The Role of Medical Education
09.15 - 10.30	Group discussions
11.00 - 13.00	Group discussions
14.00 - 15.15	Group discussions
15.45 - 16.30	Plenary session: Reports on group discussions
16.30 - 17.00	Resumé, and closure of the meeting

ANNEX IV

LIST OF PARTICIPANTS

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Professor W. Platzer
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