

Adapting Medical Education to New Developments

Introduction

Medical education has to provide the concepts of medicine, and the necessary knowledge and skills to future and to practising doctors. To achieve this task a complex and adequately controlled system is required which aims to provide the population optimal medical care within economic possibilities. The medical education system consists roughly of three: basic medical education for all doctors, professional training for primary care physicians, specialized clinicians, those active in public health and in managerial functions in hospitals and other organizational structures, and finally a third sector devoted to continuing education. In all three parts at any time a balanced mix of theoretical knowledge and skills for the practice of medicine are required.

A flexible well organized medical educational system provides the backbone of the medical care system, and determines to a large part its quality and cost. A number of conditions for the design have to be fulfilled:

1. A close cooperation between both systems as to planning numbers of professionals and the definitions of goals at the different levels.
2. Clear definitions of responsibilities for both systems.
3. Recognition of time reserved and used for teaching by qualified teachers.
4. Awareness of the lag phase between the observed effect changes in the educational system, which generally covers a period of five to ten years. Foresight therefore is obligatory!

Of great importance for the future education system but also for the medical care system is to realize that medicine is not only a natural science but also a humanistic discipline. That means including philosophy and ethics in the educational system. But it also means that apart from epidemiology and decision making there must be room for getting acquainted with the quantitative methods in use for instance in sociology and psychology; in short in the behavioral sciences. To achieve that will be a major challenge for the future.

In my opinion it will be a difficult task. It is not only a question which discipline should be included in the curriculum and how it should be presented but more how we think the future doctor should be practising medicine. How to integrate biomedical thinking with psychosocial components in concepts of disease and sickness is also of importance. We desire to preserve the clear way of reasoning and getting insight as in the biomedical way of thinking but we have to accept that the approach to medicine in the future has to be extended. For teachers and students this will not be easy. We often prefer to believe that the rational way of thinking in molecular biology will be able to tell us in the future exactly what is the cause of a disease. This way of thinking is still dominant in medicine. Let me quote for instance Lewis Thomas from a recent article called 'The new medicine, something different.' Of course he writes – 'we still have the same list of chronic diseases and premature fatal ailments that were prominent in textbooks 50 years ago and we still understand very little about the underlying mechanisms responsible for these diseases.' But he concludes that if we just invest more in fundamental biological research we will also resolve that. 'I conclude', he writes, 'that medicine may be on its way to becoming a new profession based on *real science*. It is nowhere near that, at the moment, but the way is now open. From here on, everything will depend on the imagination and intellectual agility of the rising generation, those young investigators now just preparing for careers in fundamental research.'

Nobody can look into the future, and therefore Lewis Thomas may be right. We however feel hesitant about the prophecy because of the statement 'based on real science.' It is the use of the word science which nowadays is narrowed to physics and not used in meaning of scientific knowledge in general. With the growth of the fields of knowledge in biology, psychology and social sciences doubts have arisen whether 'The scientific method' applied in physics is always applicable to the indicated disciplines. Doing *fundamental* biological research certainly is recommendable, with the hope that unexpectedly promising new views will be encountered.

In medicine understanding should not be our primary motive, but rather the elimination of disease. Unfortunately the two aims are rarely coupled.

The following three articles will cover problems in medical education which in the present stage of medicine require much attention.