Changing Aims of Basic Medical Education - A View from General Practice

CHANGING AIMS OF BASIC MEDICAL EDUCATION
A View from General Practice
THE NEW LEEUWENHORST GROUP
a European working party aiming to promote general practice as a discipline by learning and teaching
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Summary

The needs of society are changing. To adequately satisfy them our Health Care Systems must also change. To meet the needs of changing Health Care Systems requires, in turn, a revision of Basic Medical Education, its philosophy, methods and organization.

In any review of basic medical education, the broad aims will probably remain largely unchanged. However, in response to the needs of society, changing Health Care and new educational thinking, their interpretation, and the methods used to achieve them, will vary. Such a review will also suggest some additional aims. These are listed for consideration.

A review of the special characteristics of General Practice as a discipline and as an educational setting show it to be essential to the achievement of the revised and expanded aims.

There are minimum changes in methods of teaching and assessment required in our medical schools throughout Europe, if these revised and expanded aims are to be achieved. These are outlined.

A. Introduction:

The Health Care needs of society are changing. As they do the aims, structure, content and methods of medical education must also change. There is an emerging consensus that for all doctors this is a lifelong continuum of education which divides into three phases: Basic Medical Education, Specific Vocational Training and Continuing Medical Education. In order to examine the aims of Basic Medical Education we must first understand the needs of society and the response which medical schools must make (and in some cases are making) to this challenge.

A statement entitled "The Contribution of the General Practitioner to Undergraduate Medical Education" was issued by the Leeuwenhorst Group in May 1977. It discusses:

1. The place of the General Practitioner in medical care.

2. The meaning of 'basic' medical education.

3. The reasons why a contribution from General Practice is needed in the basic education of all doctors.

4. The nature of the contribution, in outline and in detail. This is presented as a range of content from which any medical school can choose.

5. The way in which this contribution differs from the content of specific postgraduate preparation for General Practice.

This new statement is about the purpose of General Practice teaching/learning in the context of our understanding of the purpose of basic medical education as a whole. In all our countries there exists a basic medical education common to all doctors, although the timing of graduation and the extent of overlap with specific vocational training may vary considerably. The Aims of Basic Medical Education broadly stated remain largely unchanged. They have almost universal acceptance and provide no guarantee to the quality of the educational experience they include. It is their interpretation, and the methods used to achieve them that determine their educational outcome. These should change in response to change in the needs of society, in Health Care, and in medical education and its philosophy. They must be the subject of constant review.

We believe present needs cannot be adequately met by our medical schools unless General Practice and General Practitioners come to share, with other clinical departments, a central position in teaching and learning. In support of this view:

(i) we outline the changing needs of society as we see them; (ii) we discuss the implications for the aims of Basic Medical Education; (iii) we describe how the characteristics of General Practice make it an essential and in some ways a unique part of the learning and teaching response; (iv) we discuss the methods of teaching and assessment which must be employed if optimum use is to be made of these characteristics.

B. Changing Needs

Medical education must be relevant to the needs of the people and must produce doctors who can respond to the changes which are occurring in society, and in Health Care in particular. It must also pursue development in its own organization and philosophy. The statements which follow are generalizations, true in most but not all our individual countries.

Society:

Demographic changes have implications for Health Care. The distribution of population has altered, birth rate has fallen and life expectancy has increased. The elderly population is growing and families are smaller. Extended family bonds are weakening, leaving grand-parents and the unmarried more likely to become isolated. Even the 'nuclear family' itself is less stable as divorce and remarriage become commonplace.

The way in which people live and work will influence their medical needs. Many communities are increasingly multicultural. Rural communities are continuing to decline as urban dormitories replace them. There are considerable regional variations in living standards, most obviously between inner cities and remote rural districts. Yet transport and communications have improved and mobility of workers, whether voluntary or enforced, is widespread. In many countries unemployment is substantial and long term. Traditional manufacturing industries are becoming less labour-intensive and job security is now rare. More available leisure time is filled by a widening variety of sports and entertainment. Children and teenagers have greater personal autonomy, but are enslaved by competition. The range of methods for enhancing or limiting fertility is wider than ever presenting individuals and couples with complex choices. The position of women in society and particularly within the medical profession has continued to change. Part-time working and job sharing are long-term career options for many. People are generally better educated and medically informed than ever before.

Changes in attitudes have accompanied these social changes. There is increasing concern about the quality of the environment, about the contamination and artificial processing of food, about personal Health and self Care.

Conventional medicine and its technology are being questioned. There is a growing willingness to consider alternative approaches to it. These attitudes reflect a general desire for greater individual choice and consumer control in all areas, including Health Care.

In summary, it was never so important to understand the context in which medical problems arise, the person presenting them and the social circumstances in which solutions are to be negotiated and attempted.

Health Care:

Health Care has itself undergone important change. Outside hospitals the quality of services available has generally improved. Premises and equipment are better. Greater access to diagnostic facilities and (where they exist) to primary care teams, has reduced the need to refer. In some countries the growing number of doctors entering General Practice has allowed the average patient list size to continue to fall. In others the increasing range of hospital-oriented services offered directly to patients threatens to fragment integrated care.

Patterns of morbidity have also changed. More illness is chronic, age-related, or lifestyle-related. There is more disability. In some countries more patients are choosing to die at home. Perinatal, paediatric, geriatric and psychiatric care previously available only in hospitals, is now being delivered in many countries in the patient's home environment, either by hospital outreach or by primary care teams.

Services within hospitals have become highly technical and specialized. Commoner conditions and routine presentations are no longer seen in larger teaching hospitals. The number of hospital generalists has declined. Partly for that reason and partly because of the growth of hospital teams, it has become more difficult for specialists to sustain close personal doctor - patient relationships. Economies of scale have required ever larger hospitals to be built in the pursuit of cost effectiveness. Hospital care can thus become institutionalised and depersonalized.

Growing concern for epidemiology has caused renewed interest in health education, prevention and early detection of illness. This has led to increasing recognition that these are best achieved by someone who knows and enjoys the confidence of the patient. Case finding has complemented screening. Health promotion has become opportunistic. Health education offered to patients seeking medical help has been found to be most effective.

All these changes have been overshadowed by a greater determination on the part of governments to contain the spiralling costs of Health Care, most of which derive from acute general hospitals, and, in consequence, their desire where possible to transfer care to the community, and to discourage demands for referral. Finally there has been on all sides a growing awareness of the importance of qualitative and quantitative evaluation of Health Care.

Medical Education and its Philosophy:

Some medical schools are increasingly sensitive to community perceptions and needs. Some now enjoy greater freedom to develop the curriculum. With the advent of vocational training the aims of basic medical education have been redefined. The medical schools have been relieved of the responsibility of producing graduates capable of immediately entering independent practice. Better provision is made for students to make an informed career choice. There is a greater awareness of the importance of medical teachers as role models.

Emphasis in teaching is shifting away from the inductive method of clinical diagnosis. This was the traditional form of clinical reasoning, characterized by the exhaustive 'full history and physical examination', culminating in an ordered differential diagnosis. It is increasingly being supplemented by the hypothetico-deductive methods of most practising clinicians. Systems theory (which seeks to understand problems in terms of the dynamic interaction and mutual relationship of all their different parts and processes) is being applied to medicine to complement reductionism (which deals with problems by reducing them as far as possible to separate entities and simple causal chains). This allows problems to be placed in the context of the whole person. People can be placed in the context of their families, their work, and their total environment. Solutions and management can be placed in the context of the medical care system, whether primary, secondary, tertiary or self care.

Learner-centred methods of teaching are increasingly preferred. The central importance of communication skills has been recognized. There is growing anxiety about the imbalance in both the curriculum and its assessment, which has appeared to place a higher value on simple factual recall than on other cognitive abilities.

Much progress has been made in defining the discipline of General Practice and in many of our countries specific vocational training is now firmly established. EEC Commission proposals suggest 1st Jan. 1990 as the latest date by which Member States would be required to issue qualifications on completion of training. A growing number of General Practitioner teachers and teaching practices originally recruited for vocational training are now available for student education. An accumulating body of research has demonstrated the unique and essential nature of General Practice medicine.

C. Rethinking the Aims of Basic Medical Education:

By 'Aims' we mean the ways in which students are expected to be changed by the educative process in their thinking, their feelings and their actions.

The Aim of Basic Medical Education is to produce graduates who have an understanding of the principles of medicine and who are capable of undertaking further training in a particular field.

Regulatory authorities in many countries have published summaries of objectives and guidelines for Basic Medical Education. For example the General Medical Council of Great Britain has made recommendations (1980).

Within the EEC the 'Doctors Directive' (1975) specifies the duration and content of undergraduate training and the Advisory Committee on Medical Training (1981) has issued a set of educational objectives. See Appendices 1 & 2.

These statements must be interpreted in the light of the changes described above, and some further aims added. These additional aims arise from the changing needs of society and give a new dimension to the interpretation of those universally accepted traditional aims which relate principally to the technical competence of a doctor.

On completion of Basic Medical Education, students should also be in a position to comprehend, appreciate and, to some extent, use:

1. The central position of the person

Appreciate the central position of the person in medical care; recognizing that each patient is a unique individual with a different personality, experience, and life situation, making every illness different; and that each doctor is also unique, varying the relationship and therefore the healing process.

2. Patient autonomy

Understand the balance between patient autonomy and medical intervention.

3. The range of normal and natural history

Know the range of normal in human structure, function, behaviour, growth and development from infancy to old age, and the natural history of Health Care problems, their natural incidence and prevalence.

4. The wide field of patient presentations

Understand the wide field of patient presentations within which problems are defined and the wide field of problems within which the urgent, the serious, and the soluble must be identified. Know the epidemiology and natural history of common minor problems.

5. The use of time

Understand the diagnostic and therapeutic use of time.

6. The concept of continuing care

Understand the concept of continuing care and all that it implies in terms of accessibility, sustained professional commitment, accumulated knowledge and the relationship of mutual trust.

7. The organization and use of resources outside hospital

Know how medical care is organized outside hospital, and how to use and coordinate all the available resources in the interests of the patient and in the most cost-effective manner.

8. Team membership

Know how to cooperate with others as members of a team.

9. The role of the generalist

Understand the role of the generalist, who retains the overall perspective, acts as a communication centre, maintains the external and internal relations of the system, helps to establish priorities, and has ultimate responsibility that problems, even when delegated, are being dealt with.

10. The limits of personal competence

Determine the limits of personal competence, knowing when to involve the specialist knowledge and skills of others.

11. Predictive value and appropriateness of diagnostic tests

Judge the positive and negative predictive value and appropriateness of diagnostic tests.

12. The doctor's capacity to influence patients

Recognize the potential for influencing patient lifestyle and the likely effectiveness of management plans.

13. The critical examination of personal performance

Examine critically personal performance using self-knowledge acquired from experience with patients, from one-to-one teaching and small group learning.

14. Problems in their full context

Place Health Care problems in their full context of the whole person living in an environment of family, work, and culture, known to the doctor.

15. The value of home visits

Know from personal observation the value of home visits.

16. The function of illness

Understand the function of the illness, that is the psychodynamic purpose which it serves for the patient (or those around him) and the needs which directly or indirectly it may fulfil.

17. Communication based on a continuing relationship

Establish a doctor - patient relationship which enhances communication, thus allowing problems to be defined, understanding to be shared, solutions to be negotiated and appropriate follow-up to be arranged.

18. Hypothetico-deductive problem solving

Use techniques of problem solving based upon deductive reasoning.

19. Use cognitive abilities to evaluate clinical evidence

Comprehend and apply knowledge, analyse, synthesise and evaluate evidence.

20. The meaning of professional responsibility

Assume the responsibility of being a doctor, using teachers as role models.

21. How to go on learning and adapt to change

Learn independently as a continuing part of professional life. Be familiar with methods of self-assessment. Appreciate the effectiveness of different educational methods and their relevance to patient care. React flexibly to changes in the practice of medicine and in the needs of society.

22. How to make an informed career choice

Reach an informed career decision based upon close observation of all the major options.

D. Relevance of General Practice as a Discipline and as a Setting:

An examination of the characteristics of General Practice reveals that, as a discipline and as a setting it is ideally and in some cases uniquely suited to the achievement of the aims of basic medical education for all medical students. The achievement of these revised and additional aims outlined above will not be possible unless General Practice comes to share with other major clinical disciplines a central position in the curriculum.

General Practice is uniquely personal because it is defined only in terms of the persons served, in terms of their continuing care, and the personal context in which problems arise. It is the boundary between self-care and medical intervention, a boundary which is constantly changing. An ever widening range of problems, acute and chronic, are now seen only in General Practice. Many of the patients with problems encountered in hospital can only be properly understood when compared with those not referred. It is the obvious place for students to learn to recognize the normal.

General Practice occupies an essential position in the delivery of Health Care outside hospital. It provides the best opportunity for contrasting the complementary roles of specialists and generalists. The limits of medical intervention are readily learnt in General Practice. Appropriate use of referral is the best illustration of professional humility.

It is the most suitable setting for a student to develop a one-to-one teaching relationship with a fully qualified colleague, to explore the meaning of professional responsibility, and to begin the process of self-evaluation, including assessment of his/her own ability to communicate. It provides the opportunity to observe in a senior colleague the need for lifelong relevant learning and constant revision of knowledge, skills and attitudes.

General Practice is a safe environment for students to learn how to gather clinical evidence and weigh its significance, how to comprehend the principles and apply them, how to analyse all the factors which are contributing to a problem, how to assemble information from many sources and synthesise it, how to define problems and place them in order of priority, and, finally, how to evaluate the result. It can be used to demonstrate that factual knowledge alone is insufficient and that reductionism, which seeks to understand problems by focusing on individual component parts, must be balanced by system theory, which focuses instead on the interrelations and interdependency of all component parts in the context of the whole.

General Practice is a major career option. Students cannot make an informed choice unless they have had an opportunity to observe it directly.

E. Teaching Methods and Assessment

Methods of teaching and assessment must change if these revised aims of basic medical education are to be achieved. In particular, the aims of General Practice teaching and learning cannot be realized without reform of the curriculum, the examinations/assessments and the organizational structures which support them.

It follows that in all medical schools:

1. there should be an independent department of General Practice, headed by an experienced General Practitioner, whose status should be equivalent to that of the heads of other major clinical departments.

2. there should be a complement of support staff of General Practitioners within the department, proportionate to the student numbers, but sufficient to allow collaborative teaching at all levels.

3. all departmental staff should have some clinical responsibility, usually within a departmental practice.

4. the department should be supported by a network of teaching practices and trained General Practitioner student tutors. Student time devoted to clinical learning should be divided between hospital and General Practice attachments. From the beginning students should develop an appreciation of health problems encountered outside hospitals. In Basic Medical Sciences they should use the General Practice setting particularly for practical work in behavioural and social sciences. The department should organize and coordinate these activities in cooperation with other teachers.

5. the department should be centrally involved in curriculum planning. Here the emphasis should not be on where students are to be sent, but what it is they are expected to learn and what resources can best be used to help them.

6. tutors should employ one-to-one teaching in their practices where possible. Students should observe and be observed. They should learn by doing' whether by undertaking defined projects, interviewing patients, meeting other Health Care workers, visiting patients in their homes, or reporting on the practice and its organization. A student - teacher relationship should be fostered in which the teacher shares his understanding of what it is to be a doctor and explores with the student his feelings about assuming such a role.

7. the department should arrange small group teaching where appropriate. In doing so, as a subsidiary aim, students should learn the value of peer groups as a method of lifelong education.

8. assessment is necessary to motivate students, to measure whether objectives have been achieved and to ensure a minimum standard of competence. If the aims of basic medical education are to transcend individual disciplines and become truly general, their assessment must reflect that change. Because of the importance of General Practice in the curriculum, General Practitioners must be involved in assessment. The purpose of that involvement should be to test the students' general performance and not merely their knowledge of General Practice. General Practitioners must join in devising and setting written, oral and clinical tests. They must act as examiners jointly with their hospital colleagues so that general competence can be judged from a wider perspective.

9. the department should serve as a regional academic centre for General Practice, as an originator of research, as an organizer of continuing education and as the representative of General Practice within the university.

Appendix I

Recommendations on Basic Medical Education of the General Medical Council: Education Committee (Great Britain, Feb. 1980) Paragraph 13.

Basic medical education must provide the student with a thorough knowledge of human biology in the broadest sense. He should be introduced to the concept of illness and its range, varieties and consequences, in order to acquire a knowledge and understanding of disease. By the time of qualification, the graduate should have sufficient knowledge of the structure and functions of the human body in health and disease, of normal and abnormal human behaviour and of the techniques of diagnosis and treatment, to enable him to assume the responsibilities of a preregistration house officer and to prepare him for vocational training for a specialty (including General Practice), followed by continuing education throughout his professional career. The graduate's knowledge should thus include the basic principles underlying the subjects which he has been taught, but need not include those detailed aspects which are more appropriate to specialized vocational training. Paragraph 14.

In order to achieve this object, it is necessary for a student (i) To acquire knowledge and understanding of:

the sciences upon which medicine depends and the scientific and experimental method:

the structure, function and normal growth and development of the human body and the workings of the mind and their interaction, the factors which may disturb these, and the disorders of structure and function which may result;

the etiology, natural history and prognosis of the common physical and mental ailments. Students must have experience of emergencies and a good knowledge of the commoner disabling diseases, and of the ageing processes;

normal pregnancy and childbirth, the commoner obstetric emergencies, the principles of antenatal and postnatal care, and medical aspects of family planning and psychosexual counselling;

the principles of prevention and of therapy, including health education, the amelioration of suffering and disability, rehabilitation, the maintenance of health in old age, and the care of the dying;

human relationships, both personal and communal, and the interaction between man and his physical, biological and social environment;

the organization and provision of Health Care in the community and in hospital, the identification of the need for it, and the economic, ethical and practical constraints within which it operates; and

the ethical standards and legal responsibilities of the medical profession.

(ii) To develop the professional skills necessary:

(a) to elicit, record and interpret the relevant medical history, symptoms and physical signs, and to identify the problems and how these may be managed;

(b) to carry out simple practical clinical procedures;

(c) to deal with common medical emergencies;

(d) to communicate effectively and sensitively with patients and their relatives;

(e) to communicate clinical information accurately and concisely, both by word of mouth and in writing, to medical colleagues and to other professionals involved in the care of the patient; and

(f) to use laboratory and other diagnostic and therapeutic services effectively and economically and in the best interests of his patients.

(iii) To develop appropriate attitudes to the practice of Medicine, which include: (a) recognition that a blend of scientific and humanitarian approaches is needed in medicine; (b) a capacity for self-education, so that he may continue to develop and extend his knowledge and skills throughout his professional life, and recognize his obligation to contribute if he can to the progress of medicine and to new knowledge; (c) the ability to assess the reliability of evidence and the relevance of scientific knowledge, to reach conclusions

by logical deduction or by experiment, and to evaluate critically methods and standards of medical practice; (d) a continuing concern for the interests and dignity of his patients; (e) an ability to appreciate the limitations of his own knowledge, combined with a willingness, when necessary, to

seek further help; and (f) the achievement of good working relationships with members of the other Health Care professions.

Appendix 2

Advisory Committee on Medical Training, The Aims of Basic Medical Training, 1981. On completion of basic medical training the newly qualified doctor should be in a position to:

establish a patient's clinical history and carry out a full clinical examination to equip them to identify complaints, diagnose diseases and recognize normal and abnormal conditions;

practice the full spectrum of medical examination by having acquired the requisite skills in practical procedures and learnt to determine the place of special investigations;

decide on the appropriate treatment for individual patients from the knowledge gained of the full range of therapeutic possibilities (including emergency aid procedures);

apply knowledge of first aid and emergency procedures and to co-operate with the emergency services;

evaluate the likely prognosis of the disease and be able to communicate clearly and sympathetically with patients and their relatives the nature of the condition, the necessary treatment and the expected outcome;

identify the need for and be able to institute preventive measures that wilt promote the development of the health of the individual or the population as a whole;

evaluate scientific medical reports and to communicate their findings to patients and the general public. They should be able to promote the public's understanding of and collaboration in community health programmes;

keep up to date with new developments in the field of medicine, both by the study of published work and by participation in programmes of continuing medical education;

collaborate with other workers in the field of health and social services;

have an adequate knowledge of the regulations and laws concerning the work of doctors;

take into account ethical, human and social aspects relevant to medicine as a basis for decisions.

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