

AMSE NEWSLETTER 22

APRIL 1999

"AMSE Newsletter" is a newsletter of the Association of Medical Schools in Europe. The purpose of AMSE is to share experience between European Medical Faculties in the fields of education, research and management.

NEWS FROM SISTER EUROPEAN ASSOCIATIONS

ASSOCIATION OF MEDICAL EDUCATION IN EUROPE (AMEE)

AMEE communicated to AMSE the programme of its Annual Conference 1999:

Conference theme: A CRITICAL APPRAISAL OF MEDICAL EDUCATION

Workshops and sessions:

Distance education

OSCE and Standardised Patients

Performance Based Assessment

Evidence-based education

A "digital" medical curriculum

On-the-job learning for postgraduate education

Accreditation for teaching of medicine

Etc.....

Place: Linköping (Sweden)

Date: Conference: 29 August – 1 September ; Pre-conference workshops: 28-29 August

Programme and forms for Registration and for Accommodation can be obtained from:

Mrs Pat Lilley, AMEE Administrator

Centre for Medical Education, University of Dundee

Tay Park House, 484 Perth Road, Dundee DD2 1LR, UK

Tel: +44,1382, 631967 fax: +44,1382,645748

E-mail: p.m.lilley@dundee.ac.uk

EUROPEAN MEDICAL STUDENT ASSOCIATION (EMSA)

The EMSA Executive Board 1998/1999 has the following members:

President: Jaroslaw J. Oleszczuk (Poland)

Medical University – Al. Raclawickie 1 – 20-959 LUBLIN - Poland

Fax: +48.81.5328903 E-mail: jarek@eskulap.am.lublin.pl

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Science Director: Jacob Regieli (The Netherlands)

Medical Education Director: Jacco Veldhuyzen (The Netherlands)

Legmeerstraat 25-3 - 1058 NA AMSTERDAM - The Netherlands

phone: +31-202176859 - fax: +31-20-4448401 (office)

e-mail: nemsic.buro@med.vu.nl

Reports presented at the annual AMSE congress 1998 (Prague, 3-5 September 1998)

Session on: RELATIONSHIP BETWEEN THE UNIVERSITY AND THE UNIVERSITY HOSPITAL

1. University hospitals in Italy: present and perspectives

A. Salerno – Palermo (Italy)

Medical faculties consist of at least a medical school and an owned or closely affiliated clinical facility in which faculty instructs physicians - in - training (Blumenthal, 1997). They often contain additional components: school of dentistry, nursing, and allied health professions. They perform several training functions that have a social value, the most visible of which is the education of new physicians and specialists.

In Italy students admitted to the medical faculty are about 18 years old and need 6 years of medical studies before the degree. The undergraduate training is divided in two parts: 3 years pre-clinical studies and 3 years clinical studies. After the degree, 65% of the graduates are admitted to the post-graduate courses (specialisation schools) for 4-5 years. During this long period (10-12 years) before becoming a "specialist", students spend their time in the medical faculty. To do this task, medical faculties conduct teaching, patient care and research.

In Italy we say that the principal target in university hospitals is teaching activity and health care is "instrumental" to the education of physicians. Moreover, research, education and health care are believed to be "unseparable" in the medical faculties. We still hold these principles, at least on a theoretical background, because the medical faculties are different today.

In the 1970s in Italy we observed three phenomena directly involving medical faculties:

a) *increased number of students*

b) *ageing population and increased hospital care* c) *heavier demands on the quality*

The medical faculties evolved facing these problems by increasing/improving the clinical part of the faculty. As a result, the faculty board-competent to establish the policy of the faculty is not balanced and we observed an increased distance between the preclinical and clinical part of the faculty with a decreased "cooperation" (Fig. 1). In Italy faculty boards are trying to achieve a balance between the pre-clinical and clinical part not only to obtain an improved cooperation but also to avoid practical problems in the decision-making organ, the faculty board.

In the past the medical faculties were smaller and this cooperation between preclinical, clinical and post-graduate teaching was, perhaps, easier to perform. Today I am just wondering if it is still possible to claim that teaching, research and health care are indissoluble in the Medical Faculties or if it is true only for the clinical part of the faculty.

In Italy today we have 34 medical faculties and 6,241 students will be admitted to the first year (1998/99)

The medical faculties are geographically distributed as shown in fig.2.

- 12 out of the 34 run an autonomous medical school
- 3 of them are private institutions, with autonomous medical school, but depending on the Ministry of the University:
- 22 medical faculties use affiliated clinical facilities: they are hosted in hospitals depending on the Regional Health Authority where (some) clinical divisions are directed by university professors.

In all medical faculties the university hospitals are supported through agreements with the Regional Health Authority.

In the Academic medical centres university doctors and hospital doctors work together: the hospital doctors are principally devoted to health service and reserve little of their working time to research and teaching activity. This creates differences, if not an open fight, between the two categories of physicians working in the same structure.

The medical schools are not homogeneous from many points of view and the policy of each regional health authority does not contribute to homogeneity.

In the past, the fact that patients were hospitalised for longer periods and that outpatients clinics were still rare allowed plenty of time of bedside teaching. In the recent years Medical faculties faced two problems; lack of accountability and a competitive health market. Lack of accountability of university hospitals in the past has resulted in their producing too many or the wrong types of goods and services.

With the rapid growth of managed care most university hospitals now seem to recognise that they can no longer operate as institutions largely divorced from trends that favour lower cost, less hospitalisation and more primary care. In local market dominated by competitive health care organisation it is extremely

difficult for university hospitals to recoup the cost associated with their functions.

Providing trainees with the necessary clinical experiences raises the costs of patient care, because trainees:

take longer to perform routine patient care tasks

use more diagnostic and therapeutic services

require faculty supervision

Also the financing system that is currently in operation forces university hospitals to adopt a market-oriented approach for ordinary and top-clinical specialist care.

I had the opportunity for seven years to be dean in my faculty where we have an autonomous Medical School and in part we are using affiliated hospitals and in the last years I have also been teaching in a private university, Campus Bio-Medico, in Rome.

Let me introduce the Medical Faculty of Palermo:

Medical Faculty - PALERMO

Students:

Undergraduate students: ~2000 (~300/year)

Postgraduate students: ~800 (40 specialisation courses)

Allied health professions students: ~180 (nurses, etc.)

Clinical science training:

University hospital: 1028 beds, 572 doctors

University affiliated divisions in regional hospital: 316 beds

(doctors are dependant from the university (a minority) or from the health regional system)

Financial support:

55% from the Regional Health Authority

40% from the Ministry of the University

(>90% for salaries)

5% from the National Research Council and other agencies

Teaching staff:

The distribution of the teaching staff in the six years of undergraduate courses is shown in Figure 3

Problems

Many problems emerge from this picture where we see an homogeneous dishomogeneity in Italy and, maybe, in Europe.

Some of the problems originate from differences between autonomous medical schools and medical schools in affiliated clinical faculties. The observation that in the last years two private institutions started their activity can suggest the "quality-problems" the public institutions are facing,

I believe, however, that two problems are more general and involve all the medical faculties financed by the DRG (Diagnosis Directed Groups) system.

1) The distance between basic and clinical science is increasing.

Mostly applied research is financed: is it clinical research or research done by clinicians ?

Pre-clinical and clinical sciences should be grouped together and clinical departments and pre-clinical laboratories must be combined to form divisions.

2) To be competitive in the health market the University Hospital divisions tend to be highly specialised.

- In the past the general idea of the University hospitals was a hospital a) not too specialised

b) not competitive with other hospitals from a "quantitative" point of view

c) selecting patients to constitute a nosological "corpus"

What is better for undergraduate training?

Major teaching hospitals are nowadays in an hostile environment because for many reasons they are undeniably costlier than non teaching faculties (Epstein, 1995) and for these reasons they risk extinction like dinosaurs (Iezzoni, 1997).

Perspectives:

1) Functions traditionally performed by the clinical part of the Medical Faculty will be broken up and parcelled out to other institutions: this scenario will increase the distance "from the bench to bed-side" and decrease the quality of the "product".

2) Selecting highly specialised hospitals in the regional health system: increased ratio of specialists to generalists is believed to have a deleterious effect on the costs and quality of health care (Iglehart, 1994).

In 1994 dr. P.R. Lee - Assistant secretary of Health and Human Services, USA, said that training institutions must educate more primary care physicians and fewer specialists because *"it generates unnecessary health care spending ... Because specialists generate far more tests and procedures than primary care physicians, an oversupply of non-primary care specialists drives up costs without improving patient outcomes ..."*

In a cost sensitive health care market depending on the economical crisis in Europe, we cannot exclude that these solutions – which are less expensive in the short period will be selected.

These first two scenarios are not mutually exclusive and have a common final solution: moving at least the clinical part of the medical faculty into the Health National/Regional System,

Following the same way, should the Faculty of Agriculture be dependent on the Ministry of Agriculture and Forestry and the Law Faculty dependent on the Ministry of Justice?

Major teaching hospitals have a complex mission: to provide medical education, to sponsor basic and applied research and to offer a broad spectrum of clinical services.

The University Hospitals perform a social mission producing "Public goods": they provide disproportionate amounts of certain unprofitable but necessary services, and we should wonder

if the budget is a more important quality factor than research and education if we believe that medical faculties should perform different tasks as suggested by Binetti (1996):

1. new diagnostic programmes, use of new techniques, new experimental therapies
2. new models of assistance (also from a nursing point of view)
3. new methods relating with the patients, their family, the medical staff
4. presence of students of various branches (medicine, biology, psychology, economy, bioethics and various types of technicians)
5. various advanced educational areas (oncology, neuropathology, gene therapy)
6. research projects
7. meetings, seminars on themes of national and international interest
8. follow-up activities for physicians, nurses ...
9. innovative projects of assistance together with other National Health Services structures (home assistance for the elderly, terminal and chronic patients)

These problems are widely recognised but not yet solved. In Europe the teaching hospitals have an increased cost which is different in the European countries as reported by Zanetti et al. (1998):

"Teaching cost" as percentage of the budget

UK 7-15%

France 10%

Germany 11-25%

Netherlands, Finland, Sweden 15-20%

Italy 3-8%

If the teaching hospitals cost more, as a consequence of their activity:

a) they must be programmed in agreement with the National Health Service (how many specialists/physicians does the National Health System need?)

b) they must be evaluated from quantitative and qualitative point of view:

while the quantity is today evaluated as DRGs (although they neither take into account the severity of the disease nor the patients' satisfaction), the quality is not accounted at all when the hospital budget is evaluated.

In Finland there is a new model to calculate the increased cost of the university hospitals: funds are distributed each year taking into account the mean from the last three years of the score calculated as follows:

Criteria for assignment of funds to Medical Faculty in Finland

Score for didactic activity:

1.0 point for each undergraduate student

1.0 point for each postgraduate student

0.5 point for each nurse (and allied professions)

Score for research activity:

Papers published on national journals 0.5 point

Papers published on international journals:

impact factor <1: 1.0 point

impact factor >1 and <3 2.0 points

impact factor >3 and <5 3.0 points

impact factor >5 4.0 points

Each review: 6.0 points

Each published thesis: 1.0 point

A new government policy is under way in Italy: a new law to redefine the relationship between Medical Faculties and the National Health Service, already approved by a governmental committee.

The general principles are very good but there is no light on the way these principles will be realised.

The appropriate method for holding academic health centres and other institutions accountable for their publicly supported social missions is likely to vary according to the type of mission, type of organisation, level of government, and geographic region.

However, three points are worth emphasising in this regard, as reported by Blumenthal et al. (1997):

- 1) Teaching hospitals must expect increased scrutiny if they receive additional public funds earmarked to support teaching, research, and some forms of patient care.
- 2) Teaching hospitals institute comprehensible accounting systems that allow public officials to identify the sources and uses of their funds more readily.
- 3) Teaching hospitals must demonstrate their willingness and ability to respond to public needs (such as the preparation of physicians for ambulatory practice in managed-care environments); improve the efficiency of their teaching, research, and patient care activities (Blumenthal et al., 1997).

If we believe that teaching hospitals should survive as an important part of the University Academic we need new rules, new mechanisms of accountability. On the other hand policy

makers should avoid imposing regulations that reduce the efficiency or effectiveness of the social mission of teaching hospitals.

Policy makers should evaluate the effects of any new program on the areas of teaching, research, highly specialised services and care of vulnerable populations.

University Hospitals should be organised taking in account the National/Regional Need of physicians/specialists:

A) Size of the Medical School:

4 beds/postgraduate training (the variability of needs in the years can be overcome by involving specialised hospitals from the National Health System).

B) Organisation:

1) Clinical departments and pre-clinical laboratories combined to form divisions;

2) The Dean of the Faculty of Medicine is also the president of the University Hospital

3) Financial support to the Medical Faculty from two Ministries.

The first two points have been very well realised at the Academic Medical Centres, University of Amsterdam, as reported by Urbanus (1997).

C) Budget established evaluating:

1) the type and the quantity of health care activity (as today?);

2) the projects of the Medical Faculty;

3) the quality of the research;

4) the quality of the physicians/specialists "produced".

This last point is very difficult to evaluate but is extremely important.

We know that increasing the quantity of medical doctors influences the amount of public health expenses independently from an improved health care: a medical doctor is not recyclable and can be only a medical doctor.

Not only the quantity but also the quality of the doctors/specialists will influence the level of health budget in our countries.

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2. THE RELATIONSHIP BETWEEN THE UNIVERSITY HOSPITAL AND MEDICAL SCHOOL

Juan Vinas-Salas, Juan Prat-Colominas - Lleida (Spain)

Relations between University Hospitals and the University are very complex and in nearly all the Universities different situations are affected by many problems. I present some problematics of the relationship between the University Hospital and the Medical School I found in my experience and in the literature and some proposals for better dealing with them.

All hospitals, including University hospitals, have the main function to provide health care assistance in specialised bases. Care of patients is the principal mission of all hospital.

Also all hospitals, University or not, have the other two essential missions: to teach health care students, (specially their practical training) and to do biomedical research, especially clinical. Doing so increases the quality assistance and has a positive repercussion on in-patients care (Figure 1).

The University hospital has more commitment in teaching health care professions, and relating exclusively to doctors, they have an important roll in graduate training and essential in postgraduate specialisation of a vast majority of specialists.

This differentiates a University from a non-University Hospital. If patients care is essential, to provide good quality medical education is also essential. Which must be the organisation differences between both hospitals?

1- To transform a non-University Hospital to a University one supposes many changes, not only to add the word University to its name (Fig. 2).

There must be a cultural transformation towards medical education of all staff members; initiating by its managers. Once the politician or the board of directors decides to increase the relations between the hospital and the University until its transformation into a University hospital, the manager must command this cultural change, starting by changing its organisation to facilitate medical education.

A- Doctors that become professors must include in their schedules the time dedicated to the classes and the seminars and the practice classes to students. Also they have to increase the research they do. All this is time consuming and this means that the professor cannot assist the same number of patients. Then the managers must increase the number of hospital staff doctors. Other staff members, administrative, different technicians, etc. also must increase in number.

B- Hospital structures must be adapted to students. This means to provide learning spaces: classrooms, seminars, and skills labs etc., and to acquire teaching and learning materials such as projectors, etc. Also it is necessary to create a research unit.

2- All the transformations obviously suppose an increase of the hospital budget. The hospital needs more money to compensate the increase of the fees (Fig. 3).

Here is the main problem that causes frictions between the University and the Health Care System. We, as Deans of the Medical Schools want professors to have the time to dedicate to students and to research, whereas the Hospital Managers want doctors, including professors, to visit and treat more and more patients to increase the budget.

The Health care system has the main power, as the budget of a hospital can be more than that of all the rest of the University Faculties. Governments try to control everyday increases of the cost of health care. So we, University doctors, must help to maintain efficiency and to be good managers in our patients care. We must find good arguments to defend University hospital increased cost.

Social efficiency is a very important argument. We must be open to social accountability to permit that population is at our side in defending university hospitals. Managers must be convinced that the high quality assistance that university hospitals provide with better health output are due to the fact that we are university doctors that do medical education and that must have an excellent standard of quality. If managers are on our side, then our task will be facilitated.

For better relations I propose that:

- University Hospital must have political support. We Deans of Medical Schools must have periodical contacts with our politicians, to make them sensitive to the social importance of a good and well provided University Hospital.
- Health Care representatives and Medical Schools representatives must define objectives together. Assistential, educational and research ones. Commissions formed by both parts must have an important role in the definition of objectives and in hospital functioning.
- Medical Schools must face social accountability.
- The hospital must have adequate managers, as it is different to deal with a non-university hospital than with a university one. When selecting the managers these facts must be taken in account Deans should have an important roll in the manager selection and change.
- All hospital staff must have a cultural change towards students' educational needs.
- It is good to think in medical and nurses curriculum based in clinical practice needs. Problem based learning is a good approach.
- We must facilitate students in acquiring a self-learning habit with professors acting as students' tutors. Specialists then will spend less time in lecturing.
- We must facilitate the relationship between clinical and basic professors. If they are in frequent contact it will be easier for them to collaborate in applied research and in integrated curriculum development, as well as in a more efficient medical assistance.

I think that with this basis the relationship between University and University hospital will be better.

3. Should Teaching Hospitals Belong to Medical Schools?

Radzislaw Sikorski, Malgorzata Sikorska - Lublin (Poland)

Poland is currently undergoing profound systemic reforms: a new administrative division is being implemented and important health care changes are in progress. Two aspects of these transformations are of great concern for the medical academic institutions, and they are best articulated by the following questions:

1. Should a reintegration take place between medical schools and universities?
2. Should teaching hospitals belong to the University Schools of Medicine or should they be administered by local governments?

1. Present developments in historical context

Before World War II, the faculties of medicine, dentistry and pharmacy in Poland belonged to universities. Soon after 1 September 1939, the date of the outbreak of the war, all Polish universities and schools of higher learning were closed by the Nazi occupational authorities. In the years 1944-45, as the liberation of Poland progressed, the reactivation of the higher education institutions began. In those early post-war years the medical faculties operated as structures of the reopened universities. A little later, separate University Schools of Medicine were founded, which originally included faculties of medicine, of dentistry and of pharmacy, and - since the 1970s - also nursing faculties.

In 1989, after the abolition of the communist regime in Poland, a discussion on the merger of the medical schools and universities began. The matter appeared very complicated.

Such university departments as biochemistry, biology, biophysics, ethics, philosophy, sociology, psychology and foreign languages are, in their present shape, structurally and functionally incompatible with the clinical departments of medical schools based on either in-or out-patient clinics. There are voices in the discussion suggesting that the established university structures in their present form are afraid of being dominated by the powerful medical faculties after the prospective unification. Moreover, apprehension is also expressed every now and then by medical professors about their functioning within the university hierarchy, perhaps in response to the lack of acceptance signalled by the other side.

In addition to the psychological and logistical problems, the cost of maintaining hospital-based medical departments seems to be well above the present financial capabilities of the universities and the Ministry of Education. Consequently, only one merger has taken place so far: the Medical School in Cracow has returned to the Jagiellonian University as its Collegium Medicum.

2. The status of teaching hospitals

Local governments are willing to assume the responsibility for teaching hospitals in their territory and to alter substantially their scope and tasks. If that happens, the spectrum of health services offered by the hospitals would most probably be limited due to financial cuts as the newly formed public health insurance companies will, at least at the beginning, pursue a policy of major savings. On the other hand, the hospitals will be vitally interested in signing contracts

with these companies. As a result, fewer medical procedures offered and restricted funding on teaching can be anticipated.

The Conference of the Medical Schools' Rectors has recently expressed publicly their opinion that teaching hospitals should belong to medical schools. Several arguments have been taken into consideration.

Medical services

The medical staff of the University Schools of Medicine will maintain a higher level of under- and postgraduate teaching in the hospitals than the non-academic hospital personnel. The medical science and technology have progressed rapidly, giving rise to a number of new subspecializations and increasing the need for highly differentiated training (4). It became necessary to include new disciplines into the medical curriculum. The improvement of the teaching standards also results from the contacts the medical schools have with leading international centres of clinical medicine and the exchange of the newest operating techniques, diagnostic technology and pharmacological treatment methods. The international scientific dimension has to be incorporated into the medical education to be reflected in all medical disciplines (5). A medical school teaching hospital should play the role of a regional reference centre prepared to deal with most complicated cases transferred from the town or district hospitals, which is the role of special importance within the three-tier health care model.

Teaching

To be able to fulfil its role of a teaching centre, the hospital should be able to treat a wide variety of cases and offer a multitude of medical procedures. Human migration has transformed the European nations into a multiethnic society. Medical education has to enable future medical professionals to understand this heterogeneous society and to respond appropriately to its new needs (2). Other social transformations also place new demands on medical care:

- the growth of the elderly population escalating the costs of medical care;
- the increasing prevalence of behavioural disorders associated with changes in marriage and divorce, changing household structures and increasing social disruption (6);
- tobacco smoking, alcohol drinking and drug addiction.

For all these reasons, a teaching hospital has a chance to play its teaching role most successfully when affiliated to a University School of Medicine and acting as a regional reference centre. Furthermore, it is always beneficial when clinical training and theoretical teaching is not done by different teams in different institutions. The situation when lecturing at bedside or operating theatre teaching is provided by the same person seems to be optimal, provided that different treatment options are taught. The educational process should provoke and even force students into the attitude of active self-study. It implies a "know-what-you-learn" principle (4), necessitates the inclusion of new disciplines in the curriculum, promotes problem solving abilities and better attitudes towards continuing education in medical graduates (1). This is true also for dentistry, where general medicine skills and specialised disciplines should be taught in addition to dental medicine. If offered within the same academic structure (a University School of Medicine and Dentistry), both undergraduate and postgraduate teaching would provide easier access to interdisciplinary training for future dentists by engaging specialists from such branches as neurosurgery, head and neck surgery, cosmetic surgery etc.

Science

The increased need for the rationalisation and improved efficiency of medical education means that teaching has to meet higher quality criteria (5). Accountability has become a major topic on the educational agenda in the last few years. We have to keep in mind that we are preparing physicians for the future (3). One of the most important aspects of modern biomedical research is the co-operation between clinical in-patient centres and basic science laboratories. The logistics of such co-operation is much easier if both co-operating teams belong to one academic structure. There is a need for a stronger scientific orientation than in the past and, consequently, professional and scientific training need to be linked in basic medical education (4). The necessity to include new disciplines in the curriculum cannot be neglected nor can the demands to promote problem solving abilities and to develop positive attitudes toward continuing education in medical graduates (1).

The process of reforming academic medicine that we can follow *in status nascendi* in Poland today is certainly interesting and gives instructive experience. However, the complexity of the situation and serious problems it poses bring to mind the ancient Chinese imprecation, "May you live in interesting times".

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4. RELATIONSHIP BETWEEN THE UNIVERSITY AND THE UNIVERSITY HOSPITAL.

Summing up

Chairman: Uno Erikson – Uppsala (Sweden). Co-chairman: J. Bilder – Brno (Czech Republic)

A medical faculty, which usually is a vital part of the University, is responsible for the education of health professionals and research in the area of life sciences. The responsibilities mean that both basic medical and clinical sciences are involved in the teaching process of a physician and a nurse. At the AMSE meeting in Prague, September 3 – 5 1998, different aspects of this process were covered. This report is a summary of the session.

The very strong connection between research and education was a well-accepted base for all the lecturers. Professor Alfredo Salerno, from Palermo, Italy, presented the view from an Italian perspective and from one of 34 Italian medical faculties to which 6.241 students will be admitted for the first year (1998 – 1999). Twelve of them run an autonomous medical school of which three are private, but depending on the ministry of the university.

Twenty-two medical faculties use affiliated facilities, *i.e.* they are hosted in hospitals depending on the regional health authorities and some clinical divisions are directed by university professors. All university hospitals are supported according to an agreement with the regional health authority.

As in the whole of Europe the students spend six years for their graduation. During these six years they have their undergraduate training and teaching patient care and research, which is inseparable in the medical faculty, with health care in the university hospitals as a prime target. From 1970 three phenomena were observed in Italy: 1. Increased number of students, 2. Ageing population with increased hospital care, 3. Heavier demands on the quality. These have forced their medical faculties to increase and improve the clinical part of the faculties.

Some difficulties have appeared. The faculty boards which are competent to establish the policy of the faculty, are not balanced (biological staff is $\leq 25\%$) and an increased distance between pre-clinical (basic sciences) and the clinical parts was observed. This has also been seen in other countries, e.g. in the U.K. and Sweden. In earlier smaller medical faculties the integration between pre clinical and clinical activities was easier to perform. Today, two categories of physicians work at the university hospitals. One works on university conditions with research and teaching and the other principally devoted to the health service with very little time available for research and teaching, and this can cause a conflict between the two groups. This in-homogeneity is also enforced by different policies of regional health authorities. The medical schools have recognised the new needs of lower costs, less hospitalisation and more primary care, and are adapting a market-oriented approach for the ordinary and high specialist care.

The increasing distance between pre clinic and clinic has been counteracted by grouping the two parts in forming new divisions that tend to be highly specialised. The new divisions thus include both pre clinical laboratories and the clinical wards. This also reflects the need that a pre clinical researcher or professor have the background of a physician. The value of this organisation for undergraduate training was questioned, however. If the "bench to bedside" distance increases the quality of the "product" decreases. The decreased ratio of specialists in relation to generalists was believed to have a deleterious effect upon cost and quality (quoted *I.K. Igleheart, 1994*).

Which minister should be responsible for the university hospital? Should it be the ministry of health or the ministry of University (education)? Consider if the law faculty was dependent on the ministry of Justice.

The budget versus quality of research and education was discussed in relation to many important factors as new diagnostic problems, techniques, etc. A tendency of increasing costs

of the European teaching hospitals is a fact. These can be accepted but a consequence must be agreement between a national health system and the university giving a base for evaluation. An example from Finland gives the criteria of the didactic activities and the research activities including among other things impact factors in different journals.

A new governmental policy is coming up in Italy where good general principles and results of an open accounting system will ensure that the academic part must demonstrate its willingness and ability to respond to the public needs and the policy makers should avoid imposing regulations on the academic part which reduces the efficiency of university hospitals. A university hospital should according to these ideas, have four beds for graduate training and the dean of the faculty of medicine should also be present on the board of the university hospital.

Professor Malek from Prague discussed most of the problems of the university hospitals in the Czech medical care system. Physicians – teachers, are appointed by the Dean and chiefs of departments by the Ministry of Health after approval of the Ministry of Education. They are paid by the Ministry of Education through the Faculty. Physicians working only with health care are engaged by the hospital Directors after a proposal of the chief of Department. The Director of the hospital and the Dean of the Faculty share the responsibility of the scientific work but there is no legal base for co-operation between the hospital and the medical faculty. The director has access to the Deans college meeting and the faculty to the not always existing hospital board. The only legal basis is a decree of the Ministry of health from 1991, which however, did not respect the claims of the medical faculties.

Thus the present system presents many drawbacks for the university side, which results in incompetent and incapable decisions, bad hospital economy and even fraud. The Director of the hospital considers the medical students as a burden for the hospital and also he sees no need of a medical faculty. The director can abolish existing beds and the result is a formally existing department without patients but he cannot remove the academic staff. During the recent past the medical professors had to make some progress by lobbying in the Parliament but professor Malek underlined the need of external (foreign) experiences and advice.

He discussed mostly the problems of management of the university hospital. He criticised the big political influence in his country. The politicians were not always well prepared for their task and the tendency for gifted jobs were seen.

Conclusion: The definition of a university hospital needs to be clarified. A certain level of quality must be reached both in research activities and personal and technical resources. Good clinical care is based on research, both clinical and pre clinical. The students must be offered optimal possibilities for the at least six years of their lives and among them a wish for research should be evoked. That means that a university hospital, to be named so, needs certain qualifications. These qualifications are not political but scientifically and educationally based. The manager (director) and the board of such a hospital must be very qualified and be able to work together with the medical faculty, which should have a pronounced influence in the leadership. The university should appoint the president of the board, since the university guarantees the quality.

Reports presented at the annual AMSE congress 1998 (Prague, 3-5 September 1998)

Session on: WHEN RESEARCHERS IN A MEDICAL FACULTY ARE NOT MEDICALLY TRAINED – IS THIS A PROBLEM?

1. It is a problem when researchers in a faculty of medicine are not medically trained ?

Luciano Vettore – Verona (Italy)

In my experience, the answer cannot be a straightforward yes or no, but has to be that it depends. But, what does it depend on?

1. In the first place, what does *"medically trained"* mean? Does it mean that the researchers are not graduates in medicine, or that they are not *"clinically trained"*

Clearly, the two situations are quite different: researchers operating in the laboratories of the basic disciplines, despite being graduates in medicine, are generally unfamiliar with clinical problems, i.e. they are not "clinically trained".

Nevertheless, the phenomenon which today appears to be ever more frequent, is that increasing numbers of researchers in faculties of medicine are graduates in non-medical scientific disciplines, such as Biology, Chemistry, Pharmacy, Physics, etc.

They are attracted here by many unsolved biological problems; in addition, biological research employs fairly sophisticated techniques, often more familiar to the graduates of other scientific faculties than to doctors.

2. Going back now to our initial question - what are the potential consequences of the presence of these non-medical graduates in faculties of medicine? - I believe we need to distinguish here between consequences in terms of the development of biomedical research and consequences in terms of the training of doctors:

a) researchers not graduates in medicine more likely choose end-points which have a less immediate bearing on human health; however, the negative consequences of this choice are probably more theoretical than real and have to do more with the individual researcher's field of interest than with the potential future applications of the research results. In the present "global system" of scientific research, even discoveries which appear to be far removed from any possible clinical utilisation, promptly find other research teams that translate their messages to settings closer to clinical applications: examples are the applications of molecular biology and genetic engineering to the synthesis and production of new drugs.

b) The time span separating basic discoveries from their clinical applications is quickly shortening; for this reason I think essential that the future clinicians be trained to grasp the significance of discoveries made by basic scientists in the laboratory.

Precisely as a result of the tumultuous evolution of scientific knowledge, a doctor trained to use in his profession only the technical and scientific armamentarium available at the time of his undergraduate studies or shortly afterwards, will soon become professionally unqualified and so confined to do lifelong a routine, repetitive job.

By contrast, his university studies should provide him with the instruments for the subsequent permanent updating of his knowledge.

In addition, I think profitable for future clinicians to learn the logic behind a research hypothesis, the reasons conditioning the choice of this or that technique within the framework of an experimental design, and – in a more general sense – the basic epistemological features of the scientific method; inasmuch as the latter is no different in essence from the clinical method in terms of the logical processes involved. The students can get this cultural armamentarium especially by scientific researchers, and I believe it is of no great importance whether they be medically trained or not.

Quite apart from all this, it is obviously desirable that researchers with a non-medical cultural background should display the curiosity and the desire to look into the clinical reality and seek problems of common interest as a basis for dialogue with clinicians, albeit from different perspectives.

Unfortunately, the "forma mentis" of biologists is far from that of the clinicians practising medicine, because the intellectual aptitudes of the basic researcher and the clinician remain epistemologically irreconcilable: the former attempts to reduce biological phenomena to simple processes in order to understand their mechanisms, while the latter has to cope with complex phenomena, which are hard to individualise in that they have to do with multiple, intricate and often interdependent phenomenological interactions within a living organism.

I personally hope and trust that the ability of clinicians and basic researchers to communicate and understand one another will, in the course of time, become a stimulus for joint research projects, in which each retains his own qualities, but is enriched by contact with those of his counterparts.

c) Of late years, epidemiologists take part in our Faculties; they often have a mathematical-statistical background, thus representing a new type of researcher, who is a graduate neither in medicine nor in any of the other "natural sciences".

Their contribution is very, very important in transforming into scientific, measurable results the clinicians' observations, which previously were frequently limited to anecdotal descriptions, or interpreted on the basis of ingenious guesswork.

However, we observe some difficulties in the dialogue between clinics and epidemiologists, because they represent two cultures each traditionally remote: namely, the traditional medical culture is mainly of philosophical-humanistic origin, based on observation and care of the individual, rather than on the quantification of phenomena and random correlation; on the contrary, the epidemiological culture uses mathematical and statistical instruments, focusing its attention more on populations than on individual subjects, more on common and therefore quantitatively important phenomena than on interindividual differences.

The cultural synthesis of the two positions could be theoretically achieved in the teaching activities; unfortunately in our medicine Faculties it does not frequently happen for teachers of statistics, likewise for those of physics and chemistry: the specific contents of their disciplines often prevail over the "nobler" objectives of their teaching; in too many cases the students must learn the basic principles and laws of physics, chemistry and statistics, regardless of the actual usefulness of such knowledge.

3. How can we avoid the pitfalls outlined above and transform the availability of non-medically-trained researchers in faculties of medicine into a source of wealth?

a) If we regard it as a source of wealth that researchers and teachers in a Faculty of medicine come from very different cultural backgrounds, one objective is to promote dialogue and the

mutual exchange of information and experience, avoiding the isolation of each culture, which frequently depends on personal laziness, presumption or fear.

Transforming the present Tower of Babel into a Pentecost will be far from easy and will take time, but I would suggest that this is going to be the natural course of events.

Our function is to foster opportunities for cross-cultural dialogue so as to create a successive series of interfaces capable of linking the insights of basic research to the yet unanswered questions regarding clinical problems and vice-versa; in this type of two-way chain of knowledge, a contribution is required from all concerned; what matters is that each of those involved should be a little curious about the others' work and a little less jealous of his own...!

b) Teaching may afford a strong opportunity for creating mutual knowledge and interdisciplinary dialogue, if many of us will pull down the barriers between cultures, mainly erected to defend our questionable academic power.

An initial natural meeting point for the different disciplinary approaches can be found if the focus of didactic interest is shifted from content to method.

Without any doubt each teacher-researcher can and must teach different types of knowledge, but the learning student is not a computer hard disk, where all this knowledge is catalogued and memorised in an orderly fashion, so as to be retrieved in the shortest possible time.

The student must be trained above all to solve the medical problems he will have to face in the exercise of his profession: he will do it by recruiting and applying, in a proper manner, forms of knowledge which differ in their cultural origin, but are complementary for achieving his objective.

As I mentioned earlier, the method of scientific knowledge is shared by the clinician, the biologist, the epidemiologist and the basic researcher: each uses essentially the same method, the scientific method, applying it in different contexts.

In actual fact, each of us teaches various things, which are rapidly destined to become obsolete, but are due to the application of the same method, the rules of which remain unchanged over time.

Therefore the teaching of the method is very important, even if we cannot forget that the adequacy of any medical decision strongly depends on the application of the best knowledge currently available, despite the fact it is rapidly destined to be superseded.

c) Since we do not live in the best of all possible worlds and since it is only natural for each of us to cultivate what distinguishes and divides us, rather than what brings us together in achieving our goals, we should choose some realistic strategies that facilitate cultural integration. It seems to me more realistic to identify effective strategies in the teaching than in the research setting, hoping that didactic integration may pave the way for dialogue and scientific collaboration.

However, many barriers between disciplines may come down in the teaching of medicine, if in our faculties the following fundamental conditions will be met:

- the complex of essential knowledge, expertise and abilities requested to our students are defined no longer as teaching subjects, but as learning objectives, *id est* not merely as notions to be remembered, but rather as skills to be acquired and then demonstrated;

- realistic problems are utilized as means of stimulating integrated learning;
- the didactic methodologies are chosen to facilitate the learning of the specific knowledge, expertise and abilities.

It is likely that this entire construct may be no more than a "book of dreams". For many teachers that I know these dreams may, to all effects and purposes, seem like nightmares. For my own part, this is all I have managed to dream up, and for me it was also a pleasant dream.

The truth is that this seems to me the only way I can give a positive answer to the initial question and thus tentatively put forward a positive solution to one of the emerging problems of our faculties.

Innovation in the Medical Faculty of Perugia

Maria Antonia Modolo, M. D. Pedone, R. Rossi, T. Scarponi - Perugia (Italy)

The suggestions of the E.U. Advisory Committee on Medical Education have already been adopted by the new Italian medical Curriculum, but the implementation of the objectives included will be not so simple, as contents and methods need to be thoroughly brought up to date.

The experience presented in this paper represents an attempt to stimulate feasible innovations in contents and methods.

The E.U. suggestions underline that the training should be practical, a recommendation not easy to accomplish, because our courses, traditionally, have been far too theoretical. Three objectives, also included in the Italian Curriculum, have been chosen for the basis of our programme:

- a) to adopt an olistic approach (patient / family centred),
- b) to acquire good communication skills,
- c) to reach a good competence in working with other professions (team work).

The process

One of us, the teacher of Hygienics, has put forward to the Faculty and the Course Committee a proposal for modules based on health promotion, health education and primary care with the aim of accomplishing some of the objectives of the curriculum. A "spine" programme entitled "Communication and Primary Care", to be developed throughout the six years of the course, was approved and a steering committee was appointed.

As the course foresees the involvement of General Practitioners, an agreement was signed with their Scientific Society.

The general idea of the above programme was inspired by the proposals for the new programme of the Medical School of University College, London.

Aims

The programme aims are to help the students:

- a) To become acquainted with the basic elements of communication within the profession.

- b) To develop strategies for health promotion, in partnership with people and/or communities;
- c) To get first hand experience with the whole health systems, not only hospitals.

Courses focus on the "person" and the "community", besides health risks and the description of diseases. The methods are focused on students, who should, through their experiences, acquire "sensitivity" for the real "person" in the patient.

Programme

The programme develops vertically, covering the whole six years, with the progressive involvement of students in research and practical work. The programme development has its own identity and efforts have been made to involve various groups of teachers.

Methods

The methods are innovative in so far as most of the activities develop in tutor led groups of 10-12 involving practical work, patient and family contacts, interviews, general procedures and health centre experiences. Few lectures, no more than 2-3 each course provide the frame of the teaching process. Each course lasts 10 sessions of 2-3 hours.

The courses have been carried out in teams including professors, general practitioners, tutors (interns in Public Health, Gynaecology and other disciplines).

Evaluation

The evaluation system includes input and feedback from the students, tutors and teachers on the course design and the programme and the students' progress. It has been planned to produce information for the future development of the "spine" programme in order to make it suitable for the students' education.

The evaluation demonstrated:

- a) the enthusiastic involvement of the students and tutors.
- b) specific and valuable contributions by both teachers and students.
- c) strong impact among the surgery staff of general practitioners regarding the understanding of people's basic needs.

First year

We introduce the basis concepts of communication in health promotion. In this module the students have the first experience of illness visiting a ward and a General practice.

It is an optional module for 30 students, During the 10 sessions the course is divided, two tutors are always present.

Second year

We go deep into the themes of the communication in the health promotion and the experience of illness, Particularly the students have the opportunity to observe the relationship between a family and the illness.

It is an optional module for 30 students. During the 10 sessions in which is divides the course, two tutors are always present,

Third year

The University of Perugia collaborates with other European Universities (Manchester, Patras, Salo, Lisbon, Murcia) in the module of Health care studies. This module gives the opportunity to study the national health system and to compare it with other European health systems using INTERNET. The students that complete the course receive a special certificate to use in their own curriculum. It is an optional module for 30 students.

Fourth year

The aim of this module is to help the students to recognise the most frequent cases requiring first aid and to communicate on them with common people.

It is an optional module for 30 students and gives them 10 credits.

Fifth year

At the end of this module the students knows the most important problems of preventive medicine and the concept of health education and health promotion. This module is made in collaboration with teachers of other Departments as Psychiatry and with the General Practices. It is an optional module for 40 students and gives them 10 credits for Hygienics.

Sixth year

This module is made in the area of Gynaecology and Obstetrics and it concerns the importance of general practice in the information and health education for women.

At the end of the module the students produce tools of health information on a specific matter (poster, leaflet, booklet etc.). Some of these can be used in the Gynaecology ward or at a General Practice.

This module is made in collaboration with teachers of Department Gynaecology, Department of Hygiene and the General Practices.

It is an optional module for 40 students and give them 10 credits for Gynaecology.

Methodology

The vertical spine uses the following methodologies:

- brainstorming
- discussion
- group work
- independent study
- individual work
- lectures
- role playing

- tutorial on several issues
- practical experiences.

In every module we have a tutor's book and a student's book with the information on the course, the staff, the topics.

Evaluation

We have used two kinds of evaluation: a process evaluation and a results evaluation.

The first one with a questionnaire to assess the students' satisfaction and effectiveness level concerning methods, tools, teachers and tutors.

The second one with a questionnaire to assess the achievement of the course objectives and with assessment of the students tasks performed: experiences-report, contents overview, group-work report.