

AMSE Newsletter 18 *On Line Edition*

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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.

EVENTS OF INTEREST TO MEDICAL FACULTIES

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ALL YOU WANT TO KNOW ABOUT STUDENT SELECTION AND NEVER DARED TO ASK!

Judith Ebach and Günter Trost : Admission to Medical Schools in Europe

- Guest editor: Sergio Curtoni (on behalf of the Association of Medical Schools of Europe).
Pabst Science Publishers, 1997

Prize: 24 DM

Exchange among students requires that information be available on the regulations, and especially on the admission requirements, at the particular destinations. The Association of Medical Schools in Europe (AMSE) provided the impetus for compiling information on the criteria and the methods employed in the individual European countries in handling admissions to medical studies.

In making information available to the faculties, education agencies and education policy makers as to the procedures used elsewhere and the worth of those procedures, the goal being pursued is to allow those responsible for the selection system in the various countries to profit from experience in the other countries

Reflection on and continuous evaluation of an admission procedure are urgently needed from the economic point of view, as well; this applies in particular to the medical schools with their very expensive educational facilities.

The Association of Medical Schools in Europe (AMSE) installed in the autumn of 1993 a working group on "Student selection for admission to medical schools in Europe. The working group applied for and achieved financing of a study on selection processes for admission to medical studies in Europe" within the framework of the ERASMUS programme sponsored by the European Union. It monitors and supports this study, particularly by utilising contacts to the medical faculties in all the European countries. The conduct of the study was entrusted to the *Institut für Bildungsforschung* [Institute for Educational Research] in Bonn in collaboration with the *Institut für Test- und Begabungsforschung* [Institute for Test Development and Talent Research], also located in Bonn, Germany.

Information in a form suitable for comparison was gathered on

- the systems used for admissions to medical studies as implemented in the individual European countries,
- the selection criteria applied and the selection instruments used in each case, along with
- experiences with the particular procedures including the results of empirical evaluation studies.

For the present report, the information obtained by the survey was documented taking three aspects into account:

- Firstly each country's medical studies selection procedure was described.
- The selection instruments utilised were noted and their variants described with reference to their particular significance in the countries using them.
- The individual selection instruments as well as the admission procedures as a whole were subjected to an evaluation, taking several criteria into account. This evaluation was based on the results of empirical studies carried out in European countries. It refers to experience with various methods of admission to medical schools, as well as to findings concerning the psychometric qualities of the particular selection instruments.

This documentation is then rounded out with a collection of examples from various selection instruments which are utilised in the individual countries.

THE "NETWORK OF COMMUNITY ORIENTED EDUCATIONAL INSTITUTIONS FOR HEALTH SCIENCES" ORGANISES ITS 20TH NETWORK ANNIVERSARY CONFERENCE

Mexico City, October 19-24, 1997

The Conference will particularly focus on the role of communities in health professions education and deal with its challenges, opportunities and pitfalls. Abstracts on related subjects will be given priority. The organisers invite papers containing empirical, theoretical or descriptive studies relevant to the field. The abstracts must be received by the Conference secretariat no later than July 1, 1997.

Registration fees:

Network members: US\$ 350 until July 1, 1997 and US\$ 400 thereafter.

Non Network members: US\$ 400 until July 1, 1997 and US\$ 450 thereafter.

More information and registration forms can be obtained from the Conference Secretariat:

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AMSE REPORTS

Reports presented at the annual AMSE congress 1996 (Granada, 5-7 September 1996)

Session on: IS THERE A ROLE FOR THE UNIVERSITY HOSPITALS IN THE FUTURE?

N. A. M. Urbanus - Amsterdam (The Netherlands)

Graeme Catto - Aberdeen (United Kingdom)

Lamberto Briziarelli - Perugia (Italy)

Paola Binetti - Rome (Italy)

Susana Chelquer de Jaimovich - Jerusalem (Israel)

Is there a role for the University hospitals in the future?

N. A. M. Urbanus - Amsterdam (The Netherlands)

About twelve months ago I was honoured with an invitation to speak at a congress of the Association of Medical Schools in Europe to discuss "the role of university hospitals in the future". How could I have known then that this subject was to raise so many questions in such a short period of time that according to the congress programme I now have to put an existential question mark behind my subject and change it to "Is there a role for university hospitals in the future?" But, despite the obvious dramatic aspect of this very broad questions - I am supposed to provide an answer to, - I trust that the organisers of this congress have chosen to address it not because they foresee a bleak future for the university hospitals, but rather to stimulate us, the speakers.

No need to worry on this score, then. However, this does not mean that the current position of university hospitals in the Netherlands goes unchallenged. Some medical faculties openly question the desirability of close co-operation with just one university hospital in the area.

Where does this dissatisfaction stem from? Does it arise from the conviction that instead of a close affiliation with one single hospital, a medical faculty would be better off with a flexible co-operation with a large number of so-called affiliated hospitals? Yet no medical faculty can hope to continue its training and research activities without a hospital, not even hypothetically speaking. After all, besides training in the so-called basic subjects, fundamental research, clinical training and clinical research are the pillars on which any medical faculty rests. Suppose preference is given to a co-operation with more than one hospital, does that mean that the dissatisfaction is aimed at the workplace function currently held by university hospitals? Or is it aimed at the recognition that modern-day requirements of training and research have changed? Could that be the reason for taking a different approach?

It is true that training and research requirements have changed in the Netherlands. Medical students used to have to finish lengthy periods of theoretical and practical education in laboratory subjects before turning to clinical examination which was almost exclusively restricted to bedside treatment.

The fact that patients were hospitalised for longer periods and that outpatients' clinics were still rare allowed plenty of time for bedside teaching. The first steps towards change were taken in the late sixties. With the rapid introduction of outpatients' clinics, hospitalisation times dropped significantly. Specific family medicine education made its appearance. And now, in the nineties, we are witnessing a drop in the number of hospital beds and the arrival of ambulatory intramural care with the introduction of operative day care centres and centres for diagnosis and intervention. Home care is stepped up and transmural care is becoming a concept no longer exclusively reserved for nurses. Family doctors and specialists are closely involved in this treatment of patients. And multi-disciplinary approaches are increasingly setting the standard. In short, there is much the students still need to learn. While the new curriculum is increasingly patient-oriented with a more direct approach, cuts are being made in the number of study years. This means that education is intensified, diversified and taught in different locations, also outside the university hospital. The number of medical students is rising and the Netherlands already has a stop on student intake at universities. Affiliation with other hospitals is necessary to obtain work placements. In addition, medical scientific research is rapidly changing. Following a period of predominantly laboratory-oriented research, which I may add produced some excellent results, more and more energy and money is being invested in clinical scientific research, which is in fact of a high quality in the Netherlands.

As a result, clinical trials are becoming increasingly important, requiring close co-operation between medical faculties and hospitals, which can be either university or non-university, national or international.

This leads us to an important conclusion. Remarkably, the role university hospitals play in scientific research is never challenged, not even in the event of co-operation with non-university hospitals. University hospitals will always take the lead and the role of the primary workplace for the medical faculty is never contested.

The few questions that are raised regarding the role of university hospitals are invariably aimed at education and the division of finances. A thorn in the side of some medical faculties is the budget from the Dutch government to the university hospitals for financing their workplace

function. These medical faculties feel the money should go to them give them the freedom to close contracts about the workplace function with organisations of their choice.

But let's leave the finances for a bit and look at the role university hospitals play in the Dutch health care system.

Intramural health care in the Netherlands is stratified. The family doctor acts as the so-called gatekeeper who refers patients to intramural health care. With a 3-year specialised training following basic medical training, a family doctor is supposed to know a lot and be capable of a lot, and furthermore be capable of diagnosing patients who require a referral to the hospital. Once the patient is discharged from the hospital, care reverts back to the family doctor. The Dutch insurance system won't allow access to a hospital without a referral from a family doctor. Referrals usually take place to a hospital in the area. These are mostly general hospitals and their size reflects the regional population. The smaller hospitals house basic specialities, the larger ones also offer sub specialists and usually contribute to some specialist training programmes.

Of course, the referral from a family doctor may also be for expensive forms of care, - such as open heart surgery or neonatology, - at larger hospitals where patients may end up either directly or via a smaller hospital. The government has concentrated these relatively expensive provisions, also known as top-clinical care, in university hospitals and in a few large general hospitals. Together these top-clinic provisions form the second layer of intramural health care in the Netherlands.

However, if the patient is suffering from a rare disorder, requires special diagnosis or special treatment or care, or in the event of complications, needs a second opinion or multidisciplinary treatment, or if the treatment is still in an experimental phase, the specialist at the general hospital will refer the patient to one of the eight university hospitals. This is what is known as the last referral function of university hospitals - a gradually increasing and exclusive part of the so-called tertiary care at university hospitals. This is the end of the line in the health care system, although referrals are occasionally made from one university hospital to another with special expertise, and in rare cases to a centre outside the Netherlands renowned for its treatment of certain disorders.

The last referral function at university hospitals is growing, ultimately at the expense of ordinary specialist care. Viewed solely from an educational viewpoint, we can conclude that the quality of university hospitals with regard to the overall scope of patients has deteriorated. 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 while the financial aspects of last referral care still need to be sorted out in detail. Not too long ago, the funds set aside for this purpose were transferred from the Ministry of Education, Culture and Science to the Ministry of Health and the insurers. This means that other, non-university hospitals can in principle also claim money from the budget for last referral care. This is anything but a favourable development. Last referral care is a source of inspiration for medical science, like medical science is a source of inspiration for the last referral function. Medical faculties and university hospitals are heavily dependent upon each other in this respect. This is why the last referral function must stay with the university hospitals alone and it's important that medical faculties support the university hospitals to ensure a good research climate.

But I wouldn't be doing the university hospitals any justice if I were to restrict my description of their place in intramural health care to the three forms of patient care I just mentioned. After all, together these hospitals account for around 60% of all specialist training and, if they are

working with large general hospitals, they are still responsible for almost all cursory education. Moreover, the university hospitals provide post-graduate training to doctors and play a leading role in the (re)certification of specialists. Also, university hospitals make a large contribution to a variety of Higher Vocational studies for nurses, paramedics, laboratory assistants and technicians.

Let's return to the original question and focus on education for the time being. Which are the developments in the Dutch health care that medics find themselves confronted with and how do these relate to the demand for adequately trained doctors and specialists?

1) Financial gap. First of all there is a gap between what the public sector pays for and what is medically necessary. In 1995 the objective of the administration was to keep the growth of health care down to 1 point 3 percent a year instead of the 2 point 3 percent that was required. This was a problem that had never been faced before.

The care sector spends about fifty billion guilders, that is thirty billion US dollars, and this money must be spent carefully for two reasons. First, expenditure on health care is reflected in wage costs: by raising prices it can have a negative effect on employment. Second, health care must remain affordable and accessible to all.

2) Greying population. A second important development is the aging population, the so-called greying population, and the resulting rise in chronically-ill patients. Apart from hospital care, the adequate treatment of and care for these patients requires different forms of health care.

3) Quality of care. The third point is that doctors are confronted with an ever incisive population which, rightfully, places ever heavier demands on the quality of medicine and information about examination and treatment and the resulting choices.

4) Technology. Furthermore, we are living in a time in which we place unlimited trust in the developments of medical technology and the attention this is receiving in the media.

5) Medical literature. And finally there is the explosion of knowledge exchange in the medical literature. New titles appear every year. Electronic data processing is allowing an ever faster data exchange. But what is actually of value in this swelling ocean of information? Critical appraisal of literature is a must for every doctor nowadays. Doctors must acquire this skill during their study, maintain it during their specialization and continue to apply it in their professional careers.

The key word in all of these developments for the daily practice of any doctor is: an explicit, evidence-based attitude for making the right choices in health care concerning costs as well.

Also in view of the developments I just summarised, new objectives were drawn up in 1994 for undergraduate medical education in the Netherlands under the auspices of the deans of the eight medical faculties, the Royal Dutch Medical Association and the Ministry of Health. Called a blueprint for the training of doctors, it explicitly addressed the importance of general clinical training in the medical curriculum.

I will briefly describe to you the profile of a doctor by the time he or she reaches the end of undergraduate medical education:

1. *Medical decision making*. The doctor is capable of medical decision-making, using the right diagnostic process and choosing the right policy for the problem.

2. *General and specific health care.* The doctor has experience of aspects of general as well as specific health care supported by basic and behavioural sciences, and is able to enter any type of postgraduate training. This is a precondition for communication and co-operation with other health professionals.

3. *Scientific training.* The doctor is scientifically educated and acts accordingly. This distinguishes him from non-academically trained health professionals. He is acquainted with basic principles of scientific research, not only theoretically, but also by active participation in a scientific research project, is able to approach scientific data critically, has insight in the foundations of medicine and is able to transmit information to others.

4. *Information to the patients.* The doctor can give clearly formulated information to his patients, and is aware of his responsibility for the functioning of health care as an organization, taking into account financial, logistic and other restrictive factors in health care.

5. *Financial and logistic factors. Economic, legal and ethical limitations.* The doctor is able to adapt his knowledge, skills and attitudes to changing health care, to the scientific and social development and to the economic, legal and ethical limitations.

It would seem that these skills can be best learnt in an environment where there is interaction and synergy between clinical medicine, public health and family medicine, basic medical research and clinical methodology, informatics and technology assessment.

Now the question is: does an environment like this exist or can it be created? To put it differently: is a university hospital capable of meeting all of these conditions in close co-operation with a medical faculty? In their article "The future of the academic medical centre under health care reform" published in the *New England Journal of Medicine* in December 1993, Blumenthal and Meyer describe three possible scenarios. Please note that this article addresses the American market where customers of the health care system have demanded the training of more general practitioners instead of specialists as well as research that yields more knowledge about improving outcomes and the quality of care and its providers to produce health care service with increasing efficiency. Although the Dutch health care system is not faced with the first shortcoming, the other demands do apply.

Blumenthal and Meyer write in their first scenario that the valued functions traditionally performed by academic medical centres will be broken up and parcelled out to other institutions that demonstrate that they can perform the functions as well or better. A second scenario is that academic medical centres will separate into two distinct classes: a small group of supertertiary institutions that concentrate on biomedical research, the training of researchers and sub-specialists and the care of patients with extraordinarily complex conditions; and a much larger group of community-oriented academic institutions that focus on the training of primary care practitioners, research on ambulatory care and health services and the provision of secondary and tertiary care.

The third possibility, the authors stated, is the change of an academic medical centre in an academic health system. These new entities would embody not only the traditional strengths of academic medical centres, but they would become as adept in health services and outcome research as they have been in biomedical investigation. And to attract a sufficient number of patients, they will achieve previously unimagined efficiency in the delivery of health care.

Although in a different historical context, the University of Amsterdam and the Academic Hospital in Amsterdam decided in 1994 to establish a complete integration of the medical faculty and the university hospital at the Academic Medical Centre (AMC).

In figure 2 you can see an aerial view of the centre built in the eighties. This integration is almost a carbon copy of Blumenthal and Meyer's third option.

Clinical departments and preclinical laboratories were combined to form divisions. Training institutes were created not just for medicine, but also for medical informatics, specialist training, postgraduate training and training of nursing specialists.

In addition, research institutes (listed in table I) were set up in which biomedical research and clinical medicine research were grouped together in one of the seven centres of excellence for scientific research at the AMC.

Table I: AMC research Institutes
Cardiovascular diseases
Gastro-enterology/liver diseases
Infectious diseases
Genetics, endocrinology, metabolism and oncology
Immunology
Neurosciences
Public Health

The Management Board which groups both the faculty and the hospital has a supervisory board in which the University of Amsterdam is represented. The dean of the faculty of medicine is also the president of the university hospital and is appointed by the supervisory board.

Under the new scheme, the funds of the faculty and the hospital are put together and the budgets are allocated to the divisions in an annual budget cycle to authorised programmes for education, research, and patient care. On table II the list of the divisions is shown.

Table II: AMC divisions
Internal Medicine
Surgery
Paediatrics
Neurospecialities
Obstetrics/Gynaecology
Psychiatry
Public Health
Imaging specialities
Laboratories

A separate division was created for clinical methodology, informatics and technology assessment, combining the supporting power for doctors and allowing the doctor to make the right choices in health care in his day-to-day practice. Doctors can turn to this centre for assistance in creating guidelines for practice policies to support their decision-making powers. This activity is embedded throughout the AMC and receives scientific support from the medical faculty. Use is made of the principles of explicit, evidence-based methods, which in my opinion are most profoundly detailed by David Eddy, first with a series of fascinating articles in the JAMA, and later in his highly recommendable work "Assessing Health Practices and Designing Practice Policies".

Since the preferences of the patient and the outcomes for the patient as well as the balance of benefits and harms and costs (the net benefit) play an important role in this approach, the division houses also the department of medical psychology (quality of life studies) and the department of clinical information science in addition to the department of clinical epidemiology and the Dutch Cochrane Centre (for meta-analysis studies).

Within the integrated AMC the division of Public Health and family medicine were strengthened and the first steps have been taken towards the creation of a so-called academic population according to the Canadian system in Ontario. This group of primary health care institutions works together with the AMC in the fields of education, research and patient care and forms an excellent source of information on the needs and demands of the patients.

I'm sure it will come as no surprise when I tell you that my answer to the leading question of this session "Is there a role for the university hospitals in the future?" is: for the Dutch situation, yes, there is a role, and an important one! Provided of course that the university hospitals and the medical faculties cooperate strictly as an Academic Health Care System, and support each other at all times: with regard to content (for education, clinical and basic research), management and financial aspects.

If a medical faculty and an academic hospital are serious about playing an interdependent role in science and health care, it would be best to appoint one Management Board for the two groups, like we did with an AMC at the University of Amsterdam.

Is there a role for the University hospitals in the future?

Graeme Catto - Aberdeen (United Kingdom)

When considering this question I believe that three factors should be borne in mind.

- Undergraduate teaching and postgraduate training will inevitably follow patient care - wherever that is undertaken.
- The standard model of a leader in medicine – an individual outstanding in research teaching and clinical practice – has existed for more than a generation but is now

under threat. Research councils will increasingly focus their fundings on individuals and groups devoting all their time to research at least in the area of biomedical research. Health Services Research and RED (Research and Development) will, I suspect, become increasingly important for clinical academics in the years ahead. The result inevitably is an increased emphasis on the quality and relevance of undergraduate teaching.

- The future of teaching hospitals is a matter of concern not only in Europe and North America but throughout the Far and Middle East as well.

WHAT IS THE CURRENT ROLE OF THE UNIVERSITY HOSPITAL

- Teaching. Undergraduate and Postgraduate Medical Students - Nurses and professions allied to medicine
- Research. Basic, applied, near to market, and R&D (Research and Development)
- Case Mix. Secondary, tertiary referrals

PROBLEMS

- What is the aim of undergraduate medical education
- The U.K. General Medical Council description of an 'independent medical practitioner' comprises three pages, 12 sections, 35 sub-sections and could scarcely be described as succinct. (see "Tomorrow's doctors": recommendations on undergraduate medical education, published by the General Medical Council. A summary of the publication can be found on AMSE Newsletter n. 10 - April 1995)

POSTGRADUATE TRAINING

- Higher Specialist Training – clear cut need for university hospital or its equivalent.
- General professional training – the need is less clear and much training could no doubt be undertaken either in the community or in smaller hospitals.
- House Officers/Residents – in Britain data indicate that they favour non-teaching hospitals.

RESEARCH

- Move from blue skies to R&D
- ? anti-research culture developing
- Yet move to 'evidence-based' medicine. Ever greater need for establishing robust research methodology in this area.

CASE MIX

- Many advanced procedures available at smaller hospitals
- Need to balance accessibility with proficiency
- BUT expertise likely to be more distributed

UNIVERSITY OF ABERDEEN – ESTABLISHED 1495

- 1400 beds - 5000 staff - £130Millions annual budget - All specialities (exc. heart & liver transplant)
- Endless debates on Medical Education

FUTURE?

- Secure if providing clinical service for defined population
- Demand increasing by 4-5% per year
- Emergency admissions – <50% total
- BUT Elective, Training and Out-patient roles will change

REMOTE MEDICINE

- Diagnostic centres rather than teaching hospitals now being established in Middle and Far East.
- The development of the World Wide Web will influence public awareness of health matters.
- Links between primary and secondary care will change markedly with the development of information technology.
- Consultations with specialists will become available if necessary by video conferencing within the local area and beyond.
- Communication skills will become increasingly important

THE UNIVERSITY HOSPITAL

- Hospital v Diagnostic Centre – in some situations this may reflect a real choice; each centre, however, requires to be backed up by a major university hospital. R&D research methodology particularly the new techniques required for health services research and primary care research are likely to be developed only within a university hospital.

- Clinical guidelines are likely to be fully developed only within an academic community.
- Cochrane Collaboration – again dependent on academic input.
- Need to reflect – increasingly important and likely to be funded only within a university hospital

NEXT MILLENNIUM

I think it likely that the university hospitals in the next century will be smaller institutions dealing with a complex case mix and more acutely ill patients – but still with us.

University hospitals or teaching hospitals? Towards a possible integration with all other health services.

Lamberto Briziarelli - Perugia (Italy)

In Italy the hospital doctors are principally devoted to the treatment and reserve very little part of their working time to research and teaching activity, if any. They were especially appointed teaching nurses. From now the training of nurses, according to the European Union directives, is appointed to the universities and NHS Hospital Agencies.

It creates differences and rivalry, if not an open fight, between the two categories of physicians, working in the same structure.

As a result of this situation clinical training of students has become more specialised than necessary and they have scarce possibility to experience the entire range of pathologies they will meet in their future practice. Increasing out-patient care and the tendency to dehospitalization further reduce this possibility.

Universities tend to avoid students train in general hospitals and firmly maintain in their hands also practical training.

To give students as much comprehensive learning as possible we do think in a new (for Italy) way :

- a. medical students have to spend a considerable part of their practical training in every setting of the health service, including those out of hospital.
- b. students have to train in every hospital and not only in the more qualified ones.
- c. the majority of health structures should be involved in training students under the co-ordination and responsibility of Universities, which guarantee the methodological and pedagogical aspects of teaching.

In conclusion we suggest creating e network of "teaching hospitals" including general ones, not only university clinics and regional hospitals.

Hospital doctors must be utilised in teaching medical students as well as other doctors working at peripheral level in territorial health services.

The organisers of this meeting have allowed us to hear quite revolutionary speeches; I would like to move ahead, towards a final solution of this never solved controversial matter : moving Faculties of Medicine, Medical Schools into the Health (National or not) System; at least the clinical part of them, creating a unique category of teachers, researchers, practitioners doctors at the various levels of the global system.

The future of university hospitals. Medical education in a future perspective

Paola Binetti - Rome (Italy)

1. Innovation and tradition in education

The debate on medical education is characterised by the awareness that a progressive extension of cultural contents linked to other areas (such as, for example, the legal-economic or the socio-ethical ones) is necessary to give effective answers to the needs of a National Health Service.

Management of services, effected by an ever-changing legislation and by the need of rationalising resources, makes it necessary to re-think medical education, experimenting new methodological models where organisation, assistance and training interact with one another.

Physicians need broader education but also other conceptual categories to help in the creative synthesis of their professional profile. At present the risk is of having fragmented knowledge and competence as a consequence of overspecialisation on the one side and an excessive division of chores on the other. This leads inevitably to loss of the global view of processes and to lessening of personal responsibility.

Possible innovation in Italy: the new plan for medical studies.

Starting from the next academic year the new version of the Plan of medical studies will come into force. The statement "education is characterised by an holistic approach to the health problems of the person in relation to the social and physical setting" reflects new needs of the society.

The Plan also defines new practical and theoretical areas of learning necessary in medical education:

- knowledge of the historical and ethical values of medicine
- interpersonal and communicative skill courses
- teamwork training and development of economical abilities
- courses in community health problems.

In the present cultural environment a mention both of the ethical and of the economic dimension appears very interesting. The ethical approach to medical areas shows that an holistic vision, applied to health problems, is possible only if patients are seen as human beings.

It must also be underlined that the new Plan refers to the need of dialogue with the patients' relatives. Thus, it stresses the importance the family has in sharing with others the burden of its members in need of medical assistance and so avoiding a sense of loneliness that might cause physical and psychological suffering.

Ethical values, communicative skills, humanity, family, teamwork skills, and economic reasoning in medical decision are key words of this more human, modern and flexible Plan.

However, when it comes to counting up credits applied to each of these different areas one notices a lack of balance among them. Of seven hundred credits only some are applied to these "new" areas of study. It is necessary to help students in their free choice of the other three hundred credits which reflect their personal project for their future profession. The third millennium challenge is to render the practice of medicine a discipline entirely at the service of mankind.

2. University: a privileged occasion to organize the change

As a consequence of ever-expanding knowledge a new intellectual ability acquires importance: that of giving order to and integrating various branches of information, all of which are part of a more complex reality. After years of hyper-specialisation we realise it is necessary to keep in contact with the systemic dimension of the various branches of knowledge.

Therefore the learned man of the next millennium will not be the one who will know more things, but he who will be able to co-ordinate concepts and values in a systemic vision of reality.

This is why University, with its many different faculties, feels the need to discover new conceptual models, to create new faculties, new departments, new research lines so as to be able to organise the new knowledge in more easily accessible integrated conceptual structures.

From an entrepreneurial point of view, giving up the idea of a hierarchical division of work in favour of an approach to problems seen as processes would overcome fragmentary knowledge and fractional duties. Thus it would be possible to achieve targets rather than carry out jobs.

For the University the present innovation means investing in the new idea of cultural synthesis, which then will enable all professional figures to have a global vision of the whole process they have to take part in. Wider competence and responsibilities determine consequently an ethical dimension of work.

The role of the University Hospital as a converging point for various combined sciences all of which are at the patient's service: the multiprofessional education

It is important to make this philosophy also the core of medical research. However, it is difficult to imagine such an educational model in a different place from the University Hospital setting. It is unthinkable to give up the university dimension of the Hospital precisely because it

represents the living part of a common university system where skills and experiences integrate and stimulate one another, focusing on the well-being of its patients and the community. The University Hospital is bound to become an effective resource if the Medical Faculty interacts with other Faculties in trying to find new solutions to old and new problems.

A multiprofessional setting should develop around the University Hospital where not only physicians, nurses, lab technicians and physiotherapists meet for real moments of professional growth through discussion and confrontation, but it is also essential that administrators and those working in the public relation areas must find the way to acquire a common language and an adequate method of working together, so to render diversities a source of richness and not of conflict.

University Hospital and company costs: the crux of the problem

Nowadays the core problem in the debate on National Health Service is costs. As the NHS refunds hospitals for each work of assistance given, this means having to reach high levels of productivity to meet costs. In such a context the University hospital would have to consider the budget as a more important quality factor than research and education, both of which are fundamental to its *raison d'être*. Other factors should then be considered for a better understanding of the relation between costs and benefits in a University Hospital where all of the following things interact at the same time:

- diagnosis and treatment of rare cases (see the percentage in other Hospitals)
- new diagnostic programs: use of new techniques....
- new experimental therapies
- new experimental models of assistance (also from a nursing point of view)
- new methods of relating with the patients, their family, the medical staff (also from an ethical point of view)
- the existence of students of various branches (medicine, nursing, biology, psychology, economy, bioethics and various types of technicians), as well as specifically trained ones
- experimentation of new educational methods (tutoring, use of advanced telematics techniques)
- various advanced educational areas (oncology, neuropathology, genetic therapy, transplants,...)
- evaluation of the students
- research projects
- publications of the various branches and their evaluation
- meetings, seminars on themes of national and international interest
- follow-up activities for physicians, nurses ...

- innovative projects of assistance together with other NHS structures (home assistance for the elderly, terminal and chronic patients).

Management of a University Hospital needs also to be tackled with a spirit of innovation and continuous research. The systematic dimension begins from a joint administration of the University Hospital, the goals of which are known and aimed to by all the personnel.

The future of the University Hospital and its management innovation

The future of the University Hospital is linked to its capacity of handling innovation. This means:

Transformation of the functional departments into interacting groups (e.g., formation of functional areas in which a multiprofessional team is able to manage all the problems which may arise.

Changes in professional education: not just training HOW to do things but WHY to do them. In this way one should be capable of doing not just single things (things change) but of understanding why they have to be done, and learn how to do them.

Change in the A good physician is not necessarily a good manager of a team. Negotiation, mediation are also necessary skills. The system of rewards depends on the results achieved.

Change in values, and living them day by day:

- Put the patient at the centre
- Give the same importance to different jobs as all help to achieve the final target and keep always in mind the importance of quality.
- Change in the administrators' role, from supervisor to active members of the team.

Relevant changes can also take place in the process of information: information should be complete, well-timed, and respect patients' privacy.

Informatics also plays a decisive role in this changes if we are careful not to expect for every problem an immediate solution and if, using such means, we learn to do new and different things. The University Hospital also can collaborate in the expansion of all technologies applied to medical problems and in helping other hospital structures to take advantage from them.

The experience of the University Hospital Campus Bio Medico (CBM).

The CBM Hospital has been trying to convert these ideas into reality by:

Defining the standard of theoretical and practical knowledge required for primary qualification:

Sufficient knowledge of the basic sciences

Ability to examine evidence critically

Good communication skills

Awareness of professional and ethical responsibilities

Broad and integrated functional areas:

While basic and clinical sciences remain important, they have increasingly shared their place in the curriculum with social sciences: anthropology, health, economics, information management.

Evaluation methods have to be extended to monitor the progress of students: not only in regard to their knowledge, but also their skills and professional behaviour.

Real and concrete multiprofessional formation.

Quality control into which the patient's personal dimension has a real innovative strength.

An anthropological and ethical approach to the process of assistance.

In the University Hospital the patient is at the centre of life, from front line services through the process of assistance.

A deep interpersonal relationship is at the basis of our tutorial system: students have an adviser who follows them, and patients have a doctor and a nurse they can refer to, so that they do not feel abandoned.

Personal changes in medical students through their experience in University Hospitals; an introduction to research

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What are the practical implications of these findings?

Schools of medicine where clinical experience is an essential part of the student's training may thereby foster emotional openness and self-awareness on the part of students. These traits are seen as crucial to good medical practice.

Nevertheless, in order to ensure that openness and self-awareness come along with humanistic attitude, we need to invest effort and time in guiding students to walk the narrow line between emotional involvement and uncontrolled expression of emotion, between self-acceptance and overindulgence, between self-control and emotional detachment. This search for harmony may create an optimal equilibrium between seeing oneself and seeing the other, between the human and the ideal.

The literature on humanism in medicine and on the doctor-patient relationship emphasizes the importance of the physician being aware of the feelings aroused in him towards the patient. He must be aware of the psychological needs and motives that stand behind his own choice of a medical career. In other words, self-awareness is vital for a precise and objective clinical diagnosis, as well as for sound, unbiased decision-making in the treatment process.

What happens with medical students before, during, and while finishing up their clinical experience in a university hospital? How does their ideological stance on the physician's

emotional involvement change over this period of time? How do they become aware of it? Do these ideological changes lead to a detachment from their own emotions as predicted by previous writings dealing with increasing cynicism among medical students? On the other hand, do their clinical experiences help them to be more open and flexible?

And what about actually being in touch with oneself, the experiential stratum? Do medical students really become - through practice - more aware of and open to their own emotions and personal needs and motives, satisfied or not? Do they learn to cope with difficult emotions in a more constructive way, as a by-product of their considerable clinical experience in a university hospital? Or do they "loosen" the curbs on their emotions as a result of being "more comfortable" with them?

Method

The two questions above, the first having to do with ideology, the second dealing with real self-awareness, were approached through a study carried out in Jerusalem at the Hadassah medical School.

Subjects

The subjects were 62 third-year students (preclinical), 60 fourth-year students (in their first year of clinical experience), and 65 students in the sixth year (the last year).

While the three groups were studied in respect of their ideology, the fourth and the sixth year students were also measured as to their actual self-awareness.

Instruments

The students' ideology was measured on the Physicians' Ideology Scale which was created specifically for the purposes of this study. Self-awareness was measured through a semi-structured interview.

Results

Ideology. Several days before entering a hospital to become passive observers, students in the pre-clinical year display a new, significantly extreme severity towards a doctor's emotional involvement with patients. After they have actually seen physicians in practice, students become frightened of emotional involvement with patients (fig. 1).

Later, with their first clinical contact with patients (4th year), their attitudes become more moderate. In the last year, with more clinical experience in the university hospital behind them, students become more tolerant towards the physician's emotional involvement (fig. 1).

Through all their years of internship, students see the physician's emotional involvement as inferior to a neutral position. At the same time, they perceive self-awareness as important for good medical practice. Sixth year students stress this position more than other students (fig. 2). Sixth year students are the only ones who see any emotional involvement (without behavioural expression) as less destructive than the behavioural expression of positive emotions (fig. 2). However, they do not distinguish any more than do their colleagues in the fourth year between emotional involvement and the behavioural expression of negative emotions (fig. 1).

Experienced awareness

Although all the students (4th and 6th year) are more aware of difficult and harmful feelings than of the positive ones, sixth year students stress the positive feelings more than do their younger fellows. These positive feelings are identification, sympathy, love, and attraction (fig 3). It seems that these positive feelings are perceived as harder to keep under control and are therefore felt as dangerous when a student goes through his early clinical experiences when identification is very intense. He wonders what will happen if these feelings flood him and he cannot perform as he should.

Sixth year students also demonstrate more flexibility in being able to envisage alternative methods of reacting instead of previous, unsuccessful ways (fig. 4). This flexibility accompanies openness to feelings. So when asked how they help themselves to overcome difficult feelings towards a patient, sixth year student speak of ways which point to acceptance of feelings (trying to understand and "ventilation") (fig. 5). However, when asked how they actually deal with a problematic interaction, more students in the sixth year propose cutting off contact with this patient and transferring him or her to another medical student. On the other hand, fourth year students try more than do their older fellows to placate the patient and suppress their own emotions (fig. 6).

The senior students are more aware of the personal and more primary emotional needs which may underlie their attraction to the medical profession (fig. 7).

Discussion and implications

So we can see that as the medical student advances in clinical experience in the university hospital, he/she becomes more open and accepting of his/her feelings, less afraid of them, more flexible in thinking of ways to manage them, more aware of the psychodynamic factors behind his/her actions, choices, and reactions. However, this may be accompanied by a more self-indulgent attitude; expressing negative feelings toward patients is seen as less harmful, while transferring a patient is viewed as a more acceptable way to deal with a difficult interaction.

Figures in the printed version of AMSE Newsletter.