1. INTRODUCTION

1.1 The academic year 2001/02 was decisive for the launching of the new degree programme in Medicine. Indeed, the student's centred pedagogical methodologies that University of Minho proposed since 1974 to apply to medical education were, for the first time, put into practice in Portugal. The first group of 52 students that registered into the programme reacted in a very positive way, validating the process and motivating the School of Health Sciences to proceed with a still greater enthusiasm with this innovative and challenging programme.

The financial resources linked to the admission of students allowed for the reinforcement of infrastructure which was essential to attract qualified human resources and provide them with adequate working conditions. In particular, although an enormous effort had to be put on the planning and curricular development of the degree programme and on teaching, it was possible to create reasonable conditions to keep the academic staff active on their research projects and to attract young researchers to work with them.

At the same time, the different curricular areas and services within the School started reaching a minimal critical mass to allow for the clear setting up of the organisational structure defined in the School's Regulations and for well established leadership at all levels.

It was, therefore, possible to elaborate the annual report in a decentralized way, producing sectorial reports concerning the degree programme and the Life and Health Science Research Institute (ICVS). The present report concentrates on an overall view of the School's planning and activities and must be read together with those sectorial reports.

1.2 The year 2002 was a period of great change in the political landscape in Portugal, which is liable to create additional problems for projects on the launching phase. The call for a general election in January and the change to a new Government in April meant significant delays in the adoption of decisions on critical issues for the School of Health Sciences, such as the call for tenders for the new buildings, the financing of infrastructure for the research institute and, in relation to the Health System, the constructions of the new Hospital in Braga. However, the contacts frequently kept with the Government are very positive and, notwithstanding the severe national financial difficulties, the School of Health Sciences was established as a priority project by the Ministry for Science and Higher Education, which raises our expectations that very soon the proper decisions are taken and the contract concerning this School can proceed developing in a smooth way.

There was also a change in the leadership of University of Minho with the election of Prof. António Guimarães Rodrigues as the new Rector and the entrance of a completely new team at the Rector's office. Nevertheless, the School of Health Sciences continued to receive all the institutional support which has been so crucial for its setting up.

2. PLANS AND STRATEGIES FOR 2002

2.1 Objectives and policies

The main objective established for 2002 was to continue the preparation of the necessary elements, in terms of human resources, proper facilities and equipments, and of courseware, to keep the dynamics of the School operation and allow for the reinforcement of projects, namely the admission of a new batch of 50 students.

The principal strategies for the effect were:

- to finish the preparations of the second curricular year of the undergraduate programme and to proceed with the preparation of the third and following years;

- to proceed with the post-graduation programme;

- to reinforce research, by continuing to create the conditions for a steady participation of the academic staff in research projects and by attracting new researchers on fellowship schemes;

- to strengthen the human resources, by recruiting and training new staff members and supporting the development of the staff, taking into consideration not only the admission of a new batch of students but also the preparation of the subsequent years;

- to proceed with the planning and the administrative procedures for the construction of the new buildings;

- to prepare and equip the necessary extra provisional spaces;

- to continue and deepen the contacts and dialogue with the national health system (Ministry, Regional and Sub-regional Administration, Hospitals, Health Centres) and to formalize the links and cooperation with health services;

- to support the operation of the governing bodies, paying special attention to the monitoring and improvement of quality.

2.2 Organisation and Management

The operation of the governing bodies is essential for the fulfilment of the specified objectives. The composition and main duties of the School bodies is presented next.

2.2.1 The Steering Committee

The Steering Committee was reappointed in August 2002, following the election of the new Rector. All the former members were kept and two Pro-Rectors were appointed as new members, guaranteeing the direct links with the Rector's Office which proved to be so useful in the past.

The Dean kept the nomination of Prof. Joaquim Pinto Machado as Deputy Dean for scientific and pedagogical affairs and nominated Prof. Maria Cecília Leão as Deputy Dean for administrative affairs.

Meanwhile, there were new appointments from the Ministry of Health for the posts of Director of Hospital de São Marcos and Coordinator of the Braga Sub-Regional Health Administration.

The present composition is therefore the following:

- *Sérgio Machado dos Santos*, **Dean** (former Rector);
- *Joaquim Pinto Machado*, **Deputy Dean** (Professor Emeritus);
- *Maria Cecília Lemos Pinto Estrela Leão*, **Deputy Dean** (former Vice-Rector for Research);
- *José Manuel Pereira Vieira* (former Vice-Rector for Planning);
- *Maria Irene Magalhães Assunção Montenegro* (Pro-Rector for Quality Assurance);
- *José Fernando Gomes Mendes* (Pro-Rector for Planning);
- *Américo dos Santos Afonso* (Director of Hospital de São Marcos);
- *Carlos Carvalho Moreira* (Coordinator of the Braga Sub-Regional Health Administration).

The Steering Committee met on a monthly basis, concentrating its activities on the planning of the School development in all its dimensions, on monitoring the on-going activities and on reinforcing the links with the health services and authorities.

2.2.2 The Scientific Council

The Scientific Council integrates all the School academic staff with a doctoral degree. Its present composition is the following:

- *Joaquim Pinto Machado*, President
- *Maria Cecília Lemos Pinto Estrela Leão*, Vice-President
- *António Gil Pereira de Castro*
- *Armando Alberto Pinto de Almeida*
- *Fernando José dos Santos Rodrigues*

- *Isabel Maria Mestre Palmeirim Esteves*
- *Joana de Almeida Santos Pacheco Palha*
- *Jorge Manuel Rolo Pedrosa*
- *Nuno Jorge Carvalho de Sousa*
- *Patrícia Espinheira Sá Maciel*
- *Paula Cristina Ludovico*
- *Rui Manuel Vieira Reis*

The Scientific Council met regularly every fortnight, dealing with the scientific policy for the School, namely in what concerns the decisions on the general guidelines for the planning and development of research, teaching and extension activities and on matters concerning the recruitment and promotion of academic staff. The Council concentrated particularly on the supervision of the curricular areas of the undergraduate programme, on the supervision and programming of post-graduation activities and on the initiative for proposals relating to the financing of the research laboratories and projects.

2.2.3 The Medical Course Committee (Curriculum Committee)

The regulations concerning the Course Committees at Universidade do Minho need some adaptations when applying to the medical undergraduate programme, due to specificities of the curricular organization in relation to the horizontal and vertical integration of the curriculum and also to the concept of curricular organization by phases and their role in both the referred dimensions of integration.

Indeed, as specified in the conception of the degree programme [1], the curriculum is designed as an ongoing educational process and "although this process has periods with specific characteristics, its sequence has no boundaries that may affect its essential unit. Such periods are called *phases*, transmitting the idea of continuous stages in a path that is from the very beginning designed to arrive to a precise final destination. Each phase is not only firmly interconnect with the following one but it also covers, although in a different proportion, the major science fields of life, health, anthropology and medical practice".

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1 *Medical Degree Course*, Health Sciences School, Universidade do Minho, September, 2001, p.23.

The coordination of each phase is, therefore, of vital importance, as well as the coordination between phases. This points out the convenience of the participation of the phase coordinators in the Medical Course Committee.

The School prepared and submitted to the University bodies a proposal for specific Regulations for the Medical Course Committee, which were adopted by the University Academic Council last December (Annex I).

The Committee will integrate, on a steady-state basis, the Course Director, the Coordinators of Phases I to IV, the Coordinator of the Vertical Themes, the Scientific Director of the Medical Education Unit and six students elected by and among the students of each of the six curricular years of the course. During the installation period the composition of the Committee will be established, each year, by the Steering Committee, on a proposal from the Dean, guaranteeing parity between students and academic staff apart from the Course Director.

The Medical Course Committee was therefore set up in early January 2003, with the following composition:

- *Joaquim Pinto Machado*, Course Director (and Coordinator of the Vertical Themes);
- *Jorge Manuel Rolo Pedrosa*, Coordinator of Phase I (1st and 2nd years)
- *Maria Cecília Lemos Pinto Estrela Leão*, Coordinator of Phase II (3rd year)
- *Nuno Jorge Carvalho de Sousa*, Coordinator of Phase III (4th and 5th years)
- *Joana Palha* (as Delegate of the Scientific Director of the Medical Education Unit)
- *Diana Teixeira Ferreira da Silva* (Student, 2nd year)
- *Pedro Ricardo Luís Morgado* (Student, 2nd year)
- *Carla Marina Mendonça Gonçalves* (Student, 1st year)
- *Marta Soares Nunes* (Student, 1st year)

The main competences of the Medical Course Committee are to watch over the normal operation of the degree programme and the continuing review of the curricula, to propose changes in the curricula and to adopt the course annual report prepared by the Director.

It will also keep a look on the actions taken as a result of the recommendations from the External Advisory Committee and on the organization and updating of the course dossier under responsibility of the Medical Education Unit.

2.2.4 The Phase, Curricular Area and Module Coordinators

The Area and Module Coordinators are responsible for the dynamization and coordination of the curricular development and teaching in the corresponding area or module, in order to assure the accomplishment of the educational strategies and pedagogical methods.

The coordinators nominated so far are listed in Tables I-a, I-b and I-c.

Table 1.a — Area and Module Coordinators of the First Year (2001/2002)

Curricular Area Module	Coordinator	Status
Introduction to the Degree Programme	JOAQUIM PINTO MACHADO	Professor Catedrático (ECS-UM)
Univ. of Minho and its Medical Degree	Joaquim Pinto Machado	Professor Catedrático (ECS-UM)
The Human Being	Artur Mesquita	Professor Catedrático (IEP-UM)
Medicine, Medical Doctor and Patient	Rui Mota Cardoso	Prof. Associado c/Agregação (FM-UP)
Interpersonal Communication	MARIA TERESA MCINTYRE	Prof. Associado c/Agregação (ECS-UM)
Molecules and Cells	MARIA CECÍLIA LEÃO	Professor Catedrático (ECS-UM)
The Cell and the Molecules' Chemistry	Filipe Sansonetty	Prof. Auxiliar (ECS-UM)
From Metabolism to Cellular Bioenergetics	Isabel Palmeirim	Prof. Auxiliar (ECS-UM)
Laboratory Methodologies and Techniques …	Maria Cecília Leão	Professor Catedrático (ECS-UM)
Mol. Gen. Foundations-From Genomics to Metabolomics	Fernando Rodrigues	Prof. Auxiliar (ECS-UM)
Cell Cycle and Molecular Basis of Cancer	Fernando Schmitt	Prof. Auxiliar (FM-UP)
Organic and Functional Systems (SOF)	MARIA AMÉLIA FERREIRA	Professor Catedrático (FM-UP)
Gen. Introd. to SOF. Musculoskeletal System and Skin	Nuno Sousa	Prof. Auxiliar (ECS-UM)
Cardiovascular and Respiratory Systems	Jorge Correia Pinto	Assistente (FM-UP)
Emergency Aid	FERNANDO RODRIGUES	Prof. Auxiliar (ECS-UM)
Optional Project – I	ISABEL PALMEIRIM	Prof. Auxiliar (ECS-UM)
Training in a Health Centre	MARGARIDA LIMA	MD (Coordenadora da Un. Saúde Gualtar)

Table 1.b — Area and Module Coordinators of the Phase I (2002/2003)

Curricular Area Module	Coordinator	Status
Introduction to the Degree Programme	JOAQUIM PINTO MACHADO	Prof. Catedrático (ECS-UM)
The Human Being, Health and Illness	JOAQUIM PINTO MACHADO	Prof. Catedrático (ECS-UM)
The Human Being	Maria Teresa McIntyre	Prof. Associado c/Agregação (FM-UP)
Health and Illness	Rui Mota Cardoso	Prof. Associado c/Agregação (FM-UP)
Molecules and Cells	MARIA CECÍLIA LEÃO	Prof. Catedrático (ECS-UM)
From Molecules to Cellular Bioenergetics	Isabel Palmeirim	Prof. Auxiliar (ECS-UM)
Molecular Genetics Foundations	Fernando Rodrigues	Prof. Auxiliar (ECS-UM)
Cells and Cellular Proliferation	Cláudio Sunkel	Prof. Auxiliar (FM-UP)
Organic and Functional Systems		
Gen. Introd. to SOF. Musculoskeletal System and Skin	Nuno Sousa	Prof. Auxiliar (ECS-UM)
Cardiovascular and Respiratory Systems	Jorge Correia Pinto	Assistente (FM-UP)
Digestive System	Jorge Correia Pinto	Assistente (FM-UP)
Urinary System	Joana Palha	Prof. Auxiliar (ECS-UM)
Lymphatic and Immunity Systems	Armando Pinto de Almeida	Prof. Auxiliar (ECS-UM)
Reproductive System	Armando Pinto de Almeida	Prof. Auxiliar (ECS-UM)
Development, Postnatal Growth and Ageing	Armando Pinto de Almeida	Prof. Auxiliar (ECS-UM)
Nervous System	Nuno Sousa	Prof. Auxiliar (ECS-UM)
Endocrine System	Nuno Sousa	Prof. Auxiliar (ECS-UM)
Emergency Aid	FERNANDO RODRIGUES	Prof. Auxiliar (ECS-UM)
Optional Projects		
Optional Project - I	Isabel Palmeirim	Prof. Auxiliar (ECS-UM)
Optional Project - II	Armando Pinto de Almeida	Prof. Auxiliar (ECS-UM)
Training in a Health Centre	MARGARIDA LIMA	MD (Coordenadora Un. Saúde Gualtar)
Family, Society and Health	JOAQUIM PINTO MACHADO	Prof. Catedrático (ECS-UM)
Follow up of a Family	JOAQUIM PINTO MACHADO	Prof. Catedrático (ECS-UM)
Vertical Themes ("To Feel the Pulse to Life")	JOAQUIM PINTO MACHADO	Prof. Catedrático (ECS-UM)

Table 1.c — Area Coordinators - Phase II

Curricular Area	Coordinator	Status
Clinical and Therapeutic Biopathology	Fernando Schmitt	Prof. Auxiliar (FM-UP)
Introduction to Clinical Medicine & Hospital Internship	Nuno Sousa	Prof. Auxiliar (ECS-UM)
Community Medicine	Carlos Valério	Chefe Serviço (ECS-UM)

The Phase Coordinators, as explained in the previous point, are responsible for the articulation of the curricular areas in each phase and for the articulation between the phases, in order to guarantee the overall coherence of the curriculum, highlight any omissions and avoid repetition. To facilitate and strengthen this role and make it more independent, the Phase Coordinator for each phase was chosen from the academic staff teaching at a different phase. The names of the nominated coordinators were already indicated in point 2.2.3.

2.2.5 Coordination of Postgraduate Programmes and Research

A Director of the postgraduate programmes on health sciences oversees the whole postgraduate activities within the School. Each post-graduation programme has its own Programme Director.

The Life and Health Sciences Research Institute has its own governing bodies, according to the rules applying to the research units integrated in the national system of Science and Technology. The Director of the Institute liaises with the Scientific Council.

The Director of both the Postgraduate Programmes and the Institute of Life and Health Sciences Research Institute is Prof. *Maria Cecília Lemos Pinto Estrela Leão*.

2.2.6 The External Advisory Committee

The External Advisory Committee (EAC) includes the following external members

- *Arsélio Pato de Carvalho* (University of Coimbra)
- *Júlio Fermoso Garcia* (University of Salamanca)
- *Joseph S. Gonnella* (Thomas Jefferson University)
- *Eduardo Marçal Grilo* (Calouste Gulbenkian Foundation)
- *Miguel Leão* (North Regional Council of *Ordem dos Médicos*)
- *José Avides Moreira* (North Regional Health Administration)
- *Walter Friedrich Osswald* (University of Porto)
- *Fernando Lopes da Silva* (University of Amsterdam)
- *Henry Walton* (University of Edinburgh)

- *Alistair Warren* (University of Sheffield)
- *Jean Claude Yernault* (Université Libre de Bruxelles)

The Rector and the Dean are also formal members of the Committee.

The external members have designated Prof. *Fernando Lopes da Silva* as the EAC Coordinator.

The EAC visited the School on the period 11-13 of April 2002. The report from the visit is fully transcribed next:

"1. Committee Members Present

Professor Joseph Gonnella

Professor Fernando Lopes da Silva

Professor Walter Osswald

Professor Arsélio Pato de Carvalho

Professor Henry Walton

Dr Alistair Warren

Professor Jean Claude Yernault

In attendance: Dr. Manuel Azenha

2. Introduction

The second meeting of the External Advisory Committee (EAC) took place at the Complexo Pedagógico II of the Universidade do Minho in Braga.

The EAC met with the Steering Committee, and was welcomed by the Rector, Professor Licínio Chainho Pereira. In addition to the five members of the EAC present at the first meeting, at this meeting Professor Osswald and Professor Yernault were present, and Dr. Azenha (from the Hospital of Braga) attended as the representative of the North Regional Council of the *Ordem dos Médicos*.

At the introductory session the EAC received an account of the progress made by the Health Sciences School. Two informative reports followed, the first from the Medical Education Unit; a summary was then provided of an application submitted to the Fundação da Ciência e Tecnologia (FCT), to fund a project: "Multidisciplinary Research Infrastructure for Life and Health Sciences".

3. The Medical Education Unit (MEU) and Teaching Methods

The EAC visited one of the classrooms for a demonstration of the use of the local intranet. This involved a significant contribution from students, under the supervision of Dr. Nuno de Sousa and gave a very interesting overview of the innovative teaching approaches being used. Later the EAC discussed with Dr Teresa Alfonso and other members of the Medical Education Unit (MEU) her report on the assessment and evaluation of the first semester 2001/2. The EAC was positively impressed by the way the MEU is carrying out the task of assessing the students and evaluating the teaching staff, but raised number of questions. Due importance should be given to continuous evaluation of students by their teachers and tutors. This would release the pressure of examinations and tests. The EAC consider two main points need special attention:

- *The student's assessment should always be multidimensional, i.e. not only factual knowledge should be tested, but also skills and attitudes.*
- *The MEU should consider how to deal with: i. students who fail; and ii. with students who while academically able are unsuited to a career in clinical medicine, perhaps by providing an 'exit' degree in 'Biomedical Sciences'.*

4. Visit to the Research Laboratories

The EAC appreciated very much the visit to the research laboratories and the exchange of ideas with the young scientists about their research and their participation in the medical curriculum. In particular the necessity of providing training in research methods and skills to medical students was emphasized. In this respect the 3 week 'Option course' gives the opportunity to familiarize the students with practical research activities. The EAC, however, understood that only about 20% of the students choose a basic research laboratory project, while 50% choose a Hospital Department or Emergency Ward and 30% a Community Health Centre project. While these choices are valid,

The EAC believes that students motivated by research activity should have adequate opportunities to obtain experience in carrying out laboratory research.

The EAC expresses four main concerns regarding research:

i. are there sufficient senior researchers to provide role-models for the enthusiastic young staff in post?
ii. are other Faculties involved in co-operative projects?
iii. is there sufficient potential to carry out Health Services research, such as clinical trials?
iv. is there the possibility of realizing Educational Research projects?

5. Meeting with Coordinators of Curricular Areas/Modules and with the Academic Staff

The approach to learning adopted on the course was discussed in detail with both students and staff. Each module uses several phases, which are well described and appear to be understood in principle by both learners and teachers. While this approach is generally successful, the EAC got the impression that Phase 1 (Discussion of Objectives) can be a difficult time for both teaching staff and students. Review of the relative proportion of time spent on each phases might be worthwhile and this proportion might be modified depending on the module being studied.

There was an interesting exchange of ideas about the reasons why the academic staff had joined this Faculty. It appears that the younger staff were particularly attracted by the opportunities to start lines of research, as well as the innovative approach to teaching. In addition, they considered as challenging the new post they undertook. They clearly are highly motivated to make the extra effort demanded for realizing the objectives of the demanding teaching programme. Nevertheless, a serious risk exists that the intensity of the teaching and teaching preparation might prove unduly taxing over time, and teaching demands might limit research commitment and jeopardize the future possibility of achieving significant laboratory research.

> *Consequently, the EAC believes that the time for research should not be allowed to fall below 50% of the time available, especially for the junior scientific staff.*

Since this condition carries implications for staff recruitment, staff retention, and for research output as well as the development and implementation of the curriculum, our suggestion calls for immediate attention by the Steering Committee.

6. Meeting with the Medical Students

The meeting with seven students provided great insight into how the curriculum is experienced by the 'consumers'. The enthusiasm and commitment to the spirit of the curriculum displayed by these students is a great credit to the School, and a validation of the educational approach. In addition the students were very positive about the living conditions on the campus and about the amenities of the region in general. Nevertheless, they expressed some reservations about the lack of time to reach sufficient depth in some subject areas. Also they reported that there was a disparity between the general learning objectives (higher order understanding of general principles) and the overly detailed form of examination questions (recall of factual information).

The EAC was surprised to hear that the students have not been informed of the results of the evaluation of the modules and of the teaching staff.

> *Students should routinely receive sufficient feedback about module evaluations and have an opportunity to contribute actively to the discussion of the results.*

7. Resources

It is important that the Health Sciences School will have the possibility, within a relatively short time, of establishing itself in the new hospital and to create a stronger research infrastructure. Regarding the latter, the School presented its candidature to acquire financial support from the FCT together with the Departments of Biology, Biological Engineering and Physics. The approval of this application would be a most important support for the development of the research activities within the School.

> *The Steering Committee was optimistic regarding the possibility that the new hospital will be ready by the end of 2005.*

However if the hospital were to be delayed, the EAC was told that it still would be possible to accommodate 50 students using the available hospitals of Braga and Guimarães. It might even be possible to accommodate up to 100 students, but a larger number than this would cause serious difficulties without the additional facilities.

8. Recommendations

In addition to the recommendations indicated above, the EAC makes a number of additional recommendations:

8.1 Public Relations

The Health Sciences School should develop a policy for promoting their innovative curriculum and educational philosophy, particularly within the academic environment – in Braga, in Portugal, and in the medical educational literature. An active plan of Seminars covering different topics of medical education and medical education research would promote such educational commitment. Such a programme should include the student body and will naturally involve the teaching staff; in addition, visiting educational resource experts should be invited, and medical staff in both academic and clinical posts be expected to participate. The educational programme indicated will encourage current medical staff to become more aware of, and actively involved in, the new curriculum. The medical students are excellent ambassadors for the Braga School.

8.2 Organization of the Health Sciences School

The EAC understands that the Steering Committee does not yet consider it opportune to make formal appointments of the heads of the four large departments (Biomedical Sciences, Pathology, Community Health and Clinical Sciences) and that these departments have not yet been constituted. Nevertheless the EAC points out that progress in this respect within the next six months is vital in order that the School can grow in a progressive and organic way.

Regarding the Medical Educational Unit, the EAC appreciated being informed that Professor Pinto Machado has been appointed the scientific director, Dr. Teresa Alfonso the technical director.

> *The EAC recommends that the School develop an organizational scheme where the structure of the different sections and departments, and the lines of responsibility and accountability, are specified clearly.*

8.3 Selection of Staff

The EAC continues to concern about staff recruitment, particularly the appointment of academic and (part-time) clinical teaching staff. While staff selection is outside the remit of the EAC, it is relevant to raise the qualities, skills and attributes that such staff might have.

The EAC recommends that four main selection criteria should be applied:

i. competence as clinicians

ii. teaching ability

iii. affinity with the Braga programme

iv. spirit of teamwork

It is clear that great sensitivity about local and national conditions is being exercised in relation to staff recruitment. The EAC has been reassured that discussions about appointment are in progress. An important related topic is the recognition which will be given to clinical teachers for the essential contribution they make to the teaching programme (the more so given that integration of scientific and clinical subjects is a main objective).

8.4 Curriculum: Specific Aspects

An outline of the curriculum as a whole is urgently necessary, and should be made available as soon as possible. Such a comprehensive outline is essential for proper planning. It is urgent to undertake a systematic review as soon as the present First Year is completed before moving to the next stage of teaching. Identification of strengths and relative weaknesses in the teaching and learning will permit planning for the second intake, and such proper assessment will enable the Second Year programme to be planned, to remedy deficiencies, highlight any omissions, and avoid unnecessary repetition.

The EAC noted, for example, the lack of a number of basic subjects in the current first year, namely mathematics and medical statistics, scientific method, behavioral sciences (Psychology, Medical Sociology, Anthropology) and ethics.

> *The recommendation is to ensure that current First Year students receive appropriate teaching in these basic subject areas, and that these subjects should be included in the revised curriculum for the next intake of students.*

From the very beginning, the emphasis has been on self-learning and on the development of social and communication skills and attitudes. These areas deserve to be assessed and should be revisited later in the curriculum. Options for training in research (laboratory, clinical and other) should be further stimulated. In addition more attention should be paid to general subjects such as management of the health service, medical informatics and public health issues.

8.5 Integration of Clinical Subjects

The EAC was surprised that the intention of *attaching a student to a family* from the start of the course had not yet been realized. It had been emphasized that programming such a component into the course would require significant effort, outlined in the EAC's first *Report*, and it is recognized this will be done in future years.

The EAC wishes to emphasize that the School has to make specific contracts with local Hospitals and Health Centers in order to plan the curriculum as a whole.

> *Attention must be paid not only to the traditional clinical subjects but also to para-clinical subjects and to the Residency period. The School has also to make plans for Postgraduate Training, including the number of resident posts available and how the assessment of residents will be organized.*

The School should also consider the possibility of enabling medical graduates to follow a PhD track, and to the incorporation of MScs/Ph.D degrees into the medical curriculum.

8.6 Database on Entrants

The proposal to establish, from the 1st year onward, a database on entrants was not put in practice this year. While recognizing the pressures on staff, the EAC considers this a significant omission that deserves to be corrected.

> *We recommend the development of research project tracking all entrants to the medical school until their graduation and beyond, which appropriately could be led by the MEU.*

Such a project could be a significant asset to the School locally, nationally and internationally. As was described during Professor Gonnella's lecture, when longitudinal studies of medical students were reviewed, the information derived from a follow-up project is essential if cognitive and non-intellectual characteristics of the student intake in relation to their academic progress is to be studied; such educational research can help significantly with curriculum design, career planning of staff, and development of the Medical School, and can influence Health Service delivery itself. For this purpose, the practice of issuing questionnaires to be filled in anonymously by students is erroneous

8.7 Student Participation

The EAC was surprised that a significant number of students did not reply to the module evaluation questionnaires. Apparently the reasons for this omission were unclear to the Steering Committee.

> *The EAC considers it important to ensure the full participation of the students in the assessment of all aspects of the curriculum, with appropriate feedback always provided to the students (not occurring at present).*

8.8 The Role of the EAC

The EAC discussed its position and its role with respect to the Health Sciences School. The members of the EAC consider that their role is primarily that of an independent advisory body, in the sense of looking forward and being critically supportive. Secondly the ECA can, from time-to-time, undertake an evaluating role within its scope of expertise, although not in the formal sense of a 'teaching quality audit'.

8.9 The Next Meeting

Taking into consideration the appreciable progress achieved by the School, the EAC considers that while a meeting in six months (October 2002) has its advantages, a longer time interval is acceptable. The next meeting will take place on **6 - 9 February 2003**. It would be desirable for all members of the EAC to be present at this next site visit.

The EAC wishes to note that the participation of Dr Azenha at the EAC meeting was both important and useful, particularly with respect to the questions of the relations between the School and the Health Service system in wider Braga.

9. Appreciation

The EAC wishes to record formally its tremendous esteem and admiration of the remarkable achievement evident throughout its visit. The teaching staff, despite severe constraints, had accomplished superlative teaching of the first intake of students, their success reflected by the satisfaction and high morale of the students. The EAC witnessed excellent staff-student cooperation, of high order, with relationships between teachers and student conspicuously effective and mutually respectful.

All comments and criticisms expressed by the EAC are precisely intended to acknowledge and reinforce the tremendous effort made by the Steering Committee and by the teaching staff of the School over the past year. The EAC recognizes fully that the School succeeded in bringing together highly competent and dedicated young teachers, who have demonstrated their great motivation to accomplish the task of realizing an innovative programme of medical education in Portugal. The EAC wishes to express its thanks to the School and to the staff and students for their hospitality during the site visit.

Braga, 13 April 2002

2.3 Articulation with the National Health System

The strategy concerning the articulation with the health services involves different levels and developed on the following lines:

- Within the legal framework concerning the articulation between the Medical Faculties and the Health Services, and following a proposal from the School of Health Sciences, a legal document (*Portaria* 36/2002) was published on the 10th January, 2002, to give a formal background to the protocols with each relevant Service. It establishes that the School of Health Sciences is institutionally articulated, under the terms established by law, with *Hospital de São Marcos* - Braga, *Hospital da Senhora de Oliveira* – Guimarães, other Hospitals in the Northern Region subject to the establishment of a protocol, and with Health Centres in the Northern and Central Regions under the scope of protocols to be signed with the Regional Health Administration authorities.

- The protocol with the Regional Health Administration – North (ARS-N) was concluded and signed up in January 2002. It sets an innovative scheme for the cooperation between the School and the Health Centre close to the Campus (*Unidade de Saúde de Gualtar*), in which a Technical Committee integrating representatives from the School and the Health Centre is responsible for the proposition of procedures and courses of action aiming at the improvement of health care, training of students and the overall performance of the health unit. It also establishes that the allocation of medical doctors to the Centre will take into consideration the specificities of the required profile, due to the double function to be fulfilled (health care and medical education).

  The Government is producing new legislation concerning the Health Centres, which may allow for a greater specificity for the *Unidade de Saúde de Gualtar,* viz. its integration, by contract, in the School of Health Sciences. A proposal was already presented to the Sub-Regional Administration and contacts are proceeding well.

- Frequent contacts have been established with Hospitals in the Region and all the necessary cooperation has been readily available. A formal protocol was signed with *Hospital de Viana do Castelo* last November and others are under preparation.

- Regular meetings with the members of the Clinical Direction at *Hospital de São Marcos*, dealt with practical matters concerning the cooperation from this Nuclear Hospital. Conditions are now ripe for the establishment of a protocol that goes further than the usual formal statements and sets innovative ways of articulation and mutual cooperation.

- At a more political level, the Ministry of Health is introducing important changes in the administration of Hospitals, in a movement towards the privatization of their management. There is some concern in all Faculties of Medicine regarding the statute and financing of the University Hospitals. The Government recognizes the specific profile of such Hospitals and is producing legislation to define and safeguard their statute. The Medical Faculties (the five established ones and the new Schools in Minho and Beira Interior) are jointly following this process, in articulation with the *Grupo de Missão para a Saúde* established by Resolution 140/98 of the Council of Ministers.

- There were also changes in the policies concerning the construction of the new Hospital in Braga, which is being conducted in a *project financing basis* with private funds, together with several other Hospitals. A special group (*Parcerias.Saúde*) was set up by the Government to prepare the specifications and the legal and administrative procedures concerning the call for tenders and the contracts. The group has kept regular contacts with the School of Health Sciences, in relation to the definition of the spaces required for teaching and research within the Hospital and the specific profile of the Hospital mission. The Steering Committee produced a document to be sent to *Parcerias.Saúde* (Annex II), expressing its views on the subject and advancing some general specifications on the ways to organise the students' practical teaching.

3. ACTIVITIES IN 2002

3.1 Medical Degree Programme

An autonomous annual report was prepared for the undergraduate programme, detailing the pedagogical activities undertaken in the academic year 2001/02, the objectives, contents, methodologies and bibliography adopted for each curricular area, the teaching teams, the assessment of students and the evaluation of the staff and of the

programme. It also includes a review of the curriculum based on the experience of the first year and the pedagogical planning for the academic year 2002/03.

The degree programme report must be considered as an annex to the present report.

3.2 Post-graduation

For the second consecutive year, high priority was given to the preparation and offer of post-graduation studies with a two-fold objective: **(i)** to contribute to a highly specialized in-service training of medical doctors under conditions compatible with their normal duties and schedules; **(ii)** to extend the opportunities for the acquisition of formal Master or Doctoral degrees in the field of life and health sciences.

The post-graduation programme in 2002 included six intensive international courses, listed in Table 2, targeting medical doctors as well as academic staff, researchers and health professionals.

Credit units are associated with each course, valid for credit accumulation pertaining to post-graduation, master and PhD programmes in the field of biology and health sciences at University of Minho.

The ICVS annual report includes detailed information on the post-graduation courses and their evaluation. It is worth mentioning that the results from the questionnaire passed to all the participants showed a high degree of satisfaction (36 % excellent, 59 % good, 3 % adequate) and many appeals for the School to proceed with the programme and repeat some of the courses.

3.3 Research

The School continued its efforts to save in current expenses in every possible way, in order to push financial resources to the preparation of laboratories, acquisition of equipments and support of projects within the ICVS. Indeed, due to the change of Government the financing of new research units was postponed to 2003. Anyway, in the

last two years it was possible through internal savings and allocation mechanisms to invest above two million Euro in laboratory equipments and computers for teaching and research.

It was therefore possible not only to keep all members of the academic staff active in research, including part-time staff, but also to attract a meaningful number of research students into the research projects. In this way, although the School of Health Sciences has on its pay roll only a number of 23 FTE academic staff, 56 researchers are actively involved in the ICVS activities (13 full-time researchers with a doctoral degree, 2 MDs, 13 full-time post-graduation students, 19 MDs with a part-time contract with the School, 4 external collaboration and 5 full-time research students), supported by 14 members of the non-academic staff.

It is however important that the Foundation for Science and Technology decides urgently on the proposals that were formally submitted in 2002 for the financing of the ICVS. These proposals concern:

- the regular financing of ICVS as a research unit integrated in the national system of science and technology (which, according to the FCT rules, involves basal and programmatical financing);
- the financing of equipments for the research laboratories, aiming at the establishment of an infrastructure of "Shared Instruments Facilities" in partnership with related areas in Physics and in Biotechnology.

Contacts with the Presidency of the Foundation indicate that very soon both proposals will be supported and that ICVS will also be awarded a number of fellowships to attract young researchers.

A detailed annual report of the activities of ICVS in 2002 is available separately.

3.4 Human Resources

Academic Staff

As already stated in a former report, the School is paying careful attention to the recruitment of academic staff. The number of potential candidates with relevant scientific qualifications is high and keeps growing, but we must be aware that the innovative conditions of the medical degree programme at University of Minho may not facilitate the integration of scientists/professors used to more traditional ways. So, it is important to make sure that the selected candidates understand well how the project is

Table 2 — Post-graduation Programmes in 2002

Course Title and Dates	Coordinator(s)	Invited Tutor(s)
Light Microscopy and Analysis **(1st edition)** **June, 05-07**	**Filipe Sansonetty**, ICVS-ECS, UM, Portugal	**Peter Evennet**, Leed, UK **Oscar Madureira**, HITEC, Portugal **Antonio Freitas**, HITEC, Portugal **Guilherme Godinho**, Leica Microsystems, Portugal
From Acute to Chronic Pain **(1st edition)** **July, 08-12**	**Armando Almeida**, ICVS-ECS, UM, Portugal	**Anthony Dickenson**, University College London, UK **Arantes Gonçalves**, Clínica de Dor, Porto, Portugal **Armando Almeida**, ICVS-ECS, UM, Portugal **Deolinda Lima**, FM-UP, Portugal **Francisco Cruz**, FM-UP, Portugal **Isaura Tavares**, FM-UP, Portugal **J.M. Castro-Lopes**, FM-UP, Potugal **Jorge Tavares**, Hospital S. João, Portugal **Mary Heinricher**, Oregon Health Sciences Univ., USA **Vera Soares**, IEP, UM, Portugal
Cytometry Applications in Cellular Biology and Medicine **(2nd edition)** **July, 22-26**	**Filipe Sansonetty**, ICVS-ECS, UM, Portugal	**Paul Robinson**, Purdue University, USA **Ger Van Den Engh**, Washington Univ., USA **Lori Krueger**, Uni. Massachusetts, USA **Michael G. Ormerod**, Reigate, England **Alberto Orfão**, Univ. Salamanca, Spain **Enrique O'Connor**, University of Valencia, Spain **João Ferreira**, EC, UM, Portugal **Filipe Sansonetty**, ICVS-ECS, UM, Portugal **Maria do Céu Monteiro**, IPCSN, Paredes, Portugal **José Miguel Ferreira**, Hospitrans, Portugal **Maria José Gonçalves**, IPCSN, Paredes, Portugal **Manuela Côrte-Real**, EC, UM, Portugal **Paula Ludovico**, EC, UM, Portugal **Alexandre Salvador**, Enzifarma, Porto, Portugal **Nuno Garganta**, Izasa, Porto, Portugal **Florêncio Carretero**, Izasa, Barcelona, Spain **Giovanni Salerno**, Cytomation, Freiburg, Germany
Photodynamic Therapy **(1st edition)** **September, 12-13**	**João Moura**, EC, UM, Portugal **Filipe Sansonetty**, ICVS-ECS, UM, Portugal **A. Sousa Bastos**, Serv. Dermatologia, HSM, Portugal	**Stephen Brown**, University College London, UK **Raymond Bonnett**, University of London, UK **Sally Ibbotson**, University of Dundee, UK **Faria de Abreu**, Hospitais Univ. Coimbra, Portugal **José Cavaleiro**, Universidade Aveiro, Portugal **João Ferreira**, EC, UM, Portugal
Hormone-Dependent Organization of the Brain **(1st edition)** **September, 30-October, 04**	**Nuno Sousa**, ICVS-ECS, UM, Portugal	**Osborne Almeida**, Max Planck Inst. Psychiatry, Germany **Barbara Demeneix**, MNHN, Paris, France **Ângela Maia**, IEP, UM, Portugal **Joana Palha**, ICVS-ECS, UM, Portugal

Aspiration Cytology: from Clinical Applications to Research in Oncology (2nd edition) November, 27-30	**Fernando C. Schmitt**, IPATIMUP, Portugal	**Ednéia Tani**, Karolinska Hospital, Sweden **Fernanda Milanezi**, IPATIMUP, Portugal **Fernando C. Schmitt**, IPATIMUP, Portugal **Filipe Sansonetty**, ICVS-ECS, UM, Portugal **Manuel Sobrinho Simões**, IPATIMUP, Portugal

expected to develop and accept its specificities, namely in what concerns five essential aspects: : **(i)** the perspective of the programme, as a project to be constructed and developed in a participated way within the School; **(ii)** the student-centred learning process, in which the traditional formal lecturing looses most of its significance; **(iii)** the horizontal integration of the curricular contents and the modular organisation of the curriculum, meaning that the coordination competences traditionally associated with individual subjects are transferred to the coordinators of the curricular areas and modules; **(iv)** the role of the Medical Education Unit, in terms of support, coordination and monitoring in connection with the pursuit of the educational objectives; **(v)** the role of research, as a crucial element for a research-based learning process, and the submission of the research projects to the strategic guidelines and priority areas defined for the Research Institute.

It is important to understand that, in quantitative terms, there are severe administrative limitations imposed by the Government on the maximum number of FTE teaching staff that can be hired, as a function of the number of students enrolled (ratio 1:6). During the installation period, special provisions were negotiated aiming at recruiting the necessary staff one year in advance regarding student enrolment. Thus, the standard number of FTE for the current academic year is 25 and must already include the teaching staff for the third curricular year. Considering the admission of 50 new students next September, the maximum number of FTE for 2003/2004 will be 33.

At present the School has a faculty of 36 members (23 FTE) and counts also with 5 regular collaborators from University of Porto (2 FTE) and many occasional collaborators. The full composition of the regular teaching staff is listed in Table 3, together with their qualifications, rank and scientific area.

Table 3 — Academic Staff

Name	Qualifications	Rank	Research/Teaching	Area
Joaquim Pinto Machado	MD, PhD, *Agregação*	*Prof. Catedrático Emeritus*	Medical Education	IM
Maria Cecília L.P. Estrela Leão	PhD, *Agregação*	Prof. Catedrática	Micology	MC
António Gil Pereira de Castro	PhD	*Prof. Auxiliar Exc.*	Immunology	BP
Armando Pinto de Almeida	PhD	*Prof. Auxiliar Exc.*	Neurosciences	SOF
Fernando dos Santos Rodrigues	MD, PhD	*Prof. Auxiliar Exc.*	Micology	MC

Isabel Palmeirim Esteves	MD, PHD	*Prof. Auxiliar Exc.*	Development	MC
Joana Pacheco Palha	PhD	*Prof. Auxiliar Exc.*	Genetics	SOF
Jorge Manuel Pedrosa	PhD	*Prof. Auxiliar Exc.*	Immunology	BP
Nuno Carvalho de Sousa	MD, PhD	*Prof. Auxiliar*	Neurosciences	SOF

Table 3 — Academic Staff (Cont.)

Name	Qualifications	Rank	Research/Teaching	Area
Patrícia Sá Maciel	PhD	*Prof. Auxiliar Exc.*	Genetics	SOF
Paula Monteiro Ludovico	PhD	*Prof. Auxiliar Exc.*	Micology	MC
Rui Vieira Reis	PhD	*Prof. Auxiliar Exc.*	Cancer	BP
Alberto Filipe Sansonetty Gonçalves	MD	*Prof. Auxiliar Exc.*	Functional Cytology	MC
Carlos Almeida Valério	MD	*Chefe de Serviço Clínica Geral*	Community Medicine	CM
António Ferreira Santos	MD	*Assistente Conv. 40%*	Neurosciences	SOF
Carla Rocha Gonçalves	MD	*Assistente Conv. 40%*	Development	SOF
Filipa Pinto Ribeiro	Lic[a]	*Assistente Conv. 50%*	Neurosciences	SOF
Isabel Ribeiro Oliveira	MD	*Assistente Conv. 40%*	Development	SOF
Luís Gonçalves Torrão	MD	*Assistente Conv. 40%*	Development	SOF
Manuel Costa Rodrigues	MD	*Assistente Conv. 50%*	Neurosciences	SOF
Maria Fernanda G. Milanezi	MD	*Assistente Conv. 40%*	Cancer	BP
Maria João Leite Baptista	MD	*Assistente Conv. 40%*	Development	BP
Maria Leonor Barbosa Gonçalves	MD	*Assistente Conv. 40%*	Neurosciences	SOF
Sónia Rodrigues Magalhães	MD	*Assistente Conv. 40%*	Development	SOF
André Couto Carvalho	MD	*Monitor*	Neurosciences	SOF
Gustavo Alves Rocha	MD	*Monitor*	Development	SOF
Hugo Almeida Tavares	MD	*Monitor*	Neurosciences	SOF
João José Cerqueira	MD	*Monitor*	Neurosciences	SOF
João Bessa Peixoto	MD	*Monitor*	Neurosciences	SOF
João Soares Fernando	MD	*Monitor*	Development	SOF
José Miguel Moreira Pêgo	MD	*Monitor*	Neurosciences	SOF
Mário Alves Oliveira	MD	*Monitor*	Neurosciences	SOF
Pedro Alexandre Teixeira	MD	*Monitor*	Neurosciences	SOF
Rui Pedro Bastos	MD	*Monitor*	Development	SOF
Vítor Varandas Moreira	MD	*Monitor*	Neurosciences	SOF
Maria Amélia Ferreira	MD, PhD, *Agregação*	*Prof. Catedrática*	Neurosciences	SOF
Claudio Sunkel	MD, PhD	Prof. Auxiliar	Cell Cycle	MC
Fernando Carlos Schmitt	MD, PhD	*Prof. Auxiliar*	Cancer	BP
Jorge Correia Pinto	MD	*Assistente*	Development	SOF
Manuel Teixeira da Silva	MD, Phd	*Investigador*	Immunology	ICVS

Non-academic staff

Five new staff members were recruited, four of them with a University degree. The transfer of two highly qualified and experienced staff members from the University

central administration to the School allowed the setting up of a Head Office to provide support to the Dean and Deputy Deans. Table 4 indicates the staff members and their qualifications, rank and allocation.

Table 4 — Non-academic Staff

Name	Qualifications	Rank	Service
Teresa Alfonso	PhD	*Assessoria* (colaboração)	UEM
José Carlos Henriques	*Licenciatura*	*Assessor Principal*	Head Office
Paula Gomes Pereira	*Licenciatura*	*Técnico Superior Administrativo*	Head Office
Rosália Fontes	*Licenciatura*	*Técnico Superior Administrativo*	UEM
Magda Carlos	*Licenciatura*	*Técnico Superior Laboratório*	Laboratories
Cláudia Barreira	*Licenciatura*	*Técnico Superior Administrativo*	Secretariat PG & Research
Lucília Pinto	*Licenciatura*	*Técnico de Diagnóstico e Terapêutica*	Laboratories
Jorge Freitas	Bachelor	*Especialista de Informática Estagiário*	UEM
Domingos Dias	Secondary Education	*Técnico de Informática Adjunto*	ICT
Olga Miranda	Secondary Education	*Assistente Administrativo*	Secretariat
Helena Nascimento	Secondary Education	*Assistente Administrativo*	Secretariat
Manuela Neves	Secondary Education	*Assistente Administrativo*	Secretariat
Susana Santos	Secondary Education	*Auxiliar Técnico*	Laboratories
João Malheiro	Basic Education	*Auxiliar Técnico*	Laboratories
Jorge Paula	Basic Education	*Auxiliar Administrativo*	Laboratories
Celina Barros	Basic Education	*Auxiliar de Manutenção*	Laboratories

Staff development

The training of the staff is essential to the integration of new members and to the normal development of the project.

The Medical Education Unit has organized three new training activities in January, June and October 2002, regarding the learning methodologies. School members and some collaborators from other Schools have participated in those activities (the students were also specifically trained to adapt to the learning methodologies). Also, several formative meetings with the academic staff took place in relation to the docimologic assessment of examinations and the preparation of the exams in a coordinated way.

Regarding staff development, the School was allocated, in June 2002, a total of 13 places for tenure positions (4 places for Full Professors and 9 places for Associate Professors - the rank of *Auxiliar* Professor is not a tenure position.) There are, therefore,

conditions for the promotion of staff members with high standard CVs. Competition for some places will be opened soon.

The integration of staff in the national and international scientific community is also important. In 2002 leave of absence and financial support were provided to several staff members.

3.5 Infrastructures

The infrastructures for the School activities continued to be developed in three concomitant lines: the process for the construction of the new buildings, the provisional academic area and the provisional laboratory spaces.

The plans for the new buildings were completed in March 2002, when they were sent to the Ministry of Education for approval and authorization to open the call for tenders. The transition to the Ministry for Science and Higher Education in April, and the difficulties with the operational programme for the financing of higher education infrastructures, meant a big delay in the process. The Minister has meanwhile declared this project as a priority and a formal decision is expected soon, in order to open the call for tenders in the first trimester of 2003.

As a consequence of this delay, the provisional spaces will have to hold until the end of 2004. Thus, additional space was found to expand both the academic and research areas and detailed contingency planning was made to allow for the operation of four curricular years (keeping the *numerus clausus* at 50 places).

For the current academic year, there was an expansion of the academic area (2 extra tutorial rooms fully equipped) and all the rooms in the laboratory facilities were made operational.

A brief account of the provisional facilities is presented next.

Pedagogical Complex II

In the Pedagogic Complex II of the Gualtar Campus, part of the third floor is occupied by the Health Sciences School. This area, with a floor space of about 1 000 m^2, comprises self-learning and tutorial classrooms (**1**), seminar rooms (**2**) and traditional

Health Sciences School Facilities - Gualtar Campus

1- Pedagogic Complex II

1- Self-learning and tutorial classrooms
2- Seminar rooms
3- Traditional classrooms
4- Administrative offices and facilities
5- Scientific committee boardroom and direction offices
6- Medical education department and school library
7- Open spaces concept locations for teaching staff

classrooms (**3**). In addition, administrative offices and facilities (**4**), the scientific committee boardroom and direction offices (**5**) and the medical education unit and school library (**6**) are also located in the same floor. The Pedagogic Complex II also provides two more locations for the use of the teaching staff (**7**), in a collective "open-space" concept.

Each of the four tutorial classrooms presently available has a capacity for 26 students, with one computer per student connected to the Internet and the Intranet.

Each tutorial classroom is equipped with a multimedia projection system, 3 worktables to accommodate groups of up to nine students and one bookcase per group where the pedagogical materials for the academic year are permanently available.

Laboratory facilities

The laboratory facilities of the Health Sciences School/Life and Health Sciences Research Institute occupy an area of 1 500m^2 and are located about 100 meters from the classrooms of Pedagogical Complex II. The Health Sciences School will use these facilities for a few years (before and during the construction of the Medical School Building). In the future they will be used as a Post-graduation Centre, servicing several Schools of the University.

The laboratory facilities are divided in two different areas: the academic area and the area dedicated to research, postgraduate activities and specialised community services.

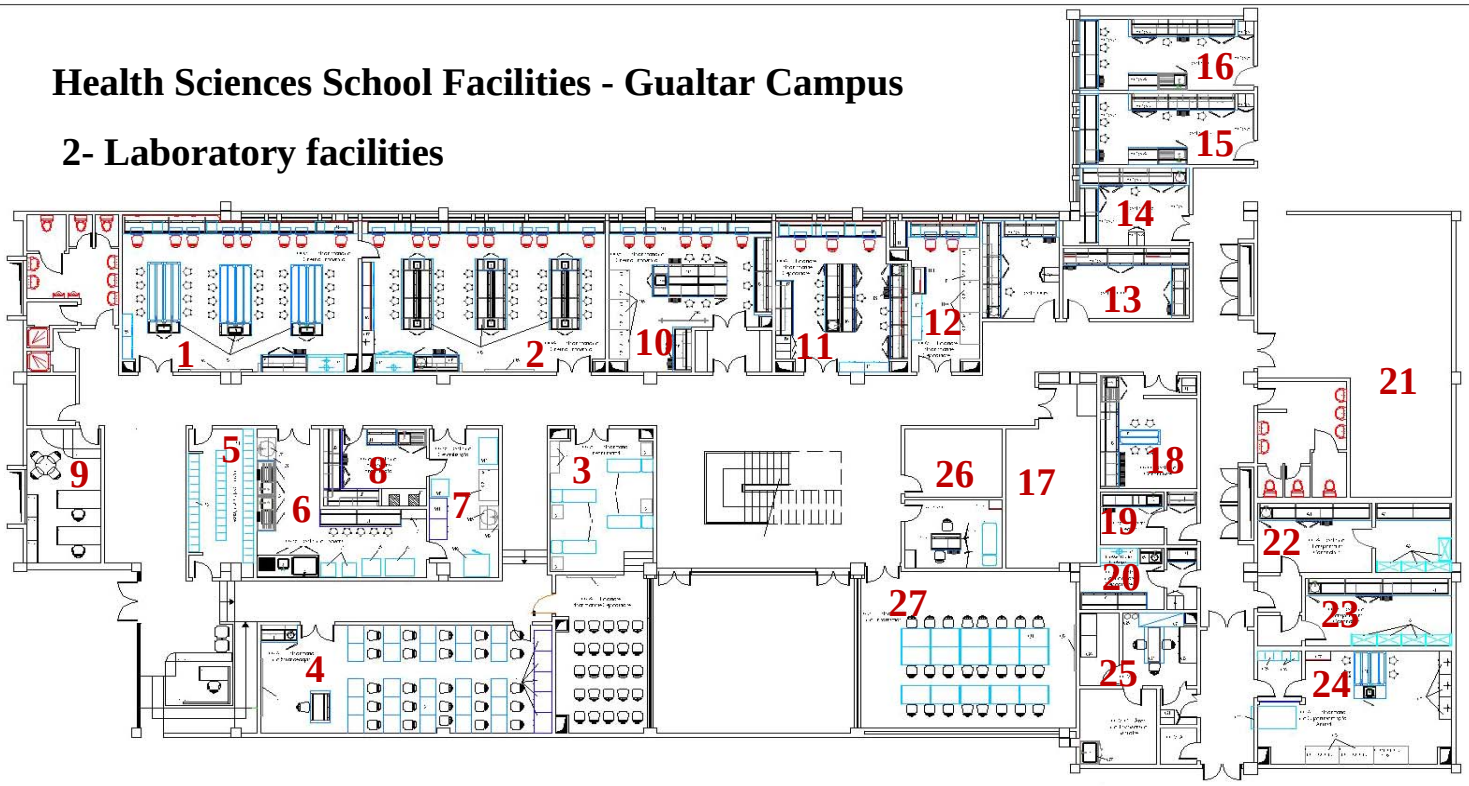
Academic area

The academic area is composed of four distinct laboratories, as well as of central support facilities. Based on the concept of the integrated learning system, the four distinct laboratorial areas are: Anatomy (**1**), Biochemistry and Molecular Biology (**2**), Physiology and Clinical Skills (**3**) and Histology and Cytology (**4**) with an accommodation for 26 students each.

The central support facilities include the student locker area (**5**), a decontamination and material cleaning room (**6**), a sterilization room (**7**), a solutions preparation and stock reagents room (**8**) and, finally, a post-graduation secretariat room (**9**).

Health Sciences School Facilities - Gualtar Campus

2- Laboratory facilities



All the rooms and the corridors of the academic area provide access to Internet and Intranet using cable/wireless network and all teaching laboratories include a multimedia projection system.

Area for research, postgraduate studies and specialised services

The medical students may have access to the research area to perform specific techniques or to carry on the "Optional Project" under the supervision of the project instructor.

The area for research, for postgraduate studies and for specialised community services is organised into different, functionally specific laboratories, concerning the following areas: Molecular Microbiology (**10**), Molecular and Cell Biology (**11**), Cell Culture (**12**), Microscopy (**13**), Flow Cytometry (**14**), Histology and Cytology (**15**) and, finally, Toxicology and Development (**16**). These laboratories are shared by both researchers and postgraduate students of the Life and Health Sciences Research Institute. Each research group has a 'home base' in the laboratory most closely related to its specialisation.

Furthermore, there are several support rooms: a centrifuge and ultra freezer room (**17**), an anatomy cadaver preparation room (**18**), a dark room (**19**), an embryo explants research room (**20**), a storage room (**21**), a 4° C temperature controlled room (**22**), a 37° C temperature controlled room (**23**) and a small area for animal experimentation. This animal facility comprises two rooms: a level three security negative pressure area (**24**) for animal models of infection, and a positive pressure clean area (**25**) for surgery in animal models as well as for animal models of behaviour studies.

In addition to these support rooms, the laboratory facilities also include two medical consultation offices (**26**) that could be used to collect materials (or information) related to community specialised services or be used by medical students in their training of clinical interviews.

There is also a seminar room (**27**) for internal meetings, as well as for postgraduate seminars. In the research area, it is also possible to access the Internet and Intranet using a cable or wireless network.

3.6 Financial Resources

Since 2000, an annual lump sum has been allocated to the School of Health Sciences to cover current expenses, including salaries and small equipments. As said before, all the possible saves were made in order to shift as many resources as possible to pedagogical and research equipments.

The income and expenses in 2002 are indicated in Table 5. The expenses are categorized as "salaries", "other current expenses" and "capital investments" (equipments), to show their relative weight. The surplus from 2001 originated from two different sources: the value of some equipments ordered in late 2001 that were delivered and paid for in 2002, and a sum from the budget of 2001 that the Ministry, with the agreement of the University, transferred only in 2002.

Unit: 10^3 Euro

Income			**Expenses**				**Surplus**
Surplus 2001	Annual allocation	Total	Salaries	Other current expenses	Capital investment	Total	
827.0	1 367.1	2 194.1	524.9	461.8	1 256.1	2 242.8	- 48.7

Table 5 – Financial resources (2002)

4. PLANS FOR 2003

The dynamics of the School operation is now well established and the experience of the first academic year permitted a consolidated overall view of the curriculum of the undergraduate programme. The main problems to be solved in the coming year relate to the reinforcement of the School facilities and of the human resources available, the completion of the detailed curricular development for the full undergraduate programme and the consolidation of the links and cooperation with the health services. Specific objectives for 2003 are, therefore:

- to finish the preparation of courseware for the third curricular year of the undergraduate programme and to complete the curricular development of the third phase (years 4 and 5);

- to admit a new batch of 50 students;

- to proceed with the post-graduation programmes and to have formal Master and Doctoral programmes approved;

- to continue to stabilize the conditions for a steady participation of the academic staff in research projects and for attracting new researchers on fellowship schemes;

- for this effect, to establish the contracts with the Foundation for Science and Technology for the financing of ICVS;

- to start offering specialized services to the health system and the local community, as soon as the proper facilities are ready;

- to accelerate the process for the construction of the new buildings and to finish the preparation of extra provisional spaces;

- to recruit and train new staff members, with a growing emphasis on the academic staff for the clinical subjects;

- to review the protocol with ARS-N concerning the *Unidade de Saúde de Gualtar*, aiming at a stronger interaction between the School of Health Sciences and the Health Centre in order to create a role-model "pedagogical laboratory" for the practical training of students on community health;

- to extend the cooperation to other Health Centres;

- to deepen the dialogue with Hospital de São Marcos and to define the terms for a detailed protocol aiming at two complementary objectives: to help shift the profile of Hospital de São Marcos to a true University Hospital, complying with the requirements for the accreditation of health services regarding the participation in teaching activities; and to guarantee the education and training of the undergraduate students on the clinical subjects accordingly to adequate standards;

- to continue to pay special attention to the monitoring and improvement of quality.

Some of the problems to be addressed are common to all the other Medical Faculties in Portugal and must be dealt with in cooperation. This is particularly the case of two important and complex issues:

- the establishment of the requirements for the accreditation of health services as teaching units, which will act as an essential incentive for some Hospitals and Health Centres to redefine and focus their specific mission in relation to the opportunity and ambition to participate in the medical training of students;

- the (re)organization of the sixth curricular year, taking into consideration the Directive from the European Parliament and the European Council concerning

the recognition of professional qualifications (proposal from the European Commission 2002/0061 (COD), article 26th).

The School of Health Sciences will actively participate in the initiatives that the *Grupo de Missão* is taking in this regard, viz. the meetings of the Medical Faculties.

5. CONCLUSIONS

5.1 Analytical Summary

In a brief SWOT analysis of the School operation, the first main conclusion is that the strategies set up for 2002 were implemented in their essential aspects, although with some delays regarding the construction of the new buildings and of the new Hospital. As in the previous years, the enthusiasm, commitment, permanent availability and competence of all School members constitute the principal asset for the School.

Some other important strengths worth mentioning are:

- the qualification and youth of the staff and the easy recruitment of new qualified members;
- the willingness of all staff to adhere to the innovative ways of the School operation, at all levels, and their acceptance and participation in the training activities;
- the quality of the students and their capacity for action;
- the standards of the working spaces and equipments, in spite of their provisional status;
- the innovative and flexible coordination and management procedures;
- the good relations with the health services and with *Ordem dos Médicos*;
- in summary, the favourable teaching and research environments.

There are, however, some points of concern that have deserved a very special attention and care from the School bodies. As stated in a former report, a main question

relates to the necessary innovation in the clinical training of the students within the health services. The experience of the cooperation with the Health System so far is positive, there are good links established and many medical doctors are enthusiastic about the project, but there is need for a more adequate legal framework for the operation of the University Hospitals and the still prevailing traditions may raise some difficulties. In particular, the Nuclear Hospital and the Nuclear Health Centre, in Braga, still need some shifting in their profiles to reach a proper balance between their traditional mission of health care services and the new responsibilities concerning teaching.

As said before, the work of the *Grupo de Missão* is of strategic importance to push forward a new legal environment for the participation of health services in teaching and research.

The delays in the construction of the new School buildings and the new Hospital are also worrying. However, the Government is reaffirming its political priority for these projects, raising our expectations for their launching in the short term.

Regarding opportunities, it can be said that the new medical degree is highly relevant in the context of the growing national concern with pedagogical methods and education outcomes, namely the horizontal and transversal graduate skills that can hardly be acquired without an adequate active and student centred learning environment. It is hence raising a great interest in other Schools within and outside University of Minho, playing in some way a role of pilot-project and enhancing the chances of strong external support.

Another window of opportunity is opened by the Foundation for Science and Technology, regarding the financing of ICVS, which will have a strong impact on the working conditions and in improving critical mass for research.

As a new and innovative project, there is always the danger that the programme will drift into just one more traditional project. We reiterate, however, that to counteract this latent threat we count on important assets, like the previous experience of University of Minho in accomplishing innovative educational projects, the institutional support from the Rector and the University, the strong and informed leadership at all levels within the School, and the commitment of staff and students to the project identity, not forgetting the permanent monitoring of the project. As an extra and essential safeguard, we count on the support and watchful attention of the External Advisory Committee.

Another threat may relate to the negative financial conjuncture in Portugal. However, in times of crisis the establishment of priorities and the support of innovation are more important than ever. It is our conviction that this understanding is subscribed by the Government and the financial means defined by contract will be made available on due time.

5.2 The Recommendations from the External Advisory Committee

The opinions and recommendations from the External Advisory Committee are of the utmost importance for the School and the medical degree. There is a strong commitment from the School not only to address and take into consideration all those views but also to make explicit on the annual report what was done (or could not be done) in relation to each of them. Thus, the recommendations included in the last report of the EAC, as expressed in section 2.2.6, are addresses next, point by point.

Rec. 8.1 Public relations

A good awareness can be felt amongst the scientific community about the innovate educational philosophy we are developing at the School. Papers have been presented at relevant Seminars, where they raised great interest, and several visits to the School were organised for visitors from other institutions (e.g. higher education institutions, Gulbenkian Foundation, Foundation for Science and Technology).

The press has also been interested in the project, referring frequently to it. For example, one of the main daily newspapers (*Público*) dedicated two pages to the undergraduate programme, on the 22nd of July 2002, at a very appropriate moment when the high school leavers were applying to enter higher education. It included the articles [2] "*O primeiro ano dos cursos de Medicina – Alunos do Minho rendidos a métodos de ensino inovadores*", "*Uma licenciatura organizada por objectivos*", "*Diana notou muito a diferença*" e "*Cristina diz que são 'como uma família'* " (Annex III).

The School took no initiative to publish paid announcements to advertise the degree programme, because there is no need for it. We are attracting the top candidates and

2 "The first year of the new medical degree – students in Minho conquered by innovative teaching methods", "A degree organised by objectives", "Diana noticed strongly the difference" and "Cristina says that they are 'as a family' ".

the students are our best ambassadors. It is interesting to notice that in 2002 the number of the new students who choose University of Minho as their first option was 66 %, as compared with 35 % in 2001.

Rec. 8.2 Organisation of the Health Sciences School

The Statutes of University of Minho establish that a department can only be created when the School, at that particular domain, has at least 12 full time academic staff, of which at least three with a doctoral degree. At present, only one of the foreseen departments (Biomedical Sciences) fulfils that requirement. This, however, raises no problems, since, as a result of the horizontal integration of the curriculum, the curricular areas are very comprehensive, and therefore it makes sense to organise the human and laboratorial resources around such areas. That is why, from the very beginning, strong and explicit leadership was defined for the curricular areas, both at area and module levels, as mentioned in point 2.2.4.

The organisational structure of the School and the lines of responsibility are indicated in section 2.2 of this report.

Rec. 8.3 Selection of staff

The EAC recommendations on the selection criteria for clinical teaching staff are in line with our thinking and practice. The Scientific Council and the area coordinators so far had no difficulties in finding willing qualified candidates. As said in section 3.4, all care is taken to ensure the affinity of the selected candidates with the School programme.

Rec. 8.4 Curriculum: specific aspects

The outline of the curriculum as a whole is available and is presented in the annual report concerning the undergraduate programme. Detailed specifications for goals/learning objectives/contents/methodologies are available for the third curricular year and in good progress for phase III (years 4 and 5), as documented in the reports from the curricular areas.

The systematic review of the curriculum at the end of each academic year is an essential part of the monitoring and self-evaluation process that the School has defined from start. An internal Seminar was organised on the 3rd and 4th of September, with the participation of all the academic staff. Chapter II of the undergraduate programme report details the contents and conclusions of the assessment and Chapter III show the effects of the assessment on the planning for the next year.

Regarding the examples of basic or general subjects that could be missing in the curriculum, the 'Vertical Themes" will deal with a number of them and other areas like the optional projects, 'family, society and health' or the Seminars will also give an important contribute. We understand the EAC's recommendation as a concern to do with the whole curriculum of the programme, which does not aim at amassing more contents on the first curricular year.

Rec. 8.5 Integration of clinical subjects

There were strong reasons to push the *attaching of a student to a family* into the second curricular year, preceded by a new area - *family, society and health* – for the acquisition of some necessary cognitive competences, as explained in the undergraduate programme report (Section 3.1). We believe that some aided-value was introduced with this new approach.

The protocols with the health services are in good progress – two of them are already signed – following the legal background provided by *Portaria* 36/2002.

The School can not follow the recommendation "to make plans for Postgraduate Training, including the number of resident posts available and how the assessment of residents will be organised", because in Portugal the Universities have no responsibilities (neither capacity for intervention) in it. May be the legal framework will change in the future, but for the time being this is not an issue for the School, although we will accompany the discussions that may occur between Medical Faculties, Ordem dos Médicos and the Ministry of Health.

As said earlier, the postgraduate programmes are forerunners for the formal Master and Doctoral degrees on health sciences. In the coming year the School will propose the formal creation of those degrees, since the minimum requirements for the effect, concerning the qualification of the academic staff, are now being met. This will fulfil one more aspect of the School mission statement.

Rec. 8.6 Database on entrants

The admission of a new highly experienced member of staff for the Medical Education Unit created the conditions to launch this project, to which the School will be highly committed. Data is already being collected and very soon the questionnaires will be passed to the students.

There is a cultural problem to surpass, regarding the confidentiality of the questionnaires. The question will be thoroughly discussed with the students and we hope to convince them about the usefulness of the project.

Rec. 8.7 Student participation

In the student's centred learning environment we are pursuing, the participation of students at all levels, including monitoring and assessment, is indeed essential. The students are motivated and cooperate very well (the question raised by the EAC related to the way the questionnaires were collected and was solved very quickly).

Feedback is provided to students and staff, namely by the publicitations of the results in the Intranet. Some technical problems initially delayed the reading and processing of the questionnaires, but they are being solved.

The School is happy with – and proud of – the capacity of initiative of its students. A reference must be made to the association they have created (NEMUM – *Núcleo de Estudantes de Medicina da Universidade do Minho*), which is carrying out a very ambitious programme of activities within and outside the School and the University, deserving all the possible support from the School. The protocol that the NEMUM signed with the *Ordem dos Médicos* on the 19th of December had a great public visibility and constituted a good opportunity to present the degree programme to the local and regional health authorities.

In October 2002 the students started the publication of a monthly Newsletter (*HAJA SAÚDE*!) that can help to make the degree programme better known. For example, the December issue dealt with the Vertical Themes *Tomar o Pulso à Vida*.

Rec. 8.8 The role of the EAC

The School fully supports the understanding of the EAC about its role and values very high the EAC's opinions and recommendations.

Additional recommendations

The EAC's report includes some additional recommendation in points 3 to 5, in relation to:

***Students' assessment and academic success*:** the student's assessment is indeed multidimensional, testing factual knowledge, problem-solving capacities, skills and attitudes, as explained in detail in the report from the Medical Education Unit. The relative weight of the different dimensions obviously vary from one curricular area to another, in articulation with their specified objectives.

For example, the quality of the essays presented by the students in the Optional Project is a good demonstration of the attention paid to the acquisition of skills other than the factual knowledge. We must, however, keep in mind that the acquisition, and capacity of use, of basic scientific knowledge is of unquestionable importance and should have a significant weight in the first years of the curriculum.

The second question raised by the EAC, concerning the student's who fail, is foreseen in the assessment regulations and is dealt with by the Evaluation Committee [3]. It is also relevant to remember that a tutorial system is in place, involving 18 tutors for the 102 students. Each tutor is assigned a group of 6 to 7 students, in a random way, and accompanies them through the six years of the programme with the aim to guide the students in the planification of their studies and follow the evolution in their learning processes.

***Research*:** the central role of research is well emphasized throughout this report. The transfer of Prof. Maria Cecília Leão to the School on a full time basis and the recruitment of highly qualified researchers, some of whom will shortly have the opportunity of a promotion to the rank of *Professor Associado*, together with the active participation of

3 *Medical Degree Course*, Health Sciences School, Universidade do Minho, September, 2001, p.21-22.

senior collaborators, provide a research environment that attempts to answer the question raised by the EAC.

There are cooperative post-graduation and research projects with other Faculties, as documented in the ICVS report. In particular, the "Multidisciplinary Research Infrastructures for Life and Health Sciences" project presented to FCT is a joint proposal from the Schools of Health Sciences, Sciences and Engineering.

The potential to carry out Health Services research will come up as we move to Phase II and III of the undergraduate programme and recruit the human resources to deal with these phases. Also, the shifting in the profile of Hospital de São Marcos will create additional facilities for clinical research. The post-graduation programme is already covering specialized clinical areas, attracting a growing number of medical doctors and motivating them to participate in the multidisciplinary research teams we are setting up (47% of the participants in the 2002 postgraduate courses had a medical background).

The first educational project is the database on students, to track them until graduation and beyond. The post-graduation programme will also cover medical education. Other projects will certainly come, as the enormous effort that is being done to plan and develop the undergraduate programme starts wearing off a little.

As for the percentage of time available for research, the goal proposed by the EAC is already met on an annual basis and all the efforts are being made to enable the members of the academic staff to have significant periods to concentrate full time on research. Within the same reasoning, in some periods the teaching activities are predominant. Indeed, the modular organisation of the curriculum implies periods of very intensive teaching, although they are short.

When a particular module operates for the first time, there is a huge amount of work to define objectives and methodologies and prepare contents and courseware. For that reason, the staff is being recruited one year in advance, which means that the present students/staff ratio is very favourable but can not be kept after all the curricular years are running.

5.3 A Final Comment

Once again, it is reassuring and impelling to verify that the ambitious ideas and goals formulated on the School mission statement in relation to new attitudes and methods in medical education, which are starting being validated by practice, are so soundly adopted and supported by the EAC. It is also encouraging to ascertain the institutional support from the University and the interest from many university sectors in our project.

We are convinced that the School is using its resources to the limits of their potential and a lot has been achieved through the enormous commitment and enthusiasm of all staff members and students – a sincere word of thanks is due to them. We are also aware that many things still remain to be done and that the plan of activities for 2003 is a portentous task. We are equally sure that everyone will continue with the same eagerness the efforts to build a School of Health Sciences of which we want to be proud in the future.

Sérgio Machado dos Santos
President of the Steering Committee
January. 2003

MEDICAL COURSE COMMITTEE

REGULATIONS

Summary

The University of Minho has established general regulations applying to the Course Committees. However, they do not apply well to the Medical degree programme, due to the specificities of the curricular organisation, particularly in relation to the horizontal and vertical integration of the curriculum and the important role played by its organisation by phases.

Specific regulations for the Medical Course Committee were therefore adopted by the University Academic Council, following a proposal from the School of Health Sciences.

The regulations deal with the managing bodies of the undergraduate programme (Course Director and Course Committee). The innovative aspects relate essentially to the composition of the Course Committee (Course Director, *Coordinator of Phases I o IV*, *Coordinator of the Vertical Themes*, *Scientific Director of the Medical Education Unit* and six students representing the six curricular years) and to the *nomination* (and not election) of the Course Director.

The main competences of the Medical Course Committee are to watch over the normal operation of the degree programme and the continuing review of the curricula, to propose changes in the curricula and to adopt the course annual report prepared by the Director. It will also keep a look on the actions taken as a result of the recommendations from the External Advisory Committee and on the organization and updating of the course dossier under responsibility of the Medical Education Unit.

The Course Director represents the undergraduate programme, chairs the Course Committee, manages the project current affairs and, with the support from the Medical Education Unit, prepares the annual report concerning the degree programme. The

Course Director may nominate one of the academic members in the Committee as Deputy Director.

During the installation period the composition of the Committee will be established, each year, by the Steering Committee, on a proposal from the Dean, guaranteeing parity between students and academic staff apart from the Course Director.

At the end of the installation period, these regulations shall be reviewed.

THE ROLE OF *HOSPITAL DE SÃO MARCOS* IN THE MEDICAL UNDERGRADUATE PROGRAMME

Summary

This paper was prepared to answer a request from *Grupo de Missão Parcerias.Saúde*, which was appointed by the Council of Ministers to prepare the specifications and the legal and administrative procedures concerning the call for tenders and the contracts in relation to the private *project financing* of several new Hospitals, including the Hospital of Braga. The *Grupo* wanted our proposals on the requirements to include in the call for tenders, due to the teaching functions to be assumed by the Hospital.

The paper starts with a presentation of the framework in which the new School of Health Sciences was created under the terms of Resolution 140/98 of the Council of Ministers and the vicissitudes associated to the new Hospital of Braga. Then, it develops the idea that the specification of the requirements to include in the call for tenders is not reducible to a single question of making operational a few requirements but, on the contrary, implies a clear vision for the Hospital mission in its tripartite function of health care, education and research.

Strong emphasis is put on the concept that education and research are central to the mission of a University Hospital, recalling arguments from different sources, in particular from the report on the OECD/IMHE Conference on *Universities*, *Medical Schools and the Health Sector* (Paris, August 2001). An important conclusion from that report is that "introducing evidence-based practice and service innovation, translating research to practice, managing a growing knowledge base, and developing new forms of working each require a tripartite approach (inter-relationship between education, research and service); each are core priorities to the mission".

On a more practical approach, a number of suggestions are identified for an adequate profile of the University Hospital, in relation to health care, research based

teaching, organisation and management, and the pedagogical training of the medical doctors involved in teaching.

In this context, it is concluded that for the *Hospital de São Marcos* to become a true University Hospital it is necessary, in the first place, that the Hospital assumes this specific profile in its institutional mission, within the tripartite approach afore-mentioned, and extracts from that fact all the due consequences for the definition of its strategic development planning, namely in terms of infrastructures, human resources, organisation and management. As a complement to this institutional and systematic approach, it is necessary to identify the expectations that the schools of health in the region (Medicine, Nursery, Health Technologies) present in relation to the Hospital, in order to allow the Hospital to crosscheck them with its own perceptions and embrace them in its institutional mission.

Having this in mind, a separate document (annexe) identifies the main aspects to be considered in relation to undergraduate medical education, post-graduation and clinical research, in which the cooperation between *Hospital de São Marcos* and the School of Health Sciences is essential to the prosecution of the objectives inherent to their missions of, respectively, Nuclear Hospital and School of medical education and research, in a process that must necessarily be guided by innovation and by a systematic search of excellence.

Finally, it is proposed that, due to the great complexity of the problem, the project financing approach is limited to the infrastructural dimension, i.e., that to the organisation and management of the new Hospital in Braga follow the same regulations that are applied to the other University Hospitals.

Both papers were endorsed by the Administration of *Hospital de São Marcos*.

List of Acronyms

ARS-N	-	Northern Regional Health Administration
BP	-	Bio-pathology
CM	-	Community Medicine
EAC	-	External Advisory Committee
EC	-	School of Sciences
ECS	-	School of Health Sciences
FCT	-	Foundation for Science and Technology
FM	-	Faculty of Medicine
FTE	-	Full time equivalent
HSM	-	Hospital of São Marcos
ICT	-	Information and Communication Technologies
ICVS	-	Life and Health Sciences Research Institute
IEP	-	Education and Psychology Institute
IM	-	Introduction to Medicine
IMHE	-	Institutional Management in Higher Education
IPATIMUP		Institute of Pathology and Immunology of University of Porto
MC	-	Molecules and Cells
NEMUM	-	Association of the Medical Students of the University of Minho
OECD	-	Organisation for the Economic Cooperation and Development
SOF	-	Organic and Functional Systems
UEM	-	Medical Education Unit
UM	-	University of Minho
UP	-	University of Porto