

Medical Degree Course

Annual Report 2004 – 2005



School of Health Sciences University of Minho Braga January 2006 **MEDICAL DEGREE COURSE**

ANNUAL REPORT

2004 - 2005

SCHOOL OF HEALTH SCIENCES UNIVERSITY OF MINHO Braga January 2006

Foreword

1. The present report regards the academic year 2004-05, which was the fourth year the Medical Degree Course was run at University of Minho. The curricular areas of the three first years of the course had new revised and improved editions. The culture of evaluating the pedagogical process, which the ECS deeply cherishes, continues to be fruitful in terms of preventing the regression by routine and of promoting a continuous refinement.

Until the end of July 2007, every academic year adds a "new curricular year" to the course. In 2004-05 it was the 4th year, which constituted the beginning of the Residencies at Hospitals and at Health Centres.

The highly positive results achieved unequivocally show the adequacy of the model adopted by the ECS.

We sustain, with a reinforced confidence by one more year of experience, what is stated in points 3 and 4 of the Final Comment of last year's report, which we quote:

"The quality and relevance of the conceptions, the planning, and the methodologies are, without a shred of doubt, vital. But, in order to duly follow the pathways thus laid out, the right people are indispensable: competent, dedicated, with a predilection for education, which means to help learning how to be oneself. In this resides, undoubtedly, the great wealthiness of this School. And this is true not only for the professors, researchers and employees who work within the school, but also for the doctors of the Hospitals and Health Centres that collaborate on the teaching and still also for the many people pertaining to other Schools of UM, other Medical Schools and Research Centres that have acceded to cooperate on the teaching of this Medical Degree."

"Finally, it is of all justice to reaffirm the higher esteem for our students' behaviour, whom, for its diligence, participation, devotion, generosity and joy, have fully deserved to be the addressees of all efforts made by the School, and whom, for their discerning spirits, have been valuable partners in the construction – at no time concluded – of the ECS as "seedbed" of authentic Doctors."

2. The report consists on a circumstanced account of pedagogical activities developed throughout this fourth academic year, as well as, the results of a critical assessment of such activities, aiming at improving the curriculum and the teaching practices of the Medical Degree Course. (*)

The first two chapters deal with the academic year 2004-05, in what concerns the structure and overall working of the degree course, the development and functioning of the respective curricular areas (Chapter I) and the self-assessment of the first, second, third and fourth year experiences (Chapter II). Taking into consideration the results of this assessment, the planning and teaching programme for the academic year 2005-06 is presented in Chapter III, with emphasis on the curricular areas of clinical teaching.

(*) This Report synthesises the objectives, methodologies and academic staff of the different curricular areas. A detailed description of the learning objectives and of the specific programmes of all the areas and corresponding curricular modules of the Study Plan curriculum is in a separate binder entitled "Medical Degree Course/2005-06: Learning-Teaching Objectives and Curricular Areas and Modules Programme". This binder is available at the Medical Education Unit (UEM) of the ECS and, on-line, at the intranet of ECS's web page: www.ecsaude.uminho.pt. Additionally and for the particular case of the Clinical Residencies that started running for the first time in the academic year 2004-05 – Medicine I Residency, Maternal and Child Health Residency, Mental Health Residency and Health Centres I Residency – specific reports were compiled with a detailed description of the structure, development and functioning of each one of the Residencies, as well as of the students' assessment in each of them (Appendix I).

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STRUCTURE AND FUNCTIONING OF THE DEGREE COURSE IN 2004-05 CHAPTER I

1.1. **Structure and General Functioning**

1.1.1. Study Plan

The Study Plan for 2004-05 is set out in Chart I.1. It is essentially the one presented in the 2004 Report. Minor changes have been made resulting from the previous year experience and evaluation of the Medical Degree Course.

Chart I.1 Study Plan of the Medical Degree Course

2004-05

PHASE	YEAR	SCIENTIFIC AREA	CURRICULAR AREA		ECTS**
	1"	CSH CBB CBB SC SC CSH	Introduction to the Medical Degree Course Molecules and Cells Functional and Organic Systems I Training in a Health Centre First Aid Option Project I Vertical Domains I	4 11 12 1 1 4 1	2 25 27 1 1 3 1
1	2 nd	CBB CBB CSH+SC CSH+SC CSH	Functional and Organic Systems II Functional and Organic Systems III Family, Society and Health Follow-up of a Family I Option Project II Vertical Domains II	15 15 2 2 4 1	26 26 2 2 3 1
			Total Phase I	73	120
n	3™	P SC C CSH+SC CSH	Biopathology and Introduction to Therapeutics Introduction to Community Health Introduction to Clinical Medicine Follow-up of a Family II Option Project III Vertical Domains III	23 5 2 4 1	45 5 1 3 1
			Total Phase II	40	60
	4 th	SC C C+P+CBB CSH	Health Centre Residency Hospital Residencies (Internal Medicine, Surgery, Obstetrics and Fetal Medicine, Pediatrics and Mental Health) From the Clinic to Molecular Biology I Option Projects IV Vertical Domains IV	7 26 2 4 1	11 44 1 3 1
ш	F	SC C	Health Centre Residency Hospital Residencies (Internal Medicine, Surgery, Obstetrics and Fetal Medicine, Paediatrics and Mental Health)	7 26	11 44
	5.	C+P+CBB CSH	From the Clinic to Molecular Biology II Option Projects V Vertical Domains V	2 4 1	1 3 1
	5 ^m	C+P+CBB CSH	From the Clinic to Molecular Biology II Option Projects V Vertical Domains V Total Phase III	2 4 1 80	1 3 1 120
IV	5 ^u	C+P+CBB CSH SC C C+P+CBB	From the Clinic to Molecular Biology II Option Projects V Vertical Domains V Total Phase III Health Centre Residency Hospital Residencies From the Clinic to Molecular Biology III Option Project VI Total Phase IV	2 4 1 80 6 26 2 8 42	1 3 1 120 11 43 1 5 60

Credit Units (1 CU corresponds to 24 hours de learning/teaching activities).
 C- Clinical; CBB- Biological and Biomedical Sciences; CSH- Human and Social Sciences; P- Pathology; SC- Community Health.
 ** European Credit Transfer System

1.1.2. Course Coordination and Monitoring Structures

Coordination worked at the following levels: the Course Director, the Scientific Council, the Course Committee and the Coordinators of Phases, Areas and Modules. They are detailed below.

a) Course Director

Joaquim Pinto Machado

b) Course Committee

- Joaquim Pinto Machado, Course Director and Coordinator of the area "Vertical Domains"
- Jorge Pedrosa, Coordinator of Phase I (1st and 2nd year)
- Cecília Leão, Coordinator of Phase II (3rd year)
- Nuno Sousa, Coordinator of Phase III (4th and 5th years)
- Joana Palha, (by delegation of the Course Director)
- Manuel João Costa, (Coordinator of the UEM)
- Pedro Morgado (Student, 4th year)
- Carla Marina Gonçalves (Student, 3rd year)
- Pedro Azevedo (Student, 2[™] year)
- Fábio Amaral (Student 1^ª year)

c) Scientific Council

(all the PhD holders in the faculty)

- Joaquim Pinto Machado, President
- Cecília Leão, Vice-President
- António Gil Castro
- António Megre Sarmento
- Armando Almeida
- Fátima Baltazar
- Fernando Rodrigues
- Isabel Palmeirim
- Joana Palha
- Jorge Correia-Pinto
- Jorge Pedrosa
- Manuel João Costa
- Nuno Sousa
- Patrícia Maciel
- Paula Ludovico
- Rui Reis

Invited: António Alegre Sarmento; António Jaime Sousa; Carlos Valério; Fernando Schmitt; Clara Costa Oliveira.

Chart I.2.

Area and Module Coordinators

$1^{\mbox{\tiny st}},\,2^{\mbox{\tiny rd}},\,3^{\mbox{\tiny rd}}\,\mbox{and}\,\,4^{\mbox{\tiny th}}\,\,\mbox{YEARS}\,|\,2004\mbox{-}05$

Curricular Area	Coordinator	Status
- Modules		
Introduction to the Medical Degree Course	Manuel João Costa	Assist Prof (ECSIIM)
Moloculos and Colls		Full Prof (ECS LIM)
		Accist Draf (ECS-UM)
- From Central Anatomy to Physiology		Assist. Prof. (ECS-UM)
- Molecular Genetics Foundations		Assist. Prof. (ECS-UM)
- Cells and Cellular Proliferation		Assist. Prof. (ECS-UM)
Conserved laster and Chalatel Museulan (Chin Custom		Assoc. Prof. (ECS-DIVI)
- General Introduction and Skeletal-Wuscular/ Skin System		Assist. Prof. (ECS-UM)
- Digestive System	Jorge Correla-Pinto	Assist. Prot. (ECS-UM)
i raining in a nealth Centre		
Option Project I		Assist. Prot. (ECS-UM)
Vertical Domains I/"To feel the Pulse to Life"	Joaquim Pinto Machado Clara Oliveira	Full Prof. (ECS-UM) Assist. Prof. (IEP-UM)
2 [™] YEAR		· · · /
Functional and Organic Systems II & III (SOF II & III)	Nuno Sousa	Assoc. Prof. (ECS-UM)
- Circulatory and Respiratory Systems	Jorge Correia-Pinto	Assist. Prof. (ECS-UM)
- Urinary System	Armando Almeida	Assist. Prof. (ECS-UM)
- Reproductive System, Growth, Development and Aging	Armando Almeida	Assist. Prof. (ECS-UM)
- Nervous System	Nuno Sousa	Assoc. Prof. (ECS-UM)
- Endocrine System	Joana Palha	Assoc. Prof. (ECS-UM)
- Synopsis of SOFs	Nuno Sousa	Assoc. Prof. (ECS-UM)
Family, Society and Health	Carlos Valério	MD (ECS-UM)
- Family and Health	Teresa McIntyre	Assoc. Agr. Prof. (IEP-UM)
- Family Life	Teresa McIntyre	Assoc. Agr. Prof. (IEP-UM)
- Family and Society	Margarida Lima Maria Engrácia Leandro	MD (Gualtar Health Centre) Full Prof. (ICS-UM)
Follow-up of a Family I	Carlos Valério	MD (ECS-UM)
Workshops	Teresa McIntvre	Assoc. Agr. Prof. (IEP-UM)
- Follow-up of the Family	Teresa Macedo	MD (Gualtar Health Unit)
Option Project II	Armando Almeida	Assist. Prof. (ECS-UM)
Vortical Domains II/"To faol the Pulse to Life"	Joaquim Pinto Machado	Full Prof. (ECS-UM)
	Clara Oliveira	Assist. Prof. (IEP-UM)
3" YEAR		
Biopathology and Introduction to Therapeutics	Jorge Pedrosa	Assist. Prof. (ECS-UM)
- General Pathology and Introduction to	Fernanda Milanezi	Assist. (ECS-UM)
Pharmacology		
- Genetics and Environment	Rui Reis	Assist. Prof. (ECS-UM)
- Immunopathology	Jorge Pedrosa	Assist. Prot. (ECS-UM)
- Intectious Diseases	António Gil Castro	Assist. Prof. (ECS-UM)
- Neoplasia	Fernando Schmitt	Assist. Prof. (FM-UP)
Introduction to Clinical Medicine	Nuno Sousa	Assoc. Prof. (ECS-UM)
Introduction to Health Community	Carlos Valério	MD (ECS-UM)
	António Alegre Sarmento	MD (ECS-UM)
Follow-up of a Family II	Carlos Valério	MD (ECS-UM)
- Workshops	Teresa MacIntyre	Assoc. Agr. Prof. (IEP-UM)
- Follow-up the Family	Teresa Macedo	MD (Gualtar Health Unit)
Option Project III	António Gil Castro	Assist. Prof. (ECS-UM)
Vertical Domains III/"To feel the Pulse to Life"	Joaquim Pinto Machado Clara Oliveira	Full Prof. (ECS-UM) Assist. Prof. (IEP-UM)

CHART I.2. (Cont.) **Curricular Area** Coordinator Status - Modules 4th YEAR **Health Centre Residency** António Jaime Correia de Sousa MD/MPH (ECS-UM) **Hospital Residencies** Nuno Sousa Assoc. Prof. (ECS-UM) From the Clinic to Molecular Biology Cecília Leão Full Prof. (ECS-UM) **Option Project IV** Patrícia Maciel Assist. Prof. (ECS-UM) Paula Ludovico Assist. Prof. (ECS-UM) Joaquim Pinto Machado Full Prof. (ECS-UM) Vertical Domains IV/"To feel the Pulse to Life" Clara Oliveira Assist. Prof. (IEP-UM)

1.1.3. Student Academic Orientation

As referred in previous reports, adding to the general counselling offices available at the University of Minho, medical students benefit from support provided by:

- the Medical Education Unit (UEM);

- the individual Tutors.

In what concerns tutorial assistance, each faculty member is responsible for the same students throughout the degree (list of tutors available online at <u>www.ecsaude.uminho.pt</u>).

Tutor-student interactions are based on individual student needs. As tutors, faculty essentially:

- provide guidance in study planning;

- monitor student academic and professional evolution.

1.1.4. Learning–Teaching Methodology

As often as the nature and specificity of the areas allowed, emphasis was put on "Learning-Teaching by Modules of Objectives" Methodology. Each of the modules included five phases:

Phase 1	Presentation and discussion of objectives by students (assuming different roles inside the group), in order to
	elaborate (cooperating with teachers) a conceptual map and to identify the available resources to achieve the
	defined objectives.
Phase 2	Tutorised self-learning (the longest phase), in which student groups, accompanied by teachers, experience the
	available pedagogical resources in different environments (laboratorial, tutorial room, library). Learning and
	skill training occur essentially in this phase.
Phase 3	Certification that the main objectives were achieved and identification of learning insufficiencies. During this
	phase, students and teachers share and discuss contents related to the objectives interactively. Faculty can
	get acquainted with needs of specific tutorship (taking place in Phase 4) in order to overcome existing gaps.
Phase 4	- Tutorised self-learning (practical, individual electronic tutorship's and complementary activities). This phase
	takes place before the evaluation and is mostly directed to small student's groups. It may take place at the
	laboratory or tutorship room. Individual e-tutorials are another possibility.
Phase 5	- Evaluation of the module; dedicated to the evaluation of skills and cognitive acquisition.

1.1.5. ECS Lecturers and Teaching Distribution

The academic staff and their corresponding teaching areas are presented in 1.3. As in previous years, on average, each faculty devoted about 6 hours/week to presential classes. Curricular activities were, as much as possible, concentrated in one of the semesters, the other one being essentially dedicated to scientific research.

A large number of guest professors also participated in the curricular activities. They have originated from other Schools of the University of Minho and from external Institutions (Universities, Hospitals and Health Centres, among others). Invited faculty presented thematic Seminars and Discussions on relevant issues of their expertise areas (for more detailed information see 1.3.).

1.2. Student Profiles in 2004-05 and Retrospective Analysis

1.2.1. Candidates

In the academic year 2004-05, the number of applicants for the 60 positions available for the UM Medical Degree Course amounted to 946, corresponding to 16 candidates for each position available. A retrospective analysis of the distribution according to candidate's choice in 2004-05 and the previous curricular years is presented in Table I.1.

Table I.1.	Applicant numbers in	2004-05:	retrospective	analysis	according to	candidates'	options
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Nº OF CANDIDATES (%)	OPTION	1"	2 nd	3 ^{,,,} to 6 [∞]	TOTAL
	2004-05	170 (18%)	152 (16%)	624 (66%)	946
Currieuler Veer	2003-04	146 (14%)	178 (18%)	685 (68%)	1009
Gurricular fear	2002-03	168 (15%)	202 (18%)	746 (67%)	1116
	2001-02	381 (17%)	350 (16%)	1470 (67%)	2201

1.2.2. Admissions

Application options

In the curricular year of 2004-05, 60 students were admitted to the UM Degree in Medicine, as follows:

- General contingency: 54
- Students proceeding from autonomous regions (Azores and Madeira): 4
- Portuguese emigrants and family members residing with them: 0
- Students on official military service: 0
- Handicapped students: 2
- Ties: **0**
- Special access (by ministerial decision): 0
- Extraordinary (Legal Disposition n° 754-A/2003): 0

A comparison between students' choices in 2004-05 and the previous curricular years is presented in the table I.2.

STUDENTS (%)	CHOICE	1.	2 nd	3rd to 6th	TOTAL
	2004-05	53 (88%)	5 (9%)	2 (3%)	60
Acadamia Vaar	2003-04 (a)	41 (76%)	3 (5%)	10 (19%)	54 (a)
Academic fear	2002-03	33 (66%)	9 (18%)	8 (16%)	50
	2001-02	19 (37%)	5 (10%)	28 (53%)	52

 Table I.2.
 Admitted students distribution according to choice: retrospective analysis

(a) does not include information on one student (Special Access)

Admission Grades

Table I.3 lists the averages of the admitted students grades (limits and variation) organized according to their application regimes.

 Table I.3.
 Admission grades in the curricular year of 2004-05 distributed according to contingencies

CONTINGENCY	Nº OF STUDENTS	GRADES (MAXIMUM - MINIMUM)	PARCEL AVERAGE	GENERAL AVERAGE
General	54	18.30 – 19.48	18.89	
Azores	2	15.78 – 15.83	15.79	
Madeira	2	17.05 – 17.28	17.17	18.53
Emigrants	0	-	-	
Handicapped	2	15.23 – 17.98	16,.1	

A comparison between student's grades in 2004-05 and the previous curricular year is presented in the following table.

Table I A	Admission	grades in	2004-05.	ratroci	nactiva anal	veie
1 able 1.4.	AUTHISSION	graues III	2004-05.	retrosp	Jective anal	y515

CURRICULAR YEAR	GENERAL GRADE AVERAGE	GENERAL CONTINGENCY AVERAGE
2004-05	18.53	18.89
2003-04 (a)	18.25	18.74
2002-03	18.57	18.84
2001-02	18.56	18.74

(a) does not include information on one student (Special Access)

Gender

In what concerns gender, 68% of the admitted students were females. Predominance of female students is a general trend in the University.

Geographical Origin

The highest percentage of students was from the district of Braga (68%), similarly to the previous year. Students originated predominantly (84%) from Northern districts – Braga, Porto, Viana do Castelo (3%) e Bragança (3%), the remaining were from the Autonomous Regions (6%), Lisbon (3%), Aveiro (3%), Santarém (2%) and one student from Brazil (2%). There is also a clear predominance of students coming from coastal as opposed to interior districts (95%).

CURRICULAR YEAR	BRAGA DISTRICT	PORTO DISTRICT	OTHER
2004-05	41 (68%)	6 (10%)	13 (22%)
2003-04 (a)	34 (63%)	6 (11%)	14 (26%)
2002-03	26 (52%)	12 (24%)	12 (24%)
2001-02	23 (44%)	19 (37%)	10 (19%)

 Table I.5.
 Admitted students' distribution according to geographic origin: retrospective analysis

(a) does not include information on 1 student

Parents' Literary Qualifications and Professional Categories

Data on student's parents' literacy and professional category are gathered on Tables 1.6. and 1.7.

Table I.6	Students'	parents I	iteracy	qualifications	in	2004-05

PARENTS' LITERARY QUALIFICATIONS	FATHER (%)	MOTHER (%)
Primary School	17	18
9th Grade or equivalent	21	13
Secondary School or equivalent	18	20
College	44	49

 Table I.7
 Students' parents professional category in 2004-05

PARENTS' PROFESSIONAL CATEGORY	FATHER %	MOTHER%
"Stay at home parent"	0	6
Unemployed	3	10
Retired	6	3
Deceased	2	0
Public services and business managers	25	12
Specialists of scientific and intellectual professions	30	37
Professional technician of intermediate level	7	2
Administrative staff and similar	7	10
Services and sales workers	10	5
Farmers and qualified workers in farming and fishing	0	0
Civil workers	3	3
Machines operators	2	0
Non qualified workers	5	12

Most parents have literacy qualifications equal or more advanced than high school – mothers 69% and fathers 62%. 49% of the mothers and 44% of the fathers have college education. More than 50% oh the parents' jobs are included in the "public services and business managers", or "specialists of scientific an intellectual professions" categories.

Other data

An effort was made in order to identify the factors that had the highest influence on students' choice of this University and course degree. Similar to previous curricular years the most influential factors were "course/teaching quality" and "geographical proximity". The least considered factor was "economical resources". Almost all the students (96%) consider the course corresponds to their professional interests.

 Table I.8
 Factors considered by the Students when choosing the University of Minho

CHOICE'S INFLUENCING FACTORS:	(%)
 Geographical proximity 	90
– Course's quality	91
 Being with my friends/colleagues 	43
 Economical resources 	12
 Academic and extra curricular activities 	49
 Accessible entrance average 	35
– Other	2

 Table I.9
 Factors considered by the students when choosing the Medical Degree of UM

I'VE CHOSEN THIS COURSE BECAUSE:	(%)
- The course corresponded to my educational/professional/vocational interests	96
- Because my friends also applied to this course	53
- The parents or other family members had influenced me in this choice	35
- Family tradition	80
- The Course prestige	49
- I liked the curricular plan, the course and the teaching/learning methodologies	88
- I was pleased by the future job opportunities	72
- Other	3

The difficulties anticipated by the students while attending the course degree were also surveyed. They were also asked about their employment situation and about intention of changing to another course degree or university. Answers show that most students intend to stay in this university and course degree (Table I.1) and that none of them was employed at the time. As to the difficulties anticipated, 78% of the students chose "time management "as the most concerning. This information is relevant considering the teaching/learning methodology of the school, which reserves most of the time to self learning activities.

Table I.10	Students'	anticipated	difficulties
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WHEN ATTENDING THIS COURSE DEGREE, I ANTICIPATE THE FOLLOWING DIFFICULTIES/PROBLEMS:	(%)
- Economic	7
- Learning / success	18
- Time management	78
- Money management	12
- Relationship with colleagues	5
- Relationship with teachers	2
- Relationship with family /boyfriend/girlfriend	17
- Health (migraine, fatigue, feeding)	23
- Psychological (isolation, anxiety, depression)	23
- Daily tasks organization (feeding, hygiene, etc.)	8
- Other	3

 Table I.11
 Student's situation towards employment

AT THE MOMENT I AM	(%)
Studding Full Time	98%
Working in part-time	0%
Working in full-time	0%
No answer	2%

 Table I.12
 Intention on to change Course degree / University at the moment of school registration

l intend to stay in the same course	98%
I intend to stay in this University	98%

1.2.3. Synthesis

The admission results testify the appeal of the course to high school students. In fact, the number of applicants exceeded 16 times the number of places. The major part of the cohort of students admitted in 2004-05 chose this course as a first option and the quality of the course programme is referred by many as a reason for that. At entrance, students are close to unanimity in their wish to graduate from this school. The School looks forward to target more students from outside Braga.

1.3. Development and Functioning of Curricular Areas in 2004-05

1.3.1. General Scheduling for Curricular Areas and Modules

The General Scheduling is set out in the ECS web page <u>www.ecsaude.uminho.pt</u>. All areas and modules defined in the study plan for the four academic years (Chart I.1.) took place.

1.3.2. Functioning of Curricular Areas

The results of the experience of the 1° , $2^{\circ\circ}$, and $3^{\circ\circ}$ curricular years in 2003-04 were considered by professors and students as very positive. In accordance, the structure of the curricular areas of these three first curricular years was maintained in 2004-05. The alterations introduced were essentially in response to results of the internal evaluation presented in Report 2004.

Additionally, the curricular year 2004-05 was the first the Clinical Residences were run according to the strategy presented in the Report 2004.

A synthesis of the general objectives, methodology, students' assessment and teaching staff for the different curricular areas in 2004-05 is presented bellow.

A) 1st Curricular Year

INTRODUCTION TO THE MEDICAL DEGREE

The curricular area "Introduction to the Medical Degree" is the first contact between the University of Minho's Medical Degree and the new coming students. The area must be effective in laying the foundations for their learning throughout the degree.

Based on the evaluation of the previous experiences the structure of the area of 2003-2004, which comprised a pedagogical and an anthropological module, was altered in the 2004-05, as follows:

- the pedagogical introduction was expanded to accommodate more time for the learning objectives;

- the integral implementation of the philosophy and method of learning by modules of objectives with the introduction of three sub-modules, each with five different learning phases;

- the introduction of a multidisciplinary integration of contents, corresponding to the three themes: laboratory practice, statistics and information technology;

- the definition of new developmental objectives: professionalism, self-reflection on being a medical student, introduction to personal tutorial system and working in teams;

- emphasis on more student-centred activities and less seminars.

In accordance the area was organized into three "sub-modules":

- the Medical Degree Course, learning by modules of objectives and introduction to the use of computers;
- basic statistics;
- laboratory practice.

Methodology and Students' Assessment

The whole area was developed according to the method of "teaching-learning by modules of objectives".

Students' assessment was based on two cumulative grades:

- 1. Content multiple choice test grades of the two final "sub-modules", (the last mark contributed 75% to the grade).
- Practical a grade computed from the assessment of a written report and a lab-book (the lab-book contributed 2/3 of the grade).

The final mark (CA_{ICM}) was computed as follows:

 $CA_{_{NCM}} = (1/4xc_2 + \frac{3}{4}xc_3)x \ 0.9 + 0.1 \ x \ practical$

in which c_2 and c_3 stands for the marks of tests "2" and "3", respectively. 10% of the final mark was defined by a continuous assessment process. Students could benefit from a 10% bonus on this grade, by completing simple tasks along the course with a qualitative grade equal to or higher than "good".

Teaching Staff

Area Coordinator

Manuel João Costa (Assist. Prof. / ECS-UM)

Lecturers

The Medical Degree Course, learning by modules of objectives and introduction of computer use

Manuel João Costa (Assist. Prof. / ECS-UM)

Basic statistics

Pedro Oliveira (Assoc. Prof. Agr. / EEng-UM)

Manuel João Costa (Assist. Prof. / ECS-UM)

Laboratory practicals

Manuel João Costa (Assist. Prof. / ECS-UM)

Raquel Andrade (Post Doc. / ICVS-ECS-UM)

MOLECULES AND CELLS

The purpose of Molecules and Cells is to enable students with basic tools important to the practice of molecular and cellular medicine. In this area, besides each module' specific objectives (see areas' file) students are expected to:

- acquire and understand the essential contribution of cellular and molecular biology to medicine;

- understand the relevance of genomics, proteomics and metabolomics, as basis for cellular and molecular medicine;

- learn biochemical alterations at the cellular level, its implications for diseases and the importance of life long learning in molecular medicine;

- gain experimental training on molecular and cell biology.

The area's main themes are centered on cell biology, metabolic biochemistry, molecular genetics, cellular proliferation and differentiation and include the following thematic modules:

- MODULE 1: FROM CELLULAR ANATOMY TO PHISIOLOGY (5 WEEKS)
- MODULE 2: MOLECULAR GENETICS FOUNDATIONS (3 WEEKS)
- MODULE 3: CELLS AND CELLULAR PROLIFERATION (3 WEEKS)
- EXPERIMENTAL SESSIONS (THROUGHOUT THE AREA)

Methodology and Students' Assessment

"Teaching-Learning by Modules of Objectives" methodology was applied, in which each module includes the development of five phases.

Students were evaluated by a cumulative process that considered each module and curricular area as presented below. The tools for students' assessment were MCQ type questions (multiple choice questions) and SOQ (short open questions). In the module exams, only MCQ type questions were used, whereas in the integrated area exam the questions included both the MCQ and SOQ types, with the latter essentially focusing knowledge from different modules. Furthermore, an "attitude evaluation form" was filled for each student by the respective teaching staff, at the end of the modules. Therefore, the calculation of the cumulative assessment of the area (CA) was obtained through the formula:

$$CA_{MCS} = 0.9 \times \left(\frac{\sum_{i=1}^{n} fi \times C \mod i}{n} + 0.1 \times C_{LI} + 0.3 \times C \operatorname{\acute{a}rea} \right) + 0.1 \times C_{AT}$$

Where the following items were taken into account:

- A. Cognitive evaluation (90 %)
 - A1. Module evaluation (Cmod)
 - a. MCQ type questions exam

A2. Experimental evaluation (CLI)

- a. Pre-preparation of the experimental works
- b. Planning the experimental work in group
- c. Oral questions
- d. Oral presentation by the groups of the experimental work to be developed
- e. Scientific report

A3. Integrated evaluation (Carea)

- a. MCQ type questions exam (70%)
- b. Practical evaluation (30%)

i. Skills assessment ii. Problems resolution B. Attitudes transversal evaluation (CAT ; 10 %) Teaching Staff Area Coordinator Cecília Leão (Full Prof. / ECS-UM) MODULE 1: FROM CELLULAR ANATOMY TO PHISIOLOGY Coordinator Paula Ludovico (Assist. Prof. / ECS-UM) Lecturers Paula Ludovico (Assist. Prof. / ECS-UM) Fernando Rodrigues (Assist. Prof. / ECS-UM) Isabel Palmeirim (Assist. Prof. / ECS-UM) MODULE 2: MOLECULAR GENETICS FOUNDATIONS Coordinator Fernando Rodrigues (Assist. Prof. / ECS-UM) Lecturers Fernando Rodrigues (Assist. Prof. / ECS-UM) Isabel Palmeirim (Assist. Prof. / ECS-UM) MODULE 3: CELLS AND CELLULAR PROLIFERATION Coordinator Isabel Palmeirim (Assist. Prof. / ECS-UM) Lecturers Isabel Palmeirim (Assist. Prof. / ECS-UM) Paula Ludovico (Assist. Prof. / ECS-UM) Cláudio Sunkel (Assoc. Agreg. Prof. / ICBAS-UP) EXPERIMENTAL SESSIONS Coordinator Raquel Andrade (Post Doc / ICVS-ECS) Lecturers Raquel Andrade (Post Doc / ICVS-ECS) Agostinho Carvalho (PhD student / ICVS-ECS) Bruno Almeida (PhD student / ICVS-ECS) Seminars (visiting lecturers) - Cystic fibrosis (Carla Moreira - MD/Hospital de São Marcos, Braga) - Mitochondrial diseases: Biochemical and Molecular diagnosis (Laura Vilarinho - MD/Instituto de Genética Médica Dr Jacinto Magalhães, Porto)

- Inborn metabolic disorders (Almerinda Pereira – MD / Hospital de São Marcos, Braga)

- Mitochondria bioenergetics (Rodrigo Oliveira Master Student / ICVS-UM)
- Molecular methods of diagnosis: Rett Syndrome (Mónica Santos PhD Student. / ICVS-ECS/UM)
- Microarrays (Rui M. Reis/Assist. Prof. / ECS-UM)
- Genetic engineering and research (Fernando Rodrigues Assist. Prof. / ECS-UM)
- Knockout mouse (Isabel Palmeirim Assit. Prof. / ECS -UM).
- Vertebrate limb bud development (Susana Pascoal PhD Studen t/ ICVS-UM)

FIRST AID

As in the previous years, this curricular area was assured by the "Portuguese Red Cross - Education of First Aid Direction". Assuming the format of a First Aid Course – type "FOR" (First Aid Supporting Course) of the "Cruz Vermelha Portuguesa" - had as central objective the development of the abilities necessary to give the first aid assistance to victims of accident or sudden illness.

The evaluation of the students included an oral exam aiming at to assess student's knowledge of practical and first aid procedures. The final classification corresponded to the classification gotten from the performance of the each student in the P1 test.

The students who failed are the ones who obtained 1) "inapt" in one of the partial classifications <u>of the subjects related to basic</u> first aid situations, or 2) two "inapt" in two of the partial classifications related to secondary aid situations, or 3) a grade below 10 in the curricular area results.

Teaching Staff

Area Coordinator

Fernando Rodrigues (Assist. Prof. / ECS-UM)

Coordinator/Cruz Vermelha Portuguesa

Conceição Horta (Head of Department/Cruz Vermelha Portuguesa)

Tutors

José Carlos Afonso (Cruz Vermelha Portuguesa) Mário Fernandes (Cruz Vermelha Portuguesa) Gabriel Campos (Cruz Vermelha Portuguesa) Fernando Gonçalves (Cruz Vermelha Portuguesa)

TRAINING IN A HEALTH CENTRE

The curricular area "Training in a Health Centre", lets students experience for the first time the provision of basic health care, which is considered by Health Sciences School of the University of Minho of great relevance for the training of a future doctor. In the curricular year 2004-05 the training took place at the following Health Centres: Barcelos, Terras de Bouro, Póvoa de Lanhoso, Vieira do Minho, Vila Nova de Famalicão e Vila Verde. Students were trained at the following services: Administration, Public Health, Social, Nutrition, Psychology, General and Family practice, urgent consultations and Nursing.

The area includes the following objectives:

- to recognize and describe the role, organization and importance of Health Centres as providers of integrated primary health care systems;
- to recognize the scientific, technical, psychological and social characteristics of the several competences of the Health Centres and their inherent difficulties.

Methodology and Assessment

The methodology involved a minimum of theoretical lectures. It consisted on the direct observation by students of the activities running at the Health Centres and, as much as possible and advisable, their participation in these activities. Students rotated through the various services at the Health Centres. The Training finished with a general meeting, where experiences and personal commentaries were exchanged and, when necessary, explanations were given.

Each student produced a report with a restricted length that consisted on a commentary to the developed work. The final mark considered the report and a measurement of their participation in the various activities (attendance, interest, behaviour).

Teaching Staff

Area Coordinator

António Sarmento (MD/ECS-UM)

ECS Teachers

António Sarmento (MD/ ECS-UM)

Mário Freitas (MD/ ECS-UM)

Coordinator of Health Centre Activities

Margarida Lima (MD/Head of Gualtar Health Unit-Braga)

Work Supervisors

Health professionals (medicine, nursing nutrition and psychology) and social service and administratives from Health Centres of Braga.

FUNCTIONAL AND ORGANIC SYSTEMS I

The implementation of the 2002-03 proposals was essayed with positive results.

The learning objectives for SOF 1 were not changed from the previous year. However, there was an investment in their reorganization towards improved coordination and integration. In accordance, new methodologies were applied. Namely, in each module, a general "Phase 1" introduce the module as a whole; some "Phase 2" were planned aiming a higher level of complexity and integration, and a global "Phase 3" were included in each module.

The general aims specifically intended to:

- promote students' understanding of the relevance of knowledge, skills and attitudes to medical practice;

- evaluate, properly and adequately, the acquisition of knowledge, skills and attitudes;
- provide pedagogic (and personal) help to students throughout the various SOFs whilst carrying out the course aims;
- promote students' capacity for independent and individual learning;

- assess and develop, in a flexible and active way, the organic systems programmes within a research-action methodology.

The programmatic contents of each module (as defined in the 2004 Annual Report) were selected considering their relevance for clinical medicine.

SOF1 included the following modules:

MODULE 1. GENERAL INTRODUCTION AND THE SKELETAL-MUSCULAR/SKIN SYSTEM (8 weeks). MODULE 2. DIGESTIVE SYSTEM (4 weeks).

Methodology and Students' Assessment

In this curricular area, the methodology chosen was mainly based on "Teaching-Learning by Modules of Objectives".

Students were evaluated by a cumulative process resulting from the marks obtained in i) each Module, ii) the integrated exam preformed at the end of the curricular area and iii) the assessment of attitudes and behaviour. The tools to assess students' knowledge included MCQ (multiple choice questions) and SOQ (short open questions).

Specifically:

i) Module assessment included a theoretical exam (50%) and a practical exam (50%).

The practical exam aimed to assess the skills allocated in each module and the direct identification of structures; the theoretical exam was mainly aimed to assess knowledge and integration of knowledge.

ii) The integrated exam was composed by a theoretical written exam in which the contents of all modules where addressed together. Major emphasis was given to the resolution of "clinical cases". This exam was jointly prepared by members from the different sub-areas.

iii) Attitudes were continuously monitored and an "Attitude evaluation form" was filled for each student at the end of the modules by the respective teaching staff.

In order to calculate the cumulative assessment of the area (CA), the weightings allocated to the marks obtained in the modules, the integrated assessment and the attitude assessment were 0.63, 0.27 and 0.10 respectively. In addition, partial module assessments were given a weight proportional to its duration.

Therefore, the area CA (CA SOFs) was obtained through the formula:

$$CA_{SOFs} = 0.9 \times (0.7 \times \frac{\sum_{i=1}^{n} f_i \times C \mod}{n} + 0.3 \times f_a \times C_{area}) + 0.1 \times C_{attitudes}$$

$$f_i = \begin{cases} 1, if \ C \mod \geq 7.5 \\ 0, if \ C \mod < 7.5 \\ 1, if \ C \implies \geq 7.5 \end{cases}$$

$$f_a = \begin{cases} a^{area} \\ 0, if \ C \implies < 7.5 \\ area \end{cases}$$
where,
$$\begin{bmatrix} 0, if \ C \implies < 7.5 \\ area \\ area \end{bmatrix}$$

Teaching Staff Area Coordinator

Nuno Sousa (Assoc. Prof. / ECS-UM)

Module Coordinator

MODULE 1. GENERAL INTRODUCTION AND THE SKELETAL-MUSCULAR/SKIN SYSTEM

Nuno Sousa (Assoc. Prof. / ECS-UM)

MODULE 2. DIGESTIVE SYSTEM

Jorge Correia-Pinto (Assist. Prof. / ECS-UM)

Staff

Nuno Sousa (Assoc. Prof. / ECS-UM) Joana Palha (Assoc. Prof. / ECS-UM) Jorge Correia-Pinto (Assist. Prof. / ECS-UM) Armando Almeida (Assist. Prof. / ECS-UM) Patrícia Maciel (Assist. Prof. / ECS-UM) João Miguel Bessa (Visit. Assist. / ECS-UM) Hugo Tavares (Visit. Assist. / ECS-UM) Mário Oliveira (Visit. Assist. / ECS-UM) Pedro Leão (Visit. Assist. / ECS-UM) Manuel Lima Rodrigues (Visit. Assist. / ECS-UM) Filipa Pinto Ribeiro (Visit. Assist. / ECS-UM) Leonor Gonçalves (Monitor / E CS-UM) Maria João Batista (Visit. Assist. / ECS-UM) Luís Torrão (Visit. Assist. / ECS-UM) Carla Rolanda (Visit. Assist. / ECS-UM) Gustavo Melo-Rocha (Visit. Assist. / ECS-UM) Rui Pedro Bastos (Visit. Assist. / ECS-UM) João Paulo Fernandes (Visit. Assist. / ECS-UM) José Mário Roriz (Monitor / ECS-UM) João Carlos Sousa (Monitor / ECS-UM)

Seminars (visiting lecturers)

Module 1.

- Human anatomy and its anatomies (Nuno Sousa/ECS-UM)
- Imagiology of the axial skeleton (Nuno Sousa/ECS-UM)
- Development of the skeletal head (Nuno Sousa/ECS-UM)
- Surgical anatomy of the shoulder and elbow (J. Espregueira-Mendes/ Hospital S. Sebastião-Vila da Feira)
- Surgical anatomy of the hip and knee (J. Espregueira-Mendes/Hospital S. Sebastião -- Vila da Feira)
- Radiologic anatomy of the appendicular skeleton (R. Sampaio/C. Campos Costa)
- Functional anatomy of the apendicular skeleton (Nuno Sousa/ECS-UM)

- Cystic fibrosis (Sebastian Beck/Centro de Genética Clinical Porto)
- Cellular physiology (J. Correia-Pinto/ECS-UM)
- Osteoporosis (J. Soares-Fortunato/FM-UP)
- Physiology of osseous remodelling (J. Cibrão Coutinho/Hospital S. Marcos-Braga)
- Calcium regulation of muscle function (J. Correia-Pinto ECS/UM)
- Muscle-skeletal adaptation to exercise (Josué Pereira/Hospital S. João-Porto)
- Physiopathology of skin aging (Cristina Vasconcelos/Hospital S. Marcos-Braga)

Module 2.

- Clinical anatomy of the oral cavity (João Correia-Pinto/Hospital S. João)
- Digestive endoscopy. CPRE. (José Cotter / Hospital Senhora da Oliveira-Guimarães)
- Surgical anatomy of the abdominal cavity. Laparoscopy (Mesquita Rodrigues/Hospital S. Marcos-Braga)
- Hepatic and biliary surgery. Hepatic and pancreatic transplants (A. Falcão/Hospital S. Marcos-Braga)
- Digestive glands (Armando Almeida/ECS-UM)
- Clinical anatomy of developmental aspects of digestive embryology (J. Correia-Pinto- ECS/UM)
- Gastro-esophagical reflux (José Luís Carvalho/Hospital S João-Porto)
- Peptic ulcer (Raquel Gonçalves/ Hospital S. Marcos-Braga).
- Malabsorption bowel syndromes and short bowel (Paula Guerra/Hospital S. João-Porto)
- Inflammatory intestinal disease (Carla Rolanda/ ECS-UM/Hospital S. Marcos-Braga)

B) 2nd Curricular Year

FUNCTIONAL AND ORGANIC SYSTEMS II AND III

The alterations previously suggested (2004 Annual Report) were considered successful. In accordance, the structures of SOF II and SOF III were maintained and the modules described belows were included.

SOF II:

MODULE 3. CARDIOVASCULAR AND RESPIRATORY SYSTEM (8 weeks) MODULE 4. URINARY SYSTEM (3 weeks) MODULE 5. REPRODUCTIVE SYSTEM, GROWTH, DEVELOPMENT AND AGING (4 weeks)

SOF III:

MODULE 6. NERVOUS SYSTEM (8 weeks) MODULE 7. ENDOCRINE SYSTEM (4 weeks) MODULE 9. SYNOPSIS OF SOF (2 weeks)

Methodology and Student Assessment

In this curricular area the "Teaching-Learning by Modules of Objectives" methodology was followed. For "Synopsis" the teaching method chosen was "Problem-based learning".

The methodology for student assessment was the same described for SOF I (above).

Teaching Staff

Area Coordinator

Nuno Sousa (Assoc. Prof. / ECS-UM)

Module Coordinators

MODULE 3. CARDIOVASCULAR AND RESPIRATORY SYSTEM

Jorge Correia-Pinto (Assist. Prof. / ECS-UM)

MODULE 4. URINARY SYSTEM

Patrícia Maciel (Assist. Prof. / ECS-UM)

MODULE 5. REPRODUCTIVE SYSTEM, GROWTH, DEVELOPMENT AND AGING Armando Almeida (Assist. Prof. / ECS-UM)

MODULE 6. NERVOUS SYSTEM

Joana Palha (Assoc. Prof. / ECS-UM)

Armando Almeida (Assist. Prof. / ECS-UM)

MODULE 7. ENDOCRINE SYSTEM

Joana Palha (Assoc. Prof. / ECS-UM)

MODULE 8. SYNOPSIS OF SOFs

Nuno Sousa (Assoc Prof. / ECS-UM)

Staff

Nuno Sousa (Assoc. Prof / ECS-UM) Joana Palha (Assoc. Prof. / ECS-UM) Jorge Correia-Pinto (Assist. Prof. / ECS-UM) Armando Almeida (Assist. Prof. / ECS-UM) Patrícia Maciel (Assist. Prof. / ECS-UM) João Cerqueira (Visit. Assist. / ECS-UM) José Miguel Pêgo (Visit. Assist. / ECS-UM) André Carvalho (Visit. Assist. / ECS-UM) Manuel Lima Rodrigues (Visit. Assist. / ECS-UM) Leonor Gonçalves (Monitor / ECS-UM) Maria João Batista (Visit. Assist. / ECS-UM) Luís Torrão (Visit. Assist. / ECS-UM) Carla Rolanda (Visit. Assist. / ECS-UM) Gustavo Melo-Rocha (Visit. Assist. / ECS-UM) Rui Pedro Bastos (Visit. Assist. / ECS-UM) João Paulo Fernandes (Visit. Assist. / ECS-UM) José Mário Roriz (Monitor / ECS-UM) João Carlos Sousa (Monitor / ECS-UM) Seminars (includes visiting lecturers)

- Anatomoclinical correlations in the urinary system (Joana Santos/Hospital S. Marcos-Brag
- Urogenital embryology (Armando Almeida/ECS-UM)

- Diseases of the metabolism of aminoacids, nucleotids and organic acids (Maria Luís Cardoso/Instituto de Genética Médica Jacinto de Magalhães-Porto)

- Control of urine and neurogenic bladder (Carlos Mariz, Hospital S. João-Porto)
- Biochemical analysis of urine (Tiago Guimarães, FM-UP/Hospital S. João-Porto).
- Reflux nephropathy (Helena Jardim, FM-UP/Hospital S. João-Porto)
- Chronic renal failure (Isabel Ribeiro ECS/UM, Hospital Pedro Hispano-Matosinhos)
- Radiologic anatomy of the reproductive system (R.Machado/Hospital S. João- Porto
- Breast cancer ((J.M. Oliveira/Hospital P.Hispano-Matosinhos))
- Clinical anatomy of the male reproductive system. Andrology (Carlos Silva/Hospital S Marcos-Braga)
- Clinical anatomy of the female reproductive system (P.Vieira Castro/Hospital Senhora da Oliveira-Guimarães)
- Fetal anatomy ecography and fetal MRI (Matos Cruz/Hospital S. Marcos-Braga)
- Clinical approach of intersex (Filipa Vasconcelos/Hospital Pedro Hispano-Matosinhos)
- Erectile dysfunction (Estêvão Lima/Hospital S. António-Porto)
- Medically assisted reproduction (Cristina Godinho/Hospital Senhora de Oliveira-Guimarães)
- Surgical anatomy of the nervous system (Carlos Alegria/Hospital S. Marcos-Braga)
- Imagiological anatomy of the central nervous system (Nuno Sousa/ECS-UM)
- Radiculopathies (Paulo Pereira/Hospital S. João-Porto)
- Ethiology of the schizophrenic: genes and environment (Joana Palha/ECS-UM)
- Poliglutaminic diseases (Patrícia Maciel/ECS-UM)
- Demyelinating diseases: multiple sclerosis (Maria Edite Rio/Hospital S. João-Porto).
- Epilepsy (João Campos Pereira/Centro Hospitalar do Alto Minho)
- Vegetative life and brain death (Mónica Marta/Hospital S. António-Porto)
- Deafness and its correction (Manuel Lima Rodrigues/ECS-UM e Centro Hospitalar do Alto Minho)
- Central regulation of the autonomous nervous system (Silva Carvalho/Faculty of Medicine, Lisboa)
- Phototransduction: clinical applications (Amândio Rocha-Sousa/FM-UP / Hospital S. João-Porto)
- Morphological alterations associated to endocrine diseases (Nuno Sousa/ECS-UM)
- Disturbances of the thyroid hormones in pregnancy and its consequences to the newborn (Maria José Costeira/Hospital S. Oliveira-Guimarães)
- Hormone transport to the tissues (Joana Palha/ECS-UM)
- Diabetes Mellitus (Olinda Marques/Hospital S. Marcos-Braga)

FAMILY, SOCIETY AND HEALTH

The purpose of this area is to provide the essential cognitive knowledge for the curricular area "Follow-up of a Family", and the following themes were considered:

- FAMILY AND HEALTH
- FAMILY LIFE
- FAMILY AND SOCIETY
- FAMILY DOCTOR

Methodology and Students' Assessment

The methodology was as follows:

- interactive presentations;

- group work following lecturer questions;

- presentation of the results, discussion, synthesis, development perspectives and an essay on the running of "Follow up of a Family".

For evaluation purposes the students elaborated a written report that included case analysis and personal reflections.

Teaching Staff Area Coordinator

Carlos Valério (MD / ECS-UM)

Scientific Coordinator

Teresa McIntyre (Assoc. Agreg. Prof. / IEP-UM)

Lecturers

Maria Engrácia Leandro (Full Prof. / ICS-UM)

Teresa Macedo (MD / Gualtar Health Unit-Braga)

FOLLOW-UP OF A FAMILY I

As referred in previous Annual Reports, in the curricular area "Follow-up a Family" medical students testify the life of a family, how several generation relate within a family and understanding the influence of the family context and of interfering external factors, on the development, fulfilment and well-being – therefore on the health – of each one of its members. It's a very structuring experience of knowing reflecting, and acting, that is to say, structuring for the being.

Considering this general purpose, the following basic questions are considered:

- insertion of the student in the family (who is this family? What am I doing here?);

- knowledge of the family (family structure, dynamics and family process, social and economical context, relationship with the outside);

- health in the family (health habits, risk factors or protective factors, health practices).

The families were chosen according to the following criteria:

- enrolment in a Health Centre from Braga;
- steady couple with an unborn or newborn child;
- absence of serious problems (for example, domestic violence, alcoholism, drugs addiction, psychopathy);
- informed assent.

Preference factors:

- the existence of other children;

- having at least one elderly person living with the family or coexisting with them on a frequent basis.

Clinicians who agreed to participate were informed ("Teachers Script") of the purposes, activities and methodologies of this curricular area and, obviously, about their roll as "Tutors" (supervising a group of four students that visit the families) or as "Coordinating Tutors" (supervise tutors' actions in their Health Centres).

Identical information was given to the students ("Students Script").

Students' activities in "Follow-up of a Family":

- periodic visits (on a monthly basis in the 2nd Year);

- meetings with the tutor after every visit (experience exchange, reflection and advisement).

Preceding the first visit every student was introduced to "their" family by the corresponding clinicians.

The communication skills development was made during six workshops, where observation and recording techniques in the family context were used, as well as thematic videos and practical exercises of interpersonal communication.

Based in those methods, critical reflection and contents integration were promoted, preparing the students for the activities.

The basic cognitive support for this area was provided in the curricular area "Family, Society and Health".

The following evaluation items were contemplated: (i) a written paper on the family visits; (ii) a written report on the workshops (30% of the final classification.

Teaching Staff

Area Coordinator

Carlos Valério (MD/ECS-UM)

Scientific Coordinator

Teresa McIntyre (Assoc. Agreg. Prof. / IEP-UM

Lecturers

Maria Engrácia Leandro (Full Prof. / ICS-UM)

Teresa Freire Albuquerque (Assist. Prof. / IEP-UM)

Eugénia Fernandes (Assist. Prof. / IEP-UM

Teresa Macedo (MD / Gualtar Health Unit-Braga)

Tutors and Supervisors

See Appendix II

C) 3rd Curricular Year

FOLLOW-UP OF A FAMILY II

The objectives are the ones that had been defined in 2nd year, with increased depth and focusing new questions. The methodology, students' assessment and teaching staff were also as described above for Follow-up of a Family I.

BIOPATHOLOGY AND INTRODUCTION TO THERAPEUTICS

An integrated knowledge of the pathologic processes and therapeutic approaches is pivotal to prepare students for the global understanding of diseases during their clinical clerkships and future clinical practice. Therefore, in this area, the general themes in pathology, genetics, immunology, microbiology/parasitology and pharmacology are approached in a coordinated and integrated manner, according to the educational project adopted by the School.

The main objectives of the area are:

- to promote students' competences in the five running domains, in an integrated way;

- to offer students pedagogical support using a tutorial approach;
- to evaluate, with appropriated methodology, the degree of student knowledge acquisition, attitudes and overall performance;
- to develop a continuous, inter-active and versatile process of methodological investigation in this curricular area.

In 2004-05, this curricular area was organised into the following modules:

MODULE 1. GENERAL PATHOLOGY AND INTRODUCTION TO PHARMACOLOGY (5 WEEKS) MODULE 2. GENETIC AND ENVIRONMENTAL PATHOLOGIES (4 WEEKS) MODULE 3. IMMUNOPATHOLOGY (4 WEEKS) MODULE 4. INFECTIOUS PATHOLOGY (5 WEEKS) MODULE 5. NEOPLASIA (4 WEEKS)

Methodology and Students' Evaluation

In this curricular area, the methodology chosen was mainly based on "Teaching-Learning by Modules of Objectives".

Student assessment was performed by a continuous process, including one exam at the end of each module and a final integrated examine at the end of the curricular area. Module assessment was performed by means of a theoretical exam (50%) and a practical exam (50%). The theoretical exam consisted of Multiple Choice Questions (MCQ) and Open Questions (OQ) based on clinical cases. The practical exam included Short Open Questions (SOQ) and MCQ. The overall assessment combined acquisition of knowledge, laboratorial skills and attitudes. Furthermore, the final Integrated Examination consisted of Open Questions, based on clinical cases. Attitudes were continuously monitored and an "attitude evaluation form" was filled in for each student at the end of the modules by the respective teaching staff.

In order to calculate the final mark of the area, the relative weight allocated to module assessment, integrated exam and attitudes were 63 %, 27 % and 10 %, respectively. Each module was given equal weight within the partial mark calculation. Therefore, the final mark of the area was obtained through the formula:

$$CA_{SOFs} = 0.9 \times (0.7 \times \frac{\sum_{i=1}^{n} f_i \times C_{\text{mod}}}{n} + 0.3 \times f_a \times C_{\acute{area}}) + 0.1 \times C_{atitudes} \qquad \text{Where} \qquad \begin{cases} f_i = \begin{cases} 1. se \ C_{\text{mod}} \ge 7.5 \\ 0. se \ C_{\text{mod}} < 7.5 \\ 0. se \ C_{\acute{area}} \ge 7.5 \\ 0. se \ C_{\acute{area}} \ge 7.5 \\ 0. se \ C_{\acute{area}} < 7.5 \end{cases}$$

Teaching Staff

Area Coordinator

Jorge Pedrosa (Assist. Prof. / ECS-UM)

Fernando Schmitt (Assoc. Prof. / FM-UP)

Module Coordinators

MODULE 1. GENERAL PATHOLOGY AND INTRODUCTION TO PHARMACOLOGY

Fernanda Milanezi (Assist. / ECS-UM)

MODULE 2. GENETIC AND ENVIRONMENTAL PATHOLOGIES

Rui M. Reis (Assist. Prof. / ECS-UM)

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MODULE 3. IMMUNOPATHOLOGY
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Jorge Pedrosa (Assist. Prof. / ECS-UM)

MODULE 4. INFECTIOUS PATHOLOGY António Gil Castro (Assist. Prof. / ECS-UM) MODULE 5. NEOPLASIA Fernando Schmitt (Assoc. Prof. / FM-UP) Lecturers Adhemar Longatto (PhD, Post-doc / ECS-UM) Ana Horta (Assist. / ECS-UM) António Gil Castro (Assist. Prof. / ECS-UM) António Sarmento (Full Prof. / FM-UP) Elisabete Sousa (Assist. / ECS-UM) Fátima Baltazar (Assist. Prof. / ECS-UM) Fernanda Milanezi (Assist. / ECS-UM) Fernando Pardal (Assist. / ECS-UM) Fernando Schmitt (Assoc. Prof. / FM-UP) Isabel Mesquita (Assist. / ECS-UM) Jorge Pedrosa (Assist. Prof. / ECS-UM) Paula Sampaio (Assist. Prof. / EC-UM) Pedro Monteiro (Assist. / ECS-UM) Jorge Pinto Basto (Assist. / ECS-UM) Rui Manuel Reis (Assist. Prof. / ECS-UM) Tiago Teixeira (Assist. / ECS-UM)

Seminars (visiting lecturers)

MODULE 1.

- Clinical Trials (António Sarmento / ECS-UM)
- Pharmaceutical preparations and routes of administration (Fátima Baltazar / ECS-UM)
- Cell aging (Vitor Costa / ICBAS-UP)
- Hormones and hyperplasia (Fernando Schmitt / ECS-UM; FM-UP)
- Tuberculosis and chronic inflammation (Jorge Pedrosa / ECS-UM)
- Repair and cell regeneration (Fernando Schmitt / ECS-UM)
- Shock and thromboembolism (António Sarmento / FM-UP)

MODULE 2.

- Medical genetics- Introduction to medical genetics and Mendelian Theory (Rui M. Reis / ECS-UM)

- Tools for molecular diagnosis (Rui M. Reis / ECS-UM)
- Genetic variation in populations (Jorge Rocha / FC-UP)
- Pharmacogenetics (Rui Medeiros / ICBAS-IPO)
- Genetic counselling (Jorge Pinto Basto / ICBAS)
- Obesity (José Luis Medina / FM-UP)

- Drug addiction (Amélia Tavares / FM-UP)

MODULE 3.

- Immunoglobulin and TCR Genetics; Igs-structure and function (Manuel Vilanova / ICBAS)
- Ontogeny of B lymphocytes (João Pedro Pereira / ICVS-UM)
- Immunodeficiencies (Carlos Vasconcelos / H. S. António)
- Activation and regulation of acquired immune responses (António Gil Castro / ECS-UM)
- Haematopoiesis (Alexandra Mota / H. S. António)
- NK Cells (Margarida Lima / H. S. António)
- Asthma (António Sarmento / FM-UP)
- Immnunologic tolerance (Jorge Carneiro / IGC)
- Systemic autoimmune diseases (Carlos Vasconcelos / H. S. António)
- Autoimmune diseases, reumatoid arthritis (António Marinho / H. S. António)
- Bone marrow transplantation (Jorge Campilho / IPO-Porto)

MODULE 4.

- Biodiversity (Cecília Leão/ECS-UM)
- Introduction to viral diseases (Narciso Oliveira / H. S. Marcos)
- Respiratory infections (Maria João Regadas / H. S. Marcos)
- HIV (Rui Sarmento / H. Joaquim Urbano)
- Zoonoses (Ana Horta / ECS-UM)
- Antimicrobial therapy (António Sarmento / FM-UP)
- Atypical pneumonias (Rosário Araújo / H.S. Marcos)
- Mycoses (Glória Cunha Velho / H.Sto. .António)
- Malaria (Marta Azevedo / H.S. Marcos)
- Prions (Ana Horta / ECS-UM)
- Vaccines (Jorge Pedrosa / ECS-UM)
- Psycopharmacology I (João Bessa / ECS-UM)

MODULE 5.

- Cancer: general concepts (Manuel Sobrinho-Simões / FM-UP e Venância Alves/FM-USP Brasil)
- HPV and female genital tract cancer (Adhemar Longatto / ICVS-UM)
- H. pylori and gastric cancer (Fátima Carneiro / FM-UP)
- Fine-needle aspiration cytology (Fernando Schmitt / FM-UP)
- Tumor angiogenesis (Fernando Schmitt / FM-UP)
- Lymphomas and leukaemias (José Cabeçadas / IPO Lisboa)
- New therapies in cancer treatment (Fernanda Milanezi / ECS-UM)
- Clinical manifestations of malignancies (Luís Costa / FM-UL)
- Conventional therapies in cancer treatment (Luís Costa / FM-UL)
- Clinical immunology laboratory (Castro e Melo / H. Sto. António)
- Molecular classification (Rui M. Reis / ECS-UM)

- Psycopharmacology II (João Bessa / ECS-UM)

INTRODUCTION TO COMMUNITY HEALTH

The main objective of this area is to provide students – future medical doctors – with tools and knowledge that will allow them to acquire competences in the field of Community Health, training them to operate in order to improve the health level of populations, in a participating and organised manner in the organisations in charge of providing health care.

Regarding the education plan, the themes to be addressed in this area will be further developed and applied in the "Health Centre Residencies" in the 4^{th} , 5^{th} and 6^{th} years.

The area is organized in a single module that includes the following themes:

- health, disease and handicap;
- health systems;
- health economy/ management;
- quality in health;
- basic demography;
- epidemiology;
- basic biostatistics and its use in epidemiology.

Methodology and Students' assessment

"Teaching-Learning by Modules of Objectives" methodology was applied, in which each module includes the development of five different phases, including the one dedicated to evaluation. In addition, external and internal practical lessons and seminars were included.

The practical lessons were developed in Phase 2, in a tutored environment and consisted of practical problem solving, epidemiological cases simulated or adapted, applied biostatistics exercises, health management and quality exercises.

The evaluation of students included:

- written exam (MCQ and SOQ) (70%);
- poster: production of a poster on a free theme of health education / promotion in groups of 6 students (20%);
- attitudes and behavior: (10%).

Teaching Staff

Area Coordinator

Carlos Valério (MD/ECS-UM)

Lecturers

Carlos Valério (MD / ECS-UM)

António Alegre Sarmento (MD / ECS-UM)

Mário Freitas (MD / ECS-UM)

Seminars (includes visiting lecturers)

- Health promotion (Vera Soares / IEP-UM)
- Community nutrition (Sandra Lourenço / Centro de Saúde de Braga)

- The evolution of health systems (Constantino Sakellarides / ENSP-UNL)
- Prevention in general and family medicine (Jaime C. Sousa / Unidade Local Saúde Matosinhos)
- Community mental health (António Leuschner / Hospital Magalhães Lemos Porto)
- Health determinants (Emília Nunes / Direcção Geral da Saúde)
- The importance of epidemiology in the practice of medicine (Henrique de Barros / FM-UP)
- Prevention in Public Health (Maciel Barbosa / ARS-Norte Braga)
- Evolution of disease expenditure in Portugal (Menezes Correia / Economista da Saúde Braga)
- Quality in Health (Margarida França / Instituto Qualidade em Saúde Porto)
- Environmental health (Luís Moraes / Universidade da Baía, Brasil)
- ONSA (Portuguese National Health Observatory) (Marinho Falcão / Instituto Nacional de Saúde Dr.Ricardo Jorge Lisboa)

Lectures

- Why is it difficult to handle change in health? (Constantino Sakellarides / ENSP-UNL)
- Two epidemics in Portugal, one possible and the other unexpected (Marinho Falcão / Instituto Nacional de Saúde Dr. Ricardo Jorge - Lisboa)

INTRODUCTION TO CLINICAL MEDICINE

As it was stated in the Annual Report of 2004, the curricular area "Introduction to Clinical Medicine" focused mainly on the anthropology of the relationship physician-patient and its development when questioning, examining and monitoring the patient's condition, the latter constituting the key elements of the "Clinical Method". Such methodology involved the acquisition of cognitive skills but, as often as possible, anchored in the reality of direct contact with the patients.

As it was carried out in Hospital settings, the subject "Introduction to Clinical Medicine" provided the students with the knowledge and the understanding of the reality of hospital (its functions, organisation, management, costs and problems) as well as its daily routines, with special emphasis on the work of the Medical Doctors, their relationships with other health professionals and the condition of the living-in patients.

The students accomplished the following tasks:

- patient admission, including taking the medical history and performing and recording the physical examination of patients under tutor's supervision;

- clinical procedures, planned in their chart;
- attending the tutor/supervisor's practice;
- participation in the Medical Department meetings.

The particular temporal localization of this curricular area in the Medical Degree Course is relevant as several learning objectives have already been met (Phases I and II of the Study Plan) and precedes clinical practice (Phases III and IV).

The main educational objectives pursued in this curricular area were:

- reside/experience hospital's everyday life;

- interact adequately with the patients;
- be able to collect and interpret clinical signs and symptoms.

Student Assessment

The final classification is the result of:

- attitude evaluation;
- task execution evaluation;
- final exam (mainly multiple choice questions).

Students' final assessment was the arithmetic average of the above three components.

Teaching Staff

Area Coordinators

Joaquim Pinto Machado (Full Prof. / ECS-UM) Mário Cerqueira Gomes (Full Prof. / ECS-UM) Nuno Sousa (Assoc. Prof. / ECS-UM) Óscar Rolão Candeias (MD / Hospital Director of Internal Medicine / ECS-UM) Damião Cunha (MD, PhD / Hospital Director Cardiology /ECS-UM) Abel Rua (MD / Hospital Director of Internal Medicine / Hospital S. Marcos) Jorge Cotter (MD / Hospital Director of Internal Medicine / Hospital Sª. Oliveira)

D) 4th Curricular Year

CLINICAL RESIDENCIES

"Organization of Clinical Learning: Coordination Strategies"

The learning settings for the Phase III of the Medical Degree Course are multicentric and dependent on complex coordinating network that ensures integration of the learning processes throughout, as shown in the diagram bellow.



The overall coordination of the network of clinical Residencies is the mission of the **Clinical Coordination Group**, which is composed by six members of the faculty of the ECS. The main role of this group is to define the global strategy of the School for clinical teaching and to approve the proposals emanating from the groups assigned to coordinate each clinical Residency (Medicine, Maternal-Child Health, Mental Health, Surgery and Family Medicine), assuring that they fit within that overall strategy. The Group also approves the designation of Chairpersons, Clinical Supervisors and Clinical Tutors. The analysis of the global assessment of the Residencies is also a task of this Group, as well as the delineation of general plans designed to improve the learning processes.

For each of the five Residencies, a **Residency Coordination Group** is set up. The composition of the Coordinating Groups reflects the multicentric approach envisaged by the School for Phase III of the Medical Degree. Therefore, it includes members appointed by the School, and members selected by the affiliated Hospitals, the latter being the **Hospital** (Residency) **Supervisors** within their Hospital. The Residency Coordination Groups have the responsibility of defining learning objectives and clinical duties (skills and tasks) for the students during that Residency; they will also delineate the assessment process. In addition, the Groups will recommend the most suitable rotations within each Hospital. Furthermore and designate the **Chairpersons** responsible for the cognitive teaching modules within each Residency. The Chairpersons invite the speakers for the cognitive seminars and prepare course materials (including suggested bibliography) that are made available for students.

The Coordination Group of Family Medicine does not include staff from Hospitals, but rather includes physicians working in Health Centres.

In what concerns the **Hospital Supervisors**, their task is to oversee all clinical teaching activities within their Residencies in the Hospital. The Supervisors ensure the adequate functioning of learning activities in every setting enrolled for the Residency. They also ensure the involvement of all clinical staff (physicians, nurses) belonging to the clinical specialities assigned to the Residency, select Tutors amongst the clinical staff, which will directly supervise each group of students, and conduct the final clinical exam in each Hospital.

On the other hand, the **Clinical Tutors** have the responsibility to supervise students' activities, including the acquisition and training of the clinical skills assigned to the Residency. Tutors assure the integration of the students in Services' activities, as "Residents". Clinical tutors assess students' professionalism and clinical performance.

The Clinical Coordination Group as well the Residency Coordination Groups already established are detailed below.

HOSPITAL RESIDENCIES

The curricular year 2004-05 was the first the Hospital Residencies were run and the implementation strategy obeyed to that referred above.

It is important to emphasize that, as it was referred in previous Report, the experience from the curricular area "Introduction to Clinical Medicine" in 2003-04, showed that the proposed strategy was considered very interesting both by the faculty and by the external guests, as it created a multidisciplinary learning forum. In addition, this experience supported the idea that multicentric clinical approaches are vital for a holistic formation of medical students even though there are some difficulties arising from the

specificity of each learning scenario – as a footnote, it should be stressed that such perspective has been recognised by the students in their 4th year Residencies that are obligatory taking place in a different Hospital. Another important contribution for the integrated outcome of this curricular area was the coordinating role of the activities by the supervisor in the Hospitals and by the chairpersons in the seminars.

In 2004-05 the following Hospital Residencies took place:

- RESIDENCY OF MEDICINE I
- RESIDENCY OF MATERNAL AND CHILD HEALTH
- RESIDENCY OF MENTAL HEALTH

The corresponding activity detailed Reports are presented in Appendix I.

Teaching Staff

Medicine Coordination Group Joaquim Germano Pinto Machado (MD, PhD, Full Prof. / ECS) Mário José Cerqueira Gomes (MD, PhD, Full Prof. - Cardiology / ECS) Nuno Jorge Carvalho de Sousa (MD, PhD, Assoc. Professor / ECS) Óscar Ferreira Rolão Candeias (MD, Hospital Director of Internal Medicine / ECS) Damião José Lourenço da Cunha (MD, PhD, Hospital Director of Internal Medicine-Cardiology / ECS) Abel Rua (Hospital Director of Internal Medicine / H.S. Marcos - Braga) Jorge Cotter (Hospital of Internal Medicine / H.S.Oliveira - Guimarães) Maternal and Child Health Coordination Group Nuno Sousa (Assoc. Prof./ ECS) Jorge Correia-Pinto (Assist Prof./ ECS) Helena Jardim (Assist Prof./ FMUP) Lucinda Antunes (Head of Obstetrics Service / Hospital S. Marcos-Braga) Pedro Vieira de Castro (Obstetrics Service / Hospital da Senhora da Oliveira-Guimarães) Almerinda Pereira (Head of Pediatrics Service / Hospital S. Marcos-Braga) Pedro Freitas (Head of Pediatrics Service / Hospital da Senhora da Oliveira-Guimarães) Mental Health Coordination Group Rui Mota Cardoso (Full Prof./ FMUP) Alberto Bessa-Peixoto (MD / Hospital S. Marcos) João Guerra (Head of Psychiatry Service / Hospital S. Marcos-Braga) Mário Lourenço (Head of Psychiatry Service / Hospital da Senhora da Oliveira-Guimarães) Clinic Supervisors and Tutors

See appendix II

HEALTH CENTRE RESIDENCIES

The residencies were carried out in urban and rural Health Centres and in Public Health Operative Units (PHOU), located in the geographical areas of Braga, Guimarães and neighbouring administrative districts.

Students took part in the health teams (one or two per team) tutored by Family Physicians (General Practitioners); personnel from different areas with varied skills and expertise, like nurses, social workers, nutritionists, psychologists, secretaries, and

other staff were involved in the team/ teaching work. In the Public Health Units (PHOU), students were tutored by Public Health doctors, with the participation of environmental health and other technicians.

Teaching / learning was based on scripts (handouts) structured as "*Handbooks for guidance and recording*"; its aims were organised according to the level of knowledge, skills and attitudes that represent the students' competence acquisition when he/she finishes the residency, namely "*Primary care knowledge*", "*Clinical knowledge and skills*" and "*Attitudes*". The handbook contains charts and assessment tables.

The activities performed by students had mostly a practical feature, including clinical and non-clinical activities, always under tutor's pedagogical guidance.

The detailed Report of the Residency is presented in Appendix I.

Teaching Staff

Area Coordinator

António Jaime Correia Sousa (MD / ECS-UM)

Clinic Coordination Group

As presented in the Hospital Residencies

Community Health and Family Health Coordination Group

Carlos Valério (MD / ECS-UM)

António Jaime Correia Sousa (MD / ECS-UM) António Sarmento (MD / ECS-UM) Ana Mateus (MD / General Clinic Assist. – Local Health Unit/Matosinhos) Luís Laranjeiro (MD / Head of General Clinic Service/Guimarães Health Centre) Margarida Lima (MD / Head of General Clinic Service/Gualtar Health Unit) Mário Freitas (MD / ECS-UM)

Staff

Ana Almeida, Ana Mateus, Clara Barros Fonseca, Luís Laranjeiro, Margarida Lima, Maria José Ribas, Teresa Nunes *Clinical Supervisors and Tutors*

See Appendix II

FROM CLINIC TO MOLECULAR BIOLOGY I

In the curriculum of the Medical Degree course, the curricular area "From the Clinic to Molecular Biology" is included in PHASES III and IV (4th, 5th and 6th years). In this curricular area, the critical discussion and learning of new and emergent subjects on biomedical research is encouraged contributing to the formation of a new generation of physicians/researchers. The teaching/learning methodology focused on thematic discussions together with national and international experts on those themes.

In 2004-05, three thematic conference cycles, each one with the duration of three days, were organized:
$1^{\rm st}$ Cycle

Theme: "The impact of molecular and cellular medicine in human fetal treatment" *ECS Supervisor:* Jorge Correia-Pinto *Visiting Lecturer.* Prof. Alan W. Flake (The Children's Hospital of Philadelphia, USA)

2nd Cycle

Theme: "Genetic of psychoses: from phenotype to genotype" *ECS Supervisor:* Joana Palha *Visiting Lecturer.* António João Macedo e Santos (FM-UP)

3rd Cycle

Theme: "Leukaemias" *ECS Supervisor:* Fernando Schmitt *Visiting Lecturer*: Paula Gameiro (Instituto Português de Oncologia, Lisboa)

Methodology and Students' Assessment

Biomedical scientific research papers were given to the students to support the following activities:

- Students' presentation and discussion of scientific papers. For each theme, the selected paper was part of the work under development in the research group of the invited speaker. An active student participation in discussions was encouraged involving the teaching staff from our School of Health Sciences and the invited speaker.
- Seminars and lectures given by the invited speaker.

The student assessment included:

1. Partial assessment (seminary cycles, C1)

- Assiduity

2. Integrated evaluation (C2)

- Presentation and discussion of scientific papers by groups of students (3-4 students per group)

3. Final area evaluation (C $_{\text{DCBM}}$)

 $C_{_{\text{DCBM}}} = 0.25 \ x \ C1 \ + \ 0.75 \ x \ C2$

Area Coordinators

Cecília Leão (Full Prof. / ECS-UM) Jorge Pedrosa (Assist. Prof. / ECS-UM) Joana Palha (Assoc. Prof. / ECS-UM) Jorge Correia Pinto (Assist. Prof. / ECS-UM) Fernando Schmitt (Assist. Prof. / FM-UP)

E) 1st, 2nd, 3rd and 4th Curricular Years

OPTION PROJECTS I, II, III and IV

The study plan of the Medical Degree, contemplates "Option Projects" (Option Project I, II, III, IV, and V) from the 1^{\pm} to the 6^{\pm} year of the course. Each Option Project is based on individual work freely chosen by the student.

The main objectives of the curricular area, as stated in the previous Annual Report, are:

- to induce the students to reflect about their aspirations and interests in order to identify subjects that are important to them and are not in the medical degree curriculum;
- to reinforce the students' awareness that he/she is responsible for his/her academic curriculum;
- to promote active learning (one of the main pedagogic strategies of the course);
- to help students experiment a wide range of multifaceted experiences, in terms of themes and domains, which are not part of the course's curriculum, but are of the utmost importance in the making of a medical doctor;
- to provide experience in planning scientific work;
- to develop communication skills, by organizing a simulated professional scientific meeting where each student presents his/her project;
- to stimulate the students mobility, national and international.

Methodology and Students' Assessment

The organization of the optional projects implies multiple contacts between the area coordinator and the students. This is done in several phases:

- students are informed on the objectives of the curricular area and about the different kinds of projects that can be carried out.

- each student is lead to indicate the type of work of his/her preference, multiple conversations with the students, individually or

in group, accompanying and supporting their choices, clarifying doubts and stimulating innovative ideas.

- research work performed by the coordinator in order to find a suitable place and supervisor for each student/project.
- formal contact between the coordinator and the host institution, in writing, requesting its support.

- meeting with all the students prior to the beginning of the project, in order to clarify doubts, provide orientations and define evaluation.

At the end of the option project each student handed in a written report and prepared an oral presentation of his/her work (10 minutes), presented to the other students of the course and to the Teaching Staff of the school, followed by a general discussion (5 minutes). For this effect, an "Internal Conference of the Medicine Course" was organized and took place at the Health Science School on July 2005.

The assessment was performed according to rules previously established for the Option Projects. It follows a summary of the students' assessment in 2004-05.

Option Project I and II

1 - Supervisor Evaluation

9/20 (scale / 45 % of the final classification).

2 - Oral Presentation

5/20 (scale / 25 % of the final classification).

3 - Written Report

 $\underline{4}/20$ (scale / 20 % of the final classification).

- Attitudes

 $\underline{2}/20$ (scale / 10% of the final classification).

Option Project III and IV

1 - Supervisor Evaluation

 $\underline{9}/20$ (scale / 45 % of the final classification).

2 - Oral Presentation

 $\underline{4}/20$ (scale / 20 % of the final classification).

3 - Written Report

 $\underline{5}/20$ (scale / 25 % of the final classification).

- Attitudes

 $\underline{2}/20$ (scale / 10% of the final classification).

The thematic and geographical distribution of the Optional Projects (I, II, III and IV) performed by students in 2005, as well as the respective teaching staff are summarised below.

OPTION PROJECT I









Area Coordinator

Isabel Palmeirim (Assist. Prof. / ECS-UM)

Fernando Rodrigues (Assist. Prof. / ECS-UM)

Lecturers

Work themes and Supervisors available on ECS site - http://www.ecsaude.uminho.pt)

OPTION PROJECT II









Area Coordinator

Armando Almeida (Assist. Prof. / ECS-UM)

Lecturers

Work themes and Supervisors available on ECS site - http://www.ecsaude.uminho.pt)

OPTION PROJECT III









Area Coordinator

António Gil Castro (Assist. Prof. / ECS-UM)

Lecturers

Work themes and Supervisors available on ECS site - http://www.ecsaude.uminho.pt)

OPTION PROJECT IV









Area Coordinator

Paula Ludovico (Prof. Aux. / ECS- UM) - 120 horas

Lecturers

Work themes and Supervisors available on ECS site - http://www.ecsaude.uminho.pt)

VERTICAL DOMAINS: "TO FEEL THE PULSE TO LIFE"

The main objectives of the curricular area "To Feel the Pulse to Life", integrating "Vertical Domains" and contemplated from the 1^{\pm} to the 6^{\pm} year of the course, were stated in the Annual Report of 2004 and relate to science, philosophy, ethics, law, history, literature, art and religion.

The objective is to form more cultivated physicians with "knowledge", perceptions, sensibilities, attitudes and values resulting in an accurate astuteness to understand and decide, a refined kindness in listening, accompany and care, an magnetic strength capable of serening and transmit confidence and hope, an unshakable courage in accepting the possibility of mistake and assuming the consequent responsibility, a refined sense of modesty requiring a continuous personal improvement, a clear conscientiousness of the moral exercise of medicine and the intolerably of aggressions to people dignity.

In 2004-05 several alterations have been introduced, the most important being:

- the modification of the area curricular status, which has been included in the official study plan of the degree, from 1^{\pm} to the 5^{\pm} year, with the attribution of 1CU/1 ECTS for each year, the former determining that students should be attributed a grade between 0 and 20;

- the contribution of Clara Costa Oliveira (Assist. Prof. / IEP-UM) in the area planning, as well as in classes lecturing during the 1st semester;

- the beginning of the scientific and pedagogical integration of the Nursing Calouste Gulbenkian's School into the School of Health Sciences through the inclusion in the Vertical Domains of some pedagogical exchange initiatives between both Schools.

Considering these observational variables, the agenda of this area in 2004-05 had the following criteria:

- 1st year: thematic variation;

- 2rd year: emphasis in the competencies of learning to be, namely in the development of attention, focusing, listening and creativity;
- 3^{ed} year: emphasis on sessions with health community dimension valorisation;
- 4th year: reduction of the number of Wednesdays' mornings occupied by Vertical Domains.

Since a teacher was available in full-time for the 1st semester, it was decided to concretise two sessions in some Wednesday mornings.

Methodology and Student Assessment

The methodology depended on the questions and goals under consideration but there was always students' active participation. In what concerns the assessment of this area, it was first decided for a kind of assessment which conjugated the students' assiduity with the grades obtained in "attitudes and behavioural" classification from the other curricular areas of the same year. However, the students' learning assessment focused finally only in the students' assiduity, after several dialogues between students' delegates and the area coordinator. It resulted in a logical *criterium* since the objectives of this area, related with "the being", which is supposed to be developed through the degree course; the fulfilment of these objectives will be detected mainly in the professional practice of the present pupils.

Teaching Staff

Area Coordinator

Joaquim Pinto Machado (Full Prof./ ECS-UM)

Clara Costa Oliveira (Assist. Prof. / IEP-UM)

Themes, lecturers and external speakers

Available on ECS site - http://www.ecsaude.uminho.pt)

CHAPTER II EVALUATION OF COURSE FUNCTION ON THE ACADEMIC YEAR 2004-05

2.1 Introduction

This Chapter concerns the functioning of the curricular areas in the present year. It includes a thorough and retrospective analysis of the yearly monitoring of the courses by the Medical Education Unit (UEM), on the following aspects:

(i) students' grades;

(ii) students' perceptions on faculty and curricular areas, based on student ratings.

It also presents the internal appreciations of the bodies of faculty that taught in the curricular year 2004-05, based on the questionnaire results and on reflections that resulted from the "Scientific Council's Reflection Journeys".

This year and for the first time, student's surveys were collected for all the areas. In order to do so, new questionnaires were developed (included in the UEM's annual report) to complement the previous instruments.

Questionnaires were distributed once the respective grading process had been concluded. In the present year, some questionnaires included specific questions on particular areas, as a result of the involvement of faculty in the process. Such participation aimed at transforming the monitoring process into instruments that can answer questions raised by faculty on respective areas. Results were displayed in three types of documents, differing on their content (of which two are discussed in this report): 1) the functioning of the curricular areas; 2) ratings of the body of faculty associated to a curricular area; 3) individual ratings on faculty (confidential, known by the Vice-presidency of the ECS).

2.2. Students' Performance

2.2.1. Assessment Tools

A plethora of assessment instruments was used in the current year, written examination questions with multiple-choice questions (MCQ), short open question (SOQ) and Reports. Practical Skills Examinations were conducted in the longest areas of the first three years of the degree. For the areas "Hospital Residencies" and "Health Centre Residencies", the assessment process contemplated clinical performance as well as competences and professionalism. The former was assessed through the evaluation of clinical stories whereas the latter were assessed through evaluation forms. The areas "Vertical Domains" included a formal assessment in this academic year, which was based on the assiduity.

2.2.2. 1st Curricular Year Grades

Global and retrospective analysis, according to curricular area

First curricular year grades are presented on the table bellow (Table II.1) with the correspondent means and standard deviations. Six areas exhibit 100% approvals. The exception is "Organic and Functional Systems I" in which the rate was 95%. The percentage of students failing the area is half the one of the previous year. In general, averages of the classifications correspond to "Good", "Very Good" or "Excellent", a sign that the school's freshman were able to adapt normally to the first year of the degree.

Number of Students [*]			Average ± Standard Deviation				
	CURRICULAR AREA	0 - 9	10 - 13	14 - 15	16 - 17	18 - 20	
		Failed	Fair	Good	Very Good	Excellent	
61	Introduction to the Medical Degree Course	0	4 (7%)	8 (13%)	21 (34%)	28 (46%)	17 ± 2
61	Molecules and Cells	0	14 (23%)	27 (44%)	20 (33%)	0	15 ± 2
64	Organic and Functional Systems I	3 (5%)	43 (67%)	17 (26%)	1 (2%)	0	12 ± 3
60	Training in a Health Centre	0	0	0	37 (62%)	23 (38%)	17 ± 1
60	First Aid	0	4 (7%)	8 (13%)	14 (23%)	34 (57%)	17 ± 2
60	Option Project I	0	0	0	14 (23%)	46 (77%)	18 ± 1
64	Vertical Domains I**	0	12 (19%)	11 (17%)	20 (31%)	21 (33%)	16 ± 3

 Table II.1.
 Grades distribution, according to curricular areas: 1st curricular year students in 2004-05

 * number of students enrolled in the area (includes those who have failed in the previous years); ** first evaluation

Grades varied considerably between areas. Similarly to previous years, grades of "Training in a Health Centre" and "Option Project I" were highest, with 100% of "Very good" or "Excellent" classifications, as were the classifications of most students in the remaining areas of less than 5 Credit Units – "Introduction to the Medical Degree" and "Vertical Domains". In contrast, only 33% and 2% of the students attained such marks, respectively in "Molecules and Cells" and "Functional Organic Systems I". In this area, 83% of the students were graded as "fair" or "good". Globally, such pattern is common amongst the classifications of first year medical students.

For comparison purposes, final classifications for the first curricular year are presented in Table II.2:.

 Table II.2.
 Grades distribution, according to curricular areas of the 1st curricular year students: retrospective analysis

	0 - 9	10 - 13	14 - 15	16 - 17	18 - 20	
CURRICULAR AREA	Failed	Fair	Good	Very good	Excellent	Average ± Standard
	2001-02	2001-02	2001-02	2001-02	2001-02	Deviation
	2002-03	2002-03	2002-03	2002-03	2002-03	
	2003-04	2003-04	2003-04	2003-04	2003-04	
	2004-05	2004-05	2004-05	2004-05	2004-05	
	*	*	*	*	*	*
Introduction to the Medical	0	2	12	60	26	17 ± 1
Degree Course	2	13	57	28	0	14 ± 1
	0	7	13	34	46	17 ± 2
	4	23	46	27	0	14 ± 3
MILLION	0	24	24	38	14	15 ± 2
Molecules and Cells	4	32	41	23	0	14 ± 2
	0	23	44	33	0	15 ± 2
	4	73	15	8	0	12 ± 2
Organic and Functional	4	50	36	10	0	14 ± 2
Systems I	9	57	34	0	0	12 ± 2
	5	67	26	2	0	12 ± 3
	0	0	0	38	62	18 ± 1
	0	0	0	83	17	17 ± 1
Training in Health Centre	2	2	2	85	9	17 ± 1
	0	0	0	68	32	17 ± 1
	0	4	23	67	6	16 ± 1
First Aid	0	2	13	33	52	17 ± 1
	2	2	9	26	61	18 ± 2
	0	7	13	23	57	17 ± 2
	0	0	0	48	52	18 ± 1
Option Project I	0	2	6	46	46	17 ± 2
	2	8	33	33	24	16 ± 2
	0	0	0	23	77	18 ± 1
Vertical Domains I **	0	19	17	31	33	16 ± 3

* it did not take place in 2001-02; ** first evaluation

The grades corresponding to 2004-05 are in line with those of the previous years. A comparison to 2003-04 reveals positive -"Introduction to the Medical Degree", "Option Project I" and "Molecules and Cells – as well as negative evolutions - "Functional Organic Systems I" and "Training in a Health Centre". When categories of the grades are compared, slight differences are detected – such as the maximum percentage of students with "Excellent" in the areas "Introduction to the Medical Degree" and "Option Project I". Taken together, the analysis suggests that students adapted effectively to the school's educational project.

2.2.3. 2nd Curricular Year Grades

Global and retrospective analysis, according to curricular area

Grades of second year students are presented on the table bellow (Table II.3), including mean and standard deviation.

Number of	CURRICULAR		Average ± Standard Deviation				
* Students	AREA	0 - 9	10 - 13	14 - 15	16 - 17	18 - 20	
		Failed	Fair	Good	Very Good	Excellent	
51	Functional and Organic Systems II	1 (2%)	30 (59%)	18 (35%)	2 (4%)	0	14 ± 1
51	Functional and Organic Systems III	1 (2%)	19 (37%)	20 (39%)	11 (22%)	0	14 ± 2
53	Family, Society and Health	2 (4%)	17 (32%)	22 (41%)	12 (23%)	0	14 ± 2
54	Follow-up of a Family I	3 (6%)	0	5 (9%)	28 (52%)	18 (33%)	17 ± 1
53	Option Project II	1 (2%)	0	4 (8%)	25 (47%)	23 (43%)	17 ± 1
51	Vertical Domains	0	11 (21%)	4 (8%)	12 (24%)	24 (47%)	17 ± 3

 Table II.3.
 Grades distribution, according to curricular areas: 2nd curricular year students in 2004-05

* number of students enrolled in the area (includes those who have failed in the previous years); ** first evaluation

In all the areas, approval rates were superior to 94% and average grades were "Good" or "Very good". Student's marks in the areas "Follow-up of a Family I", "Option Project II" and "Vertical Domains II" were high – in fact, they were "Excellent" for, respectively, 33, 43 and 47% of the students. "Family, Society and Health"were the area with less than 5 credit units that collected the lowest classifications (similarly to 2003-04) - **failures in these areas correspond to students that were repeating their first curricular year and decided not to take those courses.** A retrospective analysis for the areas "Organic and Functional Systems" is impossible, since in previous years those two areas were one sole area. The following table presents retrospective data for the remaining areas.

Table II.4. Grades distribution, according to curricular areas, of the 2nd curricular year students: retrospective analysis

	0 – 9	10 - 13	14 - 15	16 – 17	18 - 20	Average
CURRICULAR AREA	Failed	Fair	Good	Very good	Excellent	± Standard
	2002-03	2002-03	2002-03	2002-03	2002-03	Deviation
	2003-04	2003-04	2003-04	2003-04	2003-04	
	2004-05	2004-05	2004-05	2004-05	2004-05	
Functional and Organic Systems II	2	59	35	4	0	14 ± 1
Functional and Organic Systems II	2	37	39	22	0	14 ± 2
Family Pasiaty and	0	42	40	18	0	14 ± 2
Family, Society and	0	37	48	15	0	14 ± 1
riealui	4	32	41	23	0	14 ± 2
	0	0	26	60	14	16 ± 1
Follow-up of a Family I	2	2	15	48	33	17 ± 1
	6	0	9	52	33	17 ± 1
	0	0	22	38	40	17 ± 2
Option Project II	2	2	12	36	48	17 ± 1
	2	0	8	47	43	17 <u>+</u> 1
Vertical Domains II*	0	21	8	24	47	17 ± 3

* first evaluation

General comparisons with previous year disclose relatively small variations in the grades average. Globally, the results suggest an adequate involvement of the students to the curricular areas.

2.2.4. 3rd Curricular Year Grades

Global and retrospective analysis, according to curricular area

Grades of third year students are presented on the table bellow (Table II.5), including mean and standard deviation.

Number of			Average				
Students *	CURRICULAR AREA	0 - 9	10 - 13	14 - 15	16 - 17	18 - 20	± Standard Deviation
		Failed	Fair	Good	Very Good	Excellent	
46	Biopathology and Introduction to Therapeutics	1 (2%)	12 (26%)	17 (37%)	15 (33%)	1 (2%)	15 ± 2
46	Introduction to Community Health	0	10 (22%)	18 (39%)	15 (33%)	3 (6%)	15 ± 1
46	Introduction to Clinical Medicine	1 (2%)	4 (9%)	33 (72%)	8 (17%)	0	15 ± 1
47	Option Project III	0	0	1 (2%)	13 (28%)	33 (70%)	18 ± 1
47	Follow-up of a Family	0	0	2 (4%)	20 (43%)	25 (53%)	17 ± 1
46	Vertical Domains	0	3 (7%)	10 (22%)	13 (28%)	20 (43%)	17 ± 3

Table II.5.Grades distribution, according to curricular areas: 3rd curricular year students in 2004-05

* number of students enrolled in the area (includes those who have failed in the previous years); ** first evaluation

In all the areas, approval rates were equal or higher than 98% and it should be emphasized that the 2% correspond to the same student that missed classes almost all year long due to health problems. Averages fell into the "Very Good" or "Excellent" categories. In the areas with less than 5 credit units, student's marks were higher and included expressive percentages of "Excellent" (43, 53 and 70%). "Biopathology and Introduction to Therapeutics" and "Introduction to Clinical Medicine" had the lowest grades with the former spreading more through the whole scale. Table II.6 presents retrospective data.

Table II.6. Grades distribution, according to curricular areas, of the 3rd curricular year students: retrospective analysis

	0 – 9	10 - 13	14 - 15	16 – 17	18 - 20	Average
CURRICULAR AREA	Failed	Fair	Good	Very good	Excellent	± Standard Deviation
	2003-04	2003-04	2003-04	2003-04	2003-04	
	2004-05	2004-05	2004-05	2004-05	2004-05	
Biopathology and Introduction to	0	34	38	24	4	14 ± 2
Therapeutics	2	26	37	33	2	15 ± 2
Introduction to Community	0	28	44	24	4	15 ± 2
Health	0	22	39	33	6	15 ± 1
	0	4	58	38	0	15 ± 1
Introduction to Clinical Medicine	2	9	72	17	0	15 ± 1
	0	0	0	8	92	19 ± 1
	0	0	2	28	70	18 ± 1
Fallanum af a Familia II	0	10	20	43	27	16 ± 2
רטוטש-עם סדמ רמדוווע וו	0	0	4	43	53	17 ± 1
Vertical Domains III**	0	7	22	28	43	17 ± 3

* first evaluation

Retrospective data demonstrate a general increase in the grades, in particular in "Biopathology and Introduction to Therapeutics", in "Introduction to Community Health" and in "Follow-up of a Family II". Globally, the results suggest that the adjustments that have been made on the areas' previous experience resulted in a favourable impact on the adaptation of the students to the courses.

2.2.5. 4th Curricular Year Students' Grades

Global analysis, according to curricular area

Grades of 4th year students are presented on the following table (Table II.7), including mean and standard deviation. As mentioned already in this report, the Hospital and the Health Centre Residencies are analysed in detail (see Reports in Appendixes I). The inclusion of such grades in Table III.7 intends to facilitate the development of a global perspective on this curricular year.

Number of			Average				
Students *	CURRICULAR AREA	0 - 9	10 - 13	14 - 15	16 - 17	18 - 20	± Standard Deviation
		Failed	Fair	Good	Very Good	Excellent	
50	Medicine Residency I	0	6 (12%)	35 (70%)	8 (16%)	1 (2%)	15 ± 1
50	Maternal and Child Health Residency	0	0	19 (38%)	30 (60%)	1 (2%)	16 ± 1
50	Mental Health Residency	0	0	3 (6%)	29 (58%)	18 (36%)	17 ± 1
50	Health Centre Residence I	0	0	0	8 (16%)	42 (84%)	18 ± 1
50	From Clinic to Molecular Biology I	0	0	6 (12%)	28 (56%)	16 (32%)	17 ± 1
50	Option Project IV	0	0	2 (4%)	12 (24%)	36 (72%)	18 ± 1
50	Vertical Domains IV	0	4 (8%)	0	5 (10%)	41 (82%)	18 ± 2

 Table II.7.
 Grades distribution, according to curricular areas: 4th curricular year students in 2004-05

 \star number of students enrolled in the area (includes those who have failed in the previous years)

The grades testify an adequate start of all the areas of the 4th curricular year. All the areas registered approval rates of 100% with average grades falling into the categories "Good", "Very Good" or "Excellent" (for "Residencies in Health Centres", "Option Projects IV" and "Vertical Domains IV").

As far as what concerns grade distribution within the areas, high percentages of "Excellent" marks were achieved in "Residencies in Health Centres", "Option Projects IV" and "Vertical Domains IV" (84, 72 and 82%, respectively). All of the remaining areas saw the highest percentages of students attaining "Very good" levels, except for "Medicine Residency I", in which the majority were "Good". Marks in "Residencies in Health Centres I" were particularly high and very homogeneous (84% of them fell into the mark interval 18-20). Globally, the high level of student's marks evidences a particularly high level of academic success of all areas of the 4th curricular year.

2.2.6. Evaluation of Attitudes and Students Grades

Attitude evaluation – weighing 10% of the final grade – is performed systematically, with an evaluation template developed for that purpose. It contemplates the following aspects: 1) assiduity; 2) behaviour; 3) participation. This last parameter divides into "scientific initiative and curiosity" and "communicating ability and group work".

Figure II.1. Attitudes: grade distribution according to curricular year



Classifications of the three curricular years have different patterns of distribution, with converging averages- between 14 and 16, similarly to the previous year.

2.3. Student Ratings: Results from Opinion Polls

2.3.1. Ratings on Faculty

This chapter consists on translations of extracts of the report "Apreciação da actividade docente" produced by the Medical Education Unit and available at the Units' Annual Report 2005.

For 1^{a} , 2^{a} and 3^{a} curricular areas with 5 or more credit units (except "Introduction to Clinical Medicine"), the following questionnaire were used to gather student's perceptions on faculty (answering options were: Always, Frequently, Occasionally, Rarely and Never):

Questions included in the inquiry on Faculty

- **a** Provides adequate assistance in the development of the distinct stages of the learning methodology
- **b** Provides guidance in the identification and analysis of key points of the learning objectives
- c Dominates the concepts and phenomena implied in the distinct objectives
- **d** Shows interest in the evolution of my learning process
- e Poses key-questions that allow me to reflect on the coherence of acquired knowledge
- f Motivates me to reach the considered objectives
- g Helps me to clarify, to synthesize and to integrate the concepts that present great complexity
- h Is an excellent professor

The data correspond to approximately 4200 forms, each with a combination of 40 possible answers. Criteria were devised in order to allow objective comparisons of the results. When computed, the former resulted in the global appreciations presented below. The positive trends - addition of the percentages corresponding to the options "always" and "frequently" - registered for the answers to question **h**), were used as indicators to classify qualitatively the faculty bodies associated to the curricular areas, according to the following criteria.

Criteria for a qualitative evaluation of Faculty

90-100%	75-89%	50 – 74%	25 – 49	0 – 25%
Excellent	Very Good	Good	Weak	Very Weak

The following tables and graphs refer to faculty bodies associated to each curricular area, and thus, are not to be used for faculty assessments on an individual basis.

Molecules and Cells

Students rate Faculty as "very good" or "good" (Figure II.2.) in seven of the items. The exception was the excellent ratings gathered for "Dominates concepts and phenomena implied in the distinct objectives". The option "always" was selected for all the answers by a minimum of 25% of the students – 57% for item c). The positive trends were comprehended between 66% - "is interested in my learning process" - and 92 % - "dominates concepts and phenomena implied in the distinct objectives". A retrospective analysis reveals slight falls from 2003-04 – equal or higher than 10% in 50% of the items. Nevertheless, the values are higher than the ones of 2001-02. The least favorable impressions – option "never", "rarely" and "sometimes" of 3, 7 and 24% - correspond to interest demonstrated for the students learning process.



Molecules and Cells: global faculty evaluation



Organic and Functional Systems I

Students rate Faculty as "good" (Figure II.3.) in six items. There were "very good" ratings for "Dominates concepts and phenomena implied in the distinct objectives". The option "always" was selected for all the answers by 14 to 44% of the class. The options chosen the most were "frequently" or "sometimes" for all items, suggesting that the teaching performance of this faculty body was somewhat irregular. A retrospective analysis reveals a general descent in the ratings, except for item c) – descents of 20 to 32% were observed in the remaining seven items. Nevertheless, even in the least rated item, values on the

negative side of the answer scale amount only to 23%. Therefore, despite of the general descent, quality was recognized in the performance of this body of faculty.

Figure II.3. Organic and Functional Systems I: global faculty evaluation



Organic and Functional Systems II

Student's appreciation of this Faculty body's work was seen as "Very good" or "Excellent", with no exceptions. The pointers collected support its high quality, as conveyed by the percentages of choices of the option "always", between 33 and 59% for all items – the latter corresponding to "Dominates concepts and phenomena implied in the distinct objectives". Positive trends are accordingly high, being comprehended between 75% - "is interested in my learning process"- and 93% "dominates concepts and phenomena implied in the distinct objectives". A retrospective analysis for the areas "Organic and Functional Systems II and III" is impossible, since in previous years those two areas were one sole area.

Figure II.4.Organic and Functional Systems II: global faculty evaluation



Organic and Functional Systems III

Student's appreciation of this Faculty body's work was seen as "Very good" with one exception: "is interested in my learning process" rated as "Good". The option "always" was marked in every item, by 25 to 42% of the class. Positive trends are accordingly high, being comprehended between 72% - "is interested in my learning process"- and 88% "dominates concepts and phenomena implied in the distinct objectives" (lower than 90%, for the first time). A retrospective analysis for the areas "Organic and Functional Systems II and III" is impossible, since in previous years those two areas were one sole area.

Figure II.5. Organic and Functional Systems III: global faculty evaluation



Biopathology and Introduction to Therapeutics

This year witnessed the second experience of the area, the first opportunity to learn from a previous year. Globally, Faculty was rated very favorably – "Very good" or "Good" for seven items and "Excellent" concerning "dominates concepts and phenomena implied in the distinct objectives". The option "always" was selected for all the answers by a minimum of 24% of the students – 55% for item c). The positive answers are between 58% - "is interested in my learning process" - and 93% - "dominates concepts and phenomena implied in the distinct objectives". A retrospective analysis reveals an increase from 2003-04 – from 9 to 13% in four items. The highest increase corresponds to an item of particular importance – "Provides adequate assistance in the development of the distinct stages of the learning methodology".

Figure II.6. Biopathology and Introduction to Therapeutics: global faculty evaluation

100% - 90% - 80% - 60% - 50% - 40% - 30% - 20% - 10% -	29 50 16 4	33 46 16 4	55 38	24 34 23 10	29 43 23 5	27 41 22 8	32 41 21 5	32 47 16 5	□ always □ frequently □ sometimes □ rarely ■ never
0,4 -	а	b	c	d	e	f	9	h	
lways	29	33	55	24	29	27	32	32	
requently	50	46	38	34	43	41	41	47	
ometimes	16	16	6	23	23	22	21	16	
arely	4	4	1	10	5	8	5	5	
never	1	1	0	9	0	2	1	0	

Introduction to Community Health

This was the second experience of the area and evident improvements were made. Faculty was evaluated by the students as "Excellent" or "Very good" in all but one item. The option "always" was selected for all the answers by a minimum of 24% of the students – 63% for item c). The positive answers are comprehended between 73% - "is interested in my learning process" - and 96% - "dominates concepts and phenomena implied in the distinct objectives". A retrospective analysis reveals significant increases from 2003-04, highest for item b) - Provides guidance in the identification and analysis of key points of the learning objectives. Figure II.7. Introduction to Community Health: global faculty evaluation



Introduction to Clinical Medicine

This was the second experience of the area. In the present experience, the percentages of items that gathered evaluations of "Excellent", "Very good", "Good" and "Weak" were respectively 36, 23, 32 and 9%. Retrospectively, five out of the six weak items from the previous year were now good or very good. There was a single item that gathered poorer ratings this year, namely the one related to reading assignments.

Similarly to 2004-2004, students rated their Hospital tutors Figure II.8 and the seminars with a 4 point likert scale. Positive answers – sum of the percentages of the two positive positions of the scale - are included in Figure II.8. The vast majority of tutors (98%) were rated as "Excellent". The class unanimously recognized their knowledge and 98% considered that tutors promoted pertinent discussions and demonstrated concern for the learning process of the tutees. The speakers were rated very positively. The highest ratings referred to the connections that were made between the concepts and the medical practice.

Synthesis

Globally, the data testify for a general improvement since the previous year. The quality of the area and the associated tutors and speakers was appreciated very favorably.

Figure II.8 Introduction to Clinical Medicine: Tutors' global evaluation

ITEM		%
1	Tutors explications were organized and clear	96
2	The tutor was available to answer questions and to clarify doubts	96
3	I was stimulated to share my ideas, knowledge and doubts	98
4	The tutor was effective in helping me to identify clinical procedures	96
5	I was given enough opportunities to observe procedures	80
6	I was given enough opportunities to practise procedures/competencies	68
7	The tutor dominated the concepts, phenomena and clinical practices	100
8	I received adequate feedback for my performance that allowed me to evolve	96
9	I had enough opportunities to show what I have learned	80
10	What I've learned in this service was useful	71
11	He's/She's an excellent tutor	98

2.3.2. Perceptions of the Students about the functioning of Curricular Areas

Student's ratings on the curricular areas were gathered and analysed by the Medical Education Unit. Ratings on areas with five or more credit units were obtained with the template used in the previous years, with the exception of "Introduction to Clinical

Medicine". As to what concerns other areas, the associated faculties were involved in the design of questionnaires - in "Family, Society and Health" and "Vertical Domains" faculties designed the whole templates. The questionnaires are collected in the report of the Medical Education Unit. The analysis of every area was included in a standardized document, handed to the respective coordinator. The present sub-chapter summarizes those documents, enclosed in the Medical Education Unit's report.

A) 1st CURRICULAR YEAR

Introduction to the Medical Degree

This area has been rearranged in the present year, with more emphasis on the integration of the areas major issues and with the use of the method of "teaching-learning by modules of objectives" throughout the whole area. The evaluation refers to a 4 point likert scale questionnaire made of 59 items which went into considerable detail. The percentage of items assessed positively by 90% or more students was 26%. Some of the items were clearly positive – positive trends equal or higher than 90% such as understanding the study plan, development of information mining skills, or skills implied in laboratory, computer or team work. Students rated very favourably the availability of the coordinator and the preparation of all faculty. The assessment process was also rated positively.

Molecules and Cells

An analysis of student answers discloses a very good functioning of the area ("Excellent" in 12% of the items). The area's global aspects deserved the highest ratings along with faculty availability in Phase 4. Data suggest that most of the students felt involved in the learning experiences - 90% of the students declared to have learned substantially and that the concepts were approached in ways that favoured their integration with other areas. However, 39% of the students felt that there were topics of little interest in the curriculum. The least rated aspects were the clarifying effect of Phase 1 and the time available for self-learning in Phase 2.

Organic and Functional Systems I

An analysis of student answers discloses a good functioning of the area - 93% of the students declared to have learned substantially. The level of ratings was heterogeneous: items that concern Phase 3 and global aspects were rated higher than the ones of Phases 2 and 4. Global aspects were rated the highest – five out of six items were rated "Very good" or "Excellent" – and the examination length. Positive answers for items that concern Phase 3 reached percentages between 72 and 81%. Phase 1 received the less favourable set of pointers – 25% or more students chose the options "rarely" or "sometimes". For Phase 5, 20% of the students mentioned the high level of difficulty posed by the questions and that there were questions that showed no relation to the learning objectives. Students' perceptions towards evaluation may be related to difficulties in Phase 1.

Training in a Health Centre

This year, ratings were gathered for this area for the first time and a particularly detailed questionnaire was prepared. Students rated the area very positively – 54% of the items were rated as "Excellent". The pointers gathered for different aspects of the area vary. For all the components that were inquired in the questionnaire – tutors, activities at the Health Centres, teamwork, written paper and global indicators – tutors and global indicators were rated "Excellent". The written paper deserved "Good" ratings and was the one rated less positively.

Option Project I

Appreciations for this area were mostly excellent. Emphasis must be put in the fact that students recognize that three of the main curricular outcomes of the area have been met: contribution for professional identity, contribution to increase student's responsibility over his own curricular evolution and diversification of learning environments. Students developed projects in six different types of institutions. An intention of changing the learning environment is expressed by 82% of the class. Significantly, 84% of the students declared to have felt a rise in their interest for the area of the project, when 83% has declared it to be very high at the beginning.

B) 2rd CURRICULAR YEAR

Family, Society and Health

The evaluation refers to a questionnaire prepared by the area Coordinator in which twelve aspects were answered in a six point likert scale. The area was rated "good" or "satisfactory" by most students. The ratings are better than in the previous year. Similar appreciations were colleted for the distinct topics – "Family and Society", Family and Health", "The family Doctor" and "Life in family".

Organic and Functional Systems II

An analysis of student answers discloses a "Very good" functioning of the area. The highest ratings referred to Phase 2- the resources available, the laboratory classes - the general discussions of Phase 3, the interest of the syllabus and how it related to other areas. However, Phases 1 and 4 were rated at a clearly lower level, particularly Phase 1. Also students consider that the examination's difficulty level is worth reconsidering.

Organic and Functional Systems III

An analysis of student answers discloses a "Very good" functioning of the area. The highest ratings fall into global aspects - the interest of the syllabus and how it related to other areas and to Phase 2 – the time and the resources available, the laboratory classes - the general discussions of Phase 3 and the links that were made to practice. However, Phases 1 and 4 were rated at a clearly lower level.

Option Project II

Most Appreciations for this area were excellent, with 100% of the pupils declaring to have learned substantially. Comments to "Option Projects I" also apply here. The percentage of students that intend to choose another setting for their next project amounts to 69% (67% chose a different context than in 2003-04). Significantly, 68% of the students declared to have felt a rise in their interest for the area of the project, when 80% has declared it to be very high at the beginning.

C) 3rd CURRICULAR YEAR

Biopathology and Introduction to Therapeutics

This area was contemplated with excellent ratings. Twenty out of the twenty six items of the questionnaire were rated as "Very good" or "Excellent" (14 items). The excellent items include very important ones such as the definition of the learning objectives

in Phase 1, the resources available in phase 2 and the examination questions and their relation to the learning objectives. Comparison with the previous year reveals increases in the ratings of eleven items by percentages equal or higher than 10%.

Introduction to Community Health

The positive evolution in the ratings for this area is significant. Fifteen out of the twenty six items of the questionnaire were rated as "Very good" or "Excellent". Fifteen items saw their respective ratings increase by percentages equal or higher than 10%, including the definition of the learning objectives in Phase 1, the resources available in phase 2 (rated as "Excellent"). 91 % of the class declares to have learned substantially in the area.

Introduction to Clinical Medicine

Ratings disclose a very good functioning of the area. The area's ratings evolved very positively from the previous experience - seven of the twenty two items saw their respective ratings increase by percentages equal or higher than 10%. The percentages of indicators rated "Excellent" or "Very good" were, respectively, 36% and 23%. Five of the six items rated "weak" in 2003-04 were now rated as "good" or "very good". The only aspect with inferior ratings was the time demanded for readings. Emphasis must be put in the fact that students recognize the importance of the area for its personal and professional development. The area has been effective in terms of the construction of their professional identity, including the identification of inherent difficulties. Over 90% of the students expressed their approval of the method and found that they were clearly introduced to them. Nevertheless, the examinations were considered inadequate by 52% of the students (the docimology revealed 49% as non-discriminative). Finally, it's worth mentioning that 95% of the class felt prepared to approach the area. This is striking, because it is the fist curricular area eminently clinical.

In what the seminars is concerned, 60% were rated "Excellent" and the others were rated as "Very good". 94% of the class felt they had understood the content of the seminars. The weakest point - 74% of positive trends - was the promotion of student participation in case discussions.

Globally, the ratings suggest that the present experience has been successful in capturing student learning and commitment. A clearly favourable evolution can be traced since last year.

Option Project III

Most Appreciations for this area were excellent, with 95% of the pupils declaring to have learned substantially. Comments to "Option Projects I" also apply here. The percentage of students that intend to choose another setting for their next project amounts to 69% (45% chose a different context than in 2003-04). Significantly, 72% of the students declared to have felt a rise in their interest for the area of the project, when 79% has declared it to be very high at the beginning.

D) 4th CURRICULAR YEAR

From Clinical to Molecular Biology I

This was the first curricular experience of the area. The questionnaire probed two aspects – quality of the seminars and general organization and functioning – with a 4 point likert scale. Seminars were rated very positively. The topics were considered state of

the art and the presentations themselves were very appreciated. Lower ratings were given to the rhythm of the sessions and the clarity of the speakers. Organization items collected lower ratings. 37% of the students recognized that the area linked the molecular aspects to the clinical practice and that the assessment process was adequate. Globally, ratings suggest that the organization of the areas needs improvements but the seminars are at a good level.

Option Project IV

Most appreciations for this area were excellent, with 98% of the pupils declaring to have learned substantially. Comments to "Option Projects I" also apply here. The percentage of students that intend to choose another setting for their next project amounts to 73% (58% chose a different context than in 2003-04). Significantly, 74% of the students declared to have felt a rise in their interest for the area of the project, when 79% has declared it to be very high at the beginning.

Health Centre Residencies and Hospital Residencies

In the case of Residencies beginning for the first time during the 2004-05 curricular year – Medicine I Residency, Maternal and Child Health Residency, Mental Health Residency and Health Centre I Residency, the detailed description of their activities, including assessment, is located in Appendix I.

E) 1st, 2nd, 3rd and 4th CURRICULAR YEARS

Follow up of a family I and II

This year, ratings were gathered for these areas for the first time and a particularly detailed questionnaire was prepared. Students felt that the experience of the areas were generally positive. The distinct topics – visits, communication workshops, tutorials, global - collected similar appreciations. When the distinct years are analysed separately, 2nd year students appreciated the visits and tutorials whereas deficits are recognized to the "communication workshops. The third year gave positive appreciations to all the four aspects, including the communication workshops, albeit tutor ratings were not as positive.

Vertical Domains / "To Feel the Pulse to Life"

The ratings on this area were gathered with the following questionnaire:

Items on the questionnaire for Vertical Domains/To feel the pulse of life

- 1. I felt motivated to learn new topics
- 2. I felt motivated to deepen my know-how
- 3. I developed my reflective aptitude
- 4. I developed my emotional/affective aptitudes
- 5. I developed my aesthetic aptitude
- 6. I learned that the medical practice implies the whole spectrum of human dimensions
- 7. Globally, I have grown as a person
- 8. Globally, I find this area important

An analysis of student answers discloses a good functioning of the area. A computation of the answers of all the years reveals that 62% of the students feel a sense of personal development and that 58% considers the area important. The lowest and

highest ratings were delivered by the classes of the fourth and second year (37 and 75%, respectively). When the items are analysed individually, the poorest ratings relate to the aesthetic development and the most valued item was the conclusion that "the medical practice implies the whole spectrum of human dimensions". The subjects of the sessions were also discriminated: "a personal confession" and philosophy" were rated, respectively, at the top and end of all.

2.4. INTERNAL EVALUATION AND ALTERATION PROPOSALS FOR 2005-06

1st, 2nd, 3rd and 4th Curricular Years

So far this report presented the results of the evaluation by the UEM, of the functioning of the course in 2004-05. In this process, the evaluated elements have been the Students, the Professors and the Program, having as background the results of ratings by the students, adapted to the pedagogical model, in the end of each curricular area. Supported by the results of these inquiries, the Coordinators of the different curricular areas promoted internal evaluations. The results were presented in the "Days of Reflection of the ECS Scientific Council", in which global analysis on the different curricular areas led to the establishment of standards of functioning and improvement of the curricular program.

Bellow the results of this internal evaluation, is summarized with reference to proposals of alterations for the school year 2005-06.

INTRODUCTION TO THE MEDICAL DEGREE COURSE

The results from students inquires suggest that the area was successful in meeting most of its initial objectives. Students rated very well their learning about the degree's structure, and about how to use lab tools and their development both in informatics and interpersonal skills. All the disciplinary components deserved very good global ratings. The teaching staff was rated very positively. In particular, ratings revealed that the students found the teaching staff highly prepared in the laboratory and statistics and appraised the high availability of the area's coordinator for email contact.

On the basis of the results of these inquires and of the internal evaluation of the pedagogical process, the following aspects were identified:

Positive aspects:

- the integration of the different components;
- the structure of the area in micro-modules;
- the assessment process;
- the process of gathering feed-back;
- the general approach to the contents: informatics and laboratory practice.

Less positive aspects:

- different strategies to promote the comprehension of the learning objectives by the students;
- more time investment in team work skill development;
- the organization of statistics and the respect for the schedule.

The changes that relate to statistics are dependent on the availability of faculty. As for 2005-06, the School will benefit from the collaboration of Pedro Oliveira (Assoc. Prof./EE-UM).

Alteration proposals for 2005-06:

- more contact between faculty in the preparation of the area;
- the use of real medical situations to anchor students interest and motivation for issues that are not of medical nature;
- to invest on the training of students to use the internet more critically;
- improve the organization in phase 2.

MOLECULES AND CELLS

The objectives proposed for this curricular area were fully accomplished. Based on internal evaluation of the pedagogic process some positive and negative aspects were identified as listed below.

More positive aspects:

- reformulation of module 3 structure with the introduction of "Molecular basis of development biology";
- increases in the difficulty and discrimination indexes of module exam;
- introduction in the final examination of the area of a multi-factorial student assessment, with a particular emphasis on the technical skills (how to do) and to an integrated open-questioning.

Less positive aspects:

- as Molecules and Cells are the first curricular area where the students have to apply the new learning-methodology, in this year additional difficulties in the adaptation were noted.

Alteration proposals for 2005-06

Based on the students and internal assessment of the area it is proposed to change the designation of module 3 to "PROLIFERATION, DIFFERENTATION AND CELL DEATH"

FUNCTIONAL AND ORGANIC SYSTEMS I, II AND III

The internal evaluation of the pedagogical process identified aspects more and less positive, as described bellow:

More positive aspects:

- teachers profile;
- integration with clinical aspects;
- flexible pedagogic methodology;
- ability to introduce changes whenever needed;
- improvement in the time allocated to each module;
- detailed planning of the activities:

- bibliography selection;
- improvement in the ration student/teacher in the laboratory classes;
- improvement in the process of assessment;
- relationship established between student/teaching staff.

Other positive aspects:

- working environment within the teaching staff.

Evolution of the aspects considered negative in 2003-04:

- insufficient time allocated for reflection/debate: improved but it stills deservers consideration in the future;
- methodological discrepancies between sub-areas: clearly improved;
- predominance of teaching objectives over learning objectives: corrected;
- insufficient evaluation of student's "skills": improved;
- insufficient level of integration: improved.

Negative aspects raised in the year 2004-05:

Despite the alterations introduced in the year 2004/2005 as a consequence of the students criticisms/suggestions and the teaching staff self-evaluation, the levels of satisfaction of the students were similar to the other years. However, some particular aspects were less well classified by the students, particularly regarding "Phase 1" and "Phase 4". Even though it will be important to understand how this group of students will face the other curricular areas, understand which factors might have influenced the perception students had about SOF I should be immediately sought;

-the increased number of students per room conditioned, in a way, interaction with the teaching staff, particularly in the more practical sessions.

-the flexible schedule provided for "Phase 4"- the teaching staff is generally available for "Phase 4" throughout the all day. It happened often that many students showed up at the same time (generally at the end of the day). This deteriorated the interaction student/teacher. We intend to be more rigorous in the time allocated to discuss with the students on "Phase 4". In addition, since we have been considering "Phase 4" as a specific time for reflexion and discussion, no specific activities are generally planned in advance for these "Phase 4". Therefore, the question students are asked in the inquiries, regarding "phase 4", needs to be changed to be in accordance with what is the practice.

-the teaching staff is less available. This can be a consequence of the natural establishment of the degree, as the years pass. However, it may also result from discrepancies in the teaching staff, particularly given the difficulties MD teachers have in coping medical duties with the school's model of teaching. It is also important to take into consideration that some teachers present signs of decreased enthusiasm; and this should very clearly be looked after in the next year. *-lack of unity within the students.* It is the general opinion of the teaching staff that this group of students has specificities that clearly differ from the previous groups. Specifically, we observed less interaction among the students. This might result form the fact that most students originate from Braga and surroundings, and therefore they not only spend less time in the school but probably favour interaction with other friends and colleagues. We will try to promote a better integration among the students in the year 2005-06.

Alteration proposals for 2005-06:

- maintenance of periodic meetings with all teaching staff. Increase the active involvement of the more junior staff;
- promote increased integration with the curricular areas that precede and succeed SOF;
- reorganize the teaching teams responsible for particular subjects taking into consideration their particular backgrounds;
- precisely define the timing and activities allocated for Phase 4;
- include introduction in the evaluation more questions relating to the higher complexity learning aims.

The results of the evaluation of SOF II and III revealed very positive, therefore the organization of these areas should be maintained.

TRAINING IN A HEALTH CENTRE

In the teaching year 2004-05, new health centres - Barcelos, Póvoa de Lanhoso, Terras de Bouro, Vieira do Minho, Vila Nova de Famalicão e Vila Verde – replaced others that had participated in the previous years.

This new cooperation brings additional advantages to the School: the possibility for the students to experience health care in a rural environment; to set up opportunities for these health centres to cooperate with "Residencies in Health Centres" in a near future; to facilitate the promotion of the School and its teaching methods to the health centres. One should emphasize the supportive attitude from the health centres professionals, mainly the Directors, Medical Coordinators and Tutors.

There weren't significative changes regarding the organizational and pedagogic model, except for a few organizational and logistic adjustments; handbooks for both students and tutors were implemented, the assessment form was restructured and the topics of the individual essay were replaced.

In the report made by the UEM (Medical Education Unit) on the "Assessment of the curricular area", regarding the students' evaluation, among the items on the questionnaire – tutors, the activities in the health centres, group work, essays and general indicators – the enquiry identifies as "excellent" the tutors' performance and, the area in general. The most important characteristic to consider for 2005-06 is the way the written essays are organised and assessed".

From the intensive evaluation process more and less positive aspects were identified, as follows:

Most positive aspects:

- the participation of six new health centres and the interest of their professionals;
- significative improvement of the relationship with the health centres;
- the creation of a pool of tutors;
- the excellent participation of the students;
- the introduction of a "Handbook" and other pedagogic aspects.

Less positive aspects

- some inexperience of the health centres;
- the relationship with the health centres is still insufficient;
- the number of tutors was less than initially expected;
- students' assessment model still ineffective.

Alteration proposals for 2005-06

- to correct the least rated organisational and pedagogic aspects;
- to promote a permanent relationship with the health centres;
- to attract physicians to become tutors;

FIRST AID

The results of the experience of the previous year were considered by professors and students as very positive and thus will be maintained in the following years.

OPTION PROJECT I, II, III AND IV

The results of the experience of 1ª, 2ª, 3ª and 4th years continued to exceed the expectations and should be noted that:

- the "Internal Congress" of each Option Project that, for beyond the scientific and pedagogical relevance, reinforced the already good relation existing between the students, as well as between students and professors;
- the "Challenge to the Students' Mobility"; the chance of accomplishment of studies in a so varied number of distinct Institutions (see pages 33-37) functioned as an excellent stimulus to the mobility of the students, intra-UM and Inter-Institutions, national and international.

These results are strong stimuli to the continuation of this area with the format implemented since the beginning. Consequently, the purpose and format of organization of this area will be unchanged in the next year.

FAMILY, SOCIETY AND HEALTH

General assessment:

- most students considered the area "good" or "satisfactory", indicating a good opinion on the area;
- there were minor changes in the contents from the previous year;
- ratings for the four themes were homogeneous. The most appreciated subject and feature were "Life within the Family" and "Family and Society". The less appreciated subject was the "motivation to students' participation" in the subjects "Family and Society" and "The Family Physician";
- the subject "Family and Society" was the one that displayed a higher increase in most questions;
- in general there was an improvement in comparison with the previous year;
- the proposed changes were implemented.

More positive aspects:

- a better score in the students' assessment of the area, when compared to the previous year;
- the final average was satisfactory: 14 points and no failures;
- maintenance of the good cooperation Community Health / Psychology / Sociology.

Less positive aspects:

- the contents were very theoretical and there wasn't enough interactivity in the teaching methodologies;
- the Community Health (Family Medicine and Public Health) still has a less significative participation in the contents of the curriculum.

Alteration proposals for 2005-06:

- a more significative inclusion of subjects of medical kind in the cognitive contents of the area;
- to change the handbooks according to the new contents;
- to promote changes in the assessment system;
- to bring the coordination of the area to Community Health and sharing the scientific coordination between Community Health and Psychology.

FOLLOW-UP OF A FAMILY I AND II

The results of the internal evaluation showed that the purpose and general objectives enunciated for BPT have been fulfilled. In addition, the evaluation of the pedagogical process has led to the identification of the most and least positive aspects.

More positive aspects:

- third year workshops and its relationship with the visits;
- continuity of the cooperation of the tutors from the health centres;
- the pedagogic training provided to the tutors.

Less positive aspects:

- modest inclusion of medical subjects in the cognitive content (workshops) of the area;
- insufficient connection between the communication workshops (2nd year) with the visits to the families;
- insufficient participation of the tutors in the preparation of the visits and in the feedback on students performance;
- some cooperation problems were due to tutors workload in clinical tasks and other tutorials.

Alteration proposals for 2005-06:

- a significative inclusion of subjects of medical kind in the cognitive contents of the area;
- to promote less theory in the contents and more interactivity in teaching methodologies;
- to promote a better coordination between the workshops' contents and the visits in the 2nd year;

- better integration of the tutors in the School, providing an appropriate training and feedback on the evolution of the area.

BIOPATHOLOGY AND INTRODUCTION TO THERAPEUTICS

The results of the internal evaluation showed that the purpose and general objectives enunciated for BPT have been fulfilled. In addition, the evaluation of the pedagogical process has led to the identification of the most and least positive aspects.

More positive aspects:

- students learned largely in the curricular area;
- Phase 1, launched with problem/clinical cases and structured in conceptual maps, allowing a good definition of the learning objectives;
- adequacy of the bibliographic resources, intranet and web, offered to the students for the development of Phase 2;
- adequacy of the laboratory classes to the selected themes;
- Phase 3 in its various aspects, namely the group discussion of concepts, the problem centred approach, the integration of concepts in conceptual maps and the reflection concerning the clinical applicability of the acquired knowledge and skills;
- assessment with integration of scientific disciplines;
- relevance of the defined objectives;
- relevance of the selected themes and contents for the future clerkships as well as their correlation with previous concepts;

Less positive aspects:

- the involvement of some teachers in the curricular area;
- insufficient time for self-learning in some modules;
- planning of complementary activities for Phase 4;
- skills assessment.

Alteration proposals for 2005-06:

As there was a very positive feedback from the changes introduced in the year 2004-05 in the curricular area, the number, sequence and duration of the modules, as well as the basic format of the Phases and assessment will be maintained for the following year. Nevertheless, there are some minor alterations proposed for the year 2005-06:

- to continue increasing the time for self-learning, transferring some contents between modules, in order to level the work-load in the different modules;
- to make an effort to promote the interaction between teachers and students, especially with the teachers with a lower working-load;
- to increase the complementary activities for Phase 4;
- to improve the interactions with the other curricular areas, namely the ones that follow BPT, having in mind the improvement of the student skills.

INTRODUCTION TO COMMUNITY HEALTH

The proposals of 2004-05 for change have been carried out.

More positive aspects

- consistent structure in what concerns the selection, organisation and reduction of the objectives;
- appropriate complementarities between the objectives and the seminars' themes;
- high scientific standard of the seminars' lecturers;
- adequate selection of reading references;
- an increase in the number of practical sessions;
- the success of the "Poster" as an item of the training process;
- a Final Assessment Test more adjusted to the curricular contents;
- good personal interaction between teachers and students.

Less positive aspects:

- interference of the "Easter Holidays" with the sequence of the curricular area;
- insufficient number of and teachers, mainly in what concerns the practical sessions.

Alteration proposals for 2005-2006:

- to allocate more time and to improve the strategy for the planning and development of the tasks for the Phases 1, and to try a greater involvement of students for the phase 4;
- to continue to improve the relationship and the partnership with related areas, either with those from preceding years, or with the subsequent ones; that work has been started and is progressing well;
- to increase the number of practical sessions with problem solving activities;
- to increase the number of teachers, mainly to support the practical sessions.

INTRODUCTION TO CLINICAL MEDICINE

Ratings disclose a very good functioning of the area revealing a very positive evolution from the previous experience. The only aspect with inferior ratings was the time demanded for readings. Emphasis must be put in the fact that students recognize the importance of the area for its personal and professional development. The area has been effective in terms of the construction of their professional identity.

Finally, it's worth mentioning that 95% of the class felt prepared to approach the area. This is striking, because it is the fist curricular area eminently clinical.

In what the seminars is concerned, 60% were rated "Excellent" and the others were rated as "Very good". 94% of the class felt they had understood the content of the seminars.

Globally, the ratings suggest that the present experience has been successful in capturing student learning and commitment. A clearly favourable evolution can be traced since last year.

HOSPITAL AND HEALTH CENTRES RESIDENCIES

The implementation strategy of the Clinical Residencies obeyed to that referred in 1.3. In this particular case of Clinical Residencies that started running for the first time in the academic year 2004-05 – Medicine I Residency, Maternal and Child Health Residency, Mental Health Residency and Health Centres I Residency – specific reports were compiled with a detailed description of the structure, development and functioning of each one of the Residencies, as well as of the students' assessment in each of them (Appendix I).

VERTICAL DOMAINS / TO FEEL THE PULSE TO LIFE

Based on the experience of previous years some alterations were introduced in 2004-05, in order to:

- avoid more than one session/morning to the same curricular year;
- to improve the sessions shared with teachers and students of the Nursing degree course;
- to improve the articulation with the contents and timings of other curricular areas.

In future editions, the Vertical Domains will:

- proportionate more playful sessions. We will also do our best to move the invited teachers to more dynamic session planning;
- listen more often the students' delegates about the students' participation in the sessions, namely "Blanket of rags" and "The Month Case":

- propose more outdoor activities, according to the School financial possibilities, since the Calvário visits had been considered very successfully.

During this year students diverged in what concerns assessment criteria. While some considered as expendable sessions that were not "directly associated to the Medical Course", others considered the opposite, suggesting that Vertical Domains were moving away from the prime objectives whenever scientific sessions occurred.

In summary, most sessions were positively evaluated by most students, since over 70% of them were classified as "Good" and "Very Good" by the Medical students and, in each curricular year, these items constituted more than 50% of the total evaluations,

Alteration Proposals for 2005-06

Next year, we intend to keep most of the themes and the invited teachers of this year. Some changes will be introduced, as well as the adjustments previously mentioned. We will introduce some new themes, namely the Anthropology domain (5th year). The contact with scientific holistic theories and models will be also increased, specifically the *autopoiesis theory* (4th year).

CHAPTER III PEDAGOGICAL PLANNING AND PROGRAMMING FOR 2005-06

3.1. Structure and Global Functioning

3.1.1. Study Plan

The alterations to be introduced in the 2005-06 study plan come essentially in response to results of the internal evaluation presented in Chapter II and to request for all degree courses of the University of Minho to consider the conversion of the old into the new credits system and the specification of the number of hours that will serve as reference. The "Reference Principles for the Conversion to ECTS Credits" are presented below.

...

A) Reference Principles for the Conversion to ECTS Credits

1. The curricular structure and the study plan of the Medical degree course were developed according to the spirit of the Bologna process, based on learning objectives explicitly stated and focusing the curricular activities on the learning process and on the student. Moreover, the modular organization of the course and the experience of the past four years allow a relatively accurate perception of the students' workload needed to fulfil the objectives set for each curricular unit.

Thus, the exercise that is now requested for all degree courses of the University of Minho, namely the conversion of the old into the new credits system and the specification of the number of hours that will serve as reference for the total workload requested of the students, is particularly straight forward for the Medical degree course: it only requires the calculation of the students workload, already reasonably known, in the new credit unit ECTS.

For that exercise, it is convenient to establish some reference principles, as follows.

2. Being established, by a University of Minho's regulation, that the academic year, in which are included the assessment and the period of preparation for assessment, is 40 weeks and that it should represent around a total of 1 600 workload hours for the students, the following set of reference points emerge:

- a) 1.5 credits/week;
- b) 40 workload hours /week;
- c) 26.7 workload hours / credit unit.

However, as the intensity of the workload is not necessarily uniform during the academic year, particularly when the teaching process is organized by modules, which is the case of the Medical degree course, those average values should be regarded as a broad reference.

3. The Medical degree course includes diverse curricular units more oriented to the acquisition of horizontal competences, through the creation of the appropriate learning environments, in which the work is supervised and a minor workload hour is demanded individually.

These curricular units are usually credited with a unit per week. This means that on average the longer curricular units are credited slightly above of 1.5 credit units per week.

4. The curricular units of *Vertical Domains* and of *Follow-up of a Family* are not organized by modules. They rather develop horizontally throughout the year, in parallel with each ongoing curricular unit in each module. It is for this reason that they are not assigned calendar weeks. Thus, the academic calendar organization must explicitly allocate the time necessary for the development of the activities of the horizontal curricular units.

5. The curricular unit of *Seminars* (*from Clinic to Molecular Biology*), also not organized in fixed calendar weeks, develops in three periods throughout the year, each of them consisting of two days of presential activities preceded by an individual preparation of the students. This curricular unit culminates with a one-day of integrated assessment. Consequently, the organization of Residencies must take into account, on those periods, the time necessary for the Seminars, which in principle take place in the course of the following Residencies:

- Medical Residency I (1 Seminar in the 4th year);
- Maternal-Infant Health Residency (1 Seminar in the 4th year);
- Surgical Residency (1 Seminar in the 5th year);
- Optional Residencies (1 Seminar in the 5th year);
- Hospitals Residencies (2 Seminars in the 6th year);
- Health Centre Residency (1 Seminar in the 4th, 5th and 6th years).

6. The assessment model practiced, in which the assessment takes place at the end of each module and an integrated assessment at the end of each curricular multi-modular unit, transforms the final exam period into a resit period in which the percentage of students being assessed is small and decreasing during the course.

Thus, only the three first curricular years are considered for the formal timetabling of the final exams period (two weeks for the 1^{a} and 2^{a} years and one week for the 3^{a} year).

7. The standardisation of a 40 weeks academic calendar, together with the mentioned in 4 and 5 above, allowed the allocation of some additional calendar weeks to the realisation of the modules and/or the final assessment of the majority of the core curricular units.

This additional allocation should not set an incentive for the introduction of more curricular contents, *i.e.*, it should not contribute to an encyclopaedic tendency. It, however, allows the timetabling of the period for the final evaluation of the curricular unit, and facilitates the allocation of time to the curricular horizontal units, as referred to in 4 and 5 above.

The following additional weeks were allocated in relation to the syllabus currently approved:
Year	Curricular Unit	Weeks		Number of V	Veeks	Increase
		current	curricular	evaluation	Total	
1º	Molecules and Cells	11	12	1	13	2,0
1º	Functional and Organic Systems I	12	12	2	14	2,0
2 ⁰	Functional and Organic Systems II	15	14	2	16	1,0
2 ⁰	Functional and Organic Systems III	15	14	2	16	1,0
3º	Biopathology and Introduction to Therapeutics	23	22	2	24	1,0
3º	Introduction to Clinical Medicine	5	5	1	6	1,0
4 º	Medicine I Residency	11	12	1	13	2,0
4 º	Maternal and Child Health Residency	11	11	1	12	1,0
5°	Surgical Residency	11	12	1	13	2,0
5°	Medicine II Residency	11	12	1	13	2,0
5°	Optional Residencies	4	3		3	-1,0
6 ⁰	Health Centres Residencies III	6	7		7	1,0
6 ⁰	Option Project VI	8	7		7	-1,0

B) Study Plan

In accordance with the principles referred above, the Study Plan for the 2005-06 academic years is the one set out in Chart IV.

1.

		Weeks		Student Work			
Scientific Area	Curricular Unit	Curricular(1)	Final Eval (2)	Followed	Individual	Total	Credits
CSH	Introduction to Medical Degree	4		65	40	105	4.0
CBB	Molecules and Cells	12	1	385	260	645	24.0
CBB	Functional and Organic Systems I	12	2	400	270	670	25.0
SC	Training in a Health Centre	1	_	20	5	25	1.0
SC	First Aid	1		25		25	1.0
	Option Project I	4		65	40	105	4.0
CSH	Vertical Domains I	*		25	10	25	1.0
	Final Exams		2				- , -
	Freshman Welcome Week	1					
	1 : Year - Total		40	985	615	1.600	60,0
CBB	Functional and Organic Systems II	14	2	410	270	680	25,5
CBB	Functional and Organic Systems III	14	2	410	270	680	25,5
CSH+SC	Family, Society and Health	2		35	20	55	2,0
CSH+SC	Follow up of a Family 1	*		25	30	55	2,0
	Option Project II	4		65	40	105	4,0
CSH	Vertical Domains II	*		25		25	1,0
	Final Exams		2				,
	2 nd Year - Total	4	40	970	630	1.600	60,0
Р	Biopathology and Introduction to Therapeutics	23	1	670	450	1.120	42,0
SC	Introduction to Community	5		70	40	110	4,0
С	Introduction to Clinical Medicine	5	1	120	80	200	7,5
CSH+SC	Follow up of a Family II	*		20	20	40	1,5
	Option Project III	4		65	40	105	4,0
CSH	Vertical Domains III	*		25		25	1,0
	Final Exams		1				
	3 ª Year - Total		10	970	630	1.600	60,0
SC	Health Centre Residency I	7		170	110	280	10,5
С	Medicine I Residency	12	1	290	190	480	18,0
С	Maternal and Child Health Residency	11	1	275	180	455	17,0
С	Mental Health Residency	4		105	70	175	6,5
C+P+CBB	From the Clinic to Molecular Biology I	*		50	30	80	3,0
	Option Project IV	4		65	40	105	4,0
CSH	Vertical Domains IV	*		25		25	1,0
	4th Year - Total		10	980	620	1.600	60,0
SC	Health Centre Residency II	7		170	110	280	10,5
С	Surgery Residency	12	1	295	200	495	18,5
С	Medicine II Residency	12	1	295	200	495	18,5
С	Optional Residencies	3		70	50	120	4,5
C+P+CBB	From the Clinic to Molecular Biology II	*		50	30	80	3,0
	Option Project V	4		65	40	105	4,0
CSH	Vertical Domains V	*		25		25	1,0
	5th Year - Total	4	10	970	630	1.600	60,0
С	Health Centre Residency III	7		170	110	280	10,5
С	Hospital Residencies	26		635	420	1055	39,5
C+P+CBB	From the Clinic to Molecular Biology III	*		50	30	80	3
	Option Project VI	7		110	75	185	7
	6th Year – Total	4	10	965	635	1600	60

Study Plano of Medical Degree 2005-06 Chart III.1

(*) Organiza-se horizontalmente, em paralelo com a unidade curricular que decorre em cada módulo. C – Clínical; CBB – Biological and Biomedical Sciences; CSH – Human and Social Sciences; P – Pathology; SC – Community Health.

3.1.2. Functioning

Learning Teaching Methodology, Course Coordination and Monitoring Structures, Student Academic Orientation and ECS Lecturers and Teaching Distribution

As often as the nature and specificity of the areas allow, the emphasis given will be on "Learning-Teaching by Modules of Objectives" methodology (see 1.1.4).

Student support is institutionalised at the University of Minho and the Health Sciences School students will continue to benefit from further help at the Medical Education Unit and by Tutorial support (list of tutors set out in the ECS web page www.ecsaude.uminho.pt).

In the 2004-05 academic years, the course structures will be as per 2004-05 (see 1.2.1.) with the composition presented below.

a) Course Director

- Joaquim Pinto Machado

b) Course Committee

- Joaquim Pinto Machado (Course Director)
- Jorge Pedrosa (Coordinator of Phase I)
- Cecília Leão (Coordinator of Phase II)
- Nuno Sousa (Coordinator of Phase III)
- Manuel João Costa (Coordinator of Medical Education Unit)
- Carlos Valério (Coordinator of Community Health)
- Pedro Morgado (5th Year Student)
- Carla Marina Fernandes (4th Year Student)
- Pedro Miguel Azevedo (3rd Year Student)
- Fábio André Amaral (2nd Year Student)
- Diogo de Oliva Malheiro (1st Year Student)

c) Scientific Council

(all the PhD holders in the faculty)

- Joaquim Pinto Machado, **President**
- Cecília Leão, Vice-President
- Adhemar Longatto Filho
- António Gil Castro
- António Carlos Megre Sarmento
- Armando Almeida
- Fernando Rodrigues
- Isabel Palmeirim
- Joana Palha
- João Carlos Cruz Sousa
- João Espregueira Mendes

- Jorge Correia-Pinto
- Jorge Pedrosa
- Manuel João Costa
- Fátima Baltazar
- Nuno Sousa
- Patrícia Maciel
- Paula Ludovico
- Rui Reis

Invited: António Alegre Sarmento; Carlos Valério; Fernando Schmitt; Clara Costa Oliveira; António Jaime Sousa; Adhemar Longatto Filho; Pedro Nuno Oliveira

Table III.1 Area and Module Coordinators

 $1_{\mbox{\tiny st}},\,2_{\mbox{\tiny rd}},\,3_{\mbox{\tiny rd}},\,4_{\mbox{\tiny h}}$ and $5^{\mbox{\tiny h}}$ Curricular Years / 2005-06

Curricular Area	Coordinator	Status
- Modules		
T AFAK		
Introduction to the Medical Degree Course	Manuel João Costa	Assist. Prof. (ECS-UM)
Molecules and Cells	Cecília Leão	Full Prof. (ECS-UM)
- From Anatomy to Cellular Physiology	Paula Ludovico	Assist. Prof. (ECS-UM)
- Molecular Genetics Foundations	Fernando Rodrigues	Assist. Prof.(ECS-UM)
- Cells and Cellular Proliferation	Isabel Palmeirim	Assist. Prof. (ECS-UM)
Functional and Organic Systems I (SOF I)	Nuno Sousa	Assoc. Prof. (ECS-UM)
- General Introduction and Skeletal-Muscular/Skin System	Armando Almeida	Assist. Prof. (ECS-UM)
- Digestive System	Jorge Correia-Pinto	Assoc. Prof. (ECS-UM)
Training in a Health Centre	António Alegre Sarmento	MD (ECS-UM)
First Aid	Fernando Rodrigues	Assist. Prof. (ECS-UM)
Option Project I	Isabel Palmeirim	Assist. Prof. (ECS-UM)
Vertical Damaina I	Joaquim Pinto Machado	Full Prof. (ECS-UM)
vertical Domains I	Clara Costa Oliveira	Assist. Prof. (IEP-UM)
2∞ YEAR		
Functional and Organic Systems II (SOF II)	Joana Palha	Assoc. Prof. (ECS-UM)
- Circulatory and Respiratory Systems	Jorge Correia-Pinto	Assoc. Prof. (ECS-UM))
- Urinary System	Armando Almeida	Assist. Prof. (ECS-UM))
- Reproductive System, Growth, Development and Aging	Armando Almeida	Assist. Prof. (ECS-UM)
Functional and Organic Systems III (SOF III)	Joana Palha	Assoc. Prof. (ECS-UM)
- Nervous System	Nuno Sousa	Assoc. Prof. (ECS-UM)
- Endocrine System	Joana Palha	Assoc. Prof. (ECS-UM)
- Synopsis of SOFs	Nuno Sousa	Assoc. Prof. (ECS-UM)
Family, Society and Health	Carlos Valério	MD (ECS-UM)
Follow-up of a Family I	Carlos Valério	MD (ECS-UM)
Option Project II	Armando Almeida	Assist. Prof. (ECS-UM)
Vertical Damaina II	Joaquim Pinto Machado	Full Prof. (ECS-UM)
vertical Domains II	Clara Costa Oliveira	Assist, Prof. (IEP-UM)

Curricular Area - Modules	Coordinator	Status
3ª YEAR		
Biopathology and Introduction to Therapeutics	Jorge Pedrosa	Assist. Prof. (ECS-UM)
- General Pathology and Introduction to		
Pharmacology	Fernanda Milanezi	Assist. (EUS-UM)
- Genetics and Environment	Rui Reis	Assist. Prof. (ECS-UM)
- Immunopathology	Jorge Pedrosa	Assist. Prof. (ECS-UM)
- Infectious Diseases	António Gil Castro	Assist. Prof. (ECS-UM)
- Neoplasia	Fernando Schmitt	Assoc. Prof. (FM-UP)
Introduction to Clinical Medicine	Nuno Sousa	Assoc. Prof. (ECS-UM)
Introduction to Health Community	Carlos Valério	MD (ECS-UM)
Follow-up of a Family II	Carlos Valério	MD (ECS-UM)
Option Project III	António Gil Castro	Assist. Prof. (ECS-UM)
Vertical Demains III	Joaquim Pinto Machado	Full Prof. (ECS-UM)
	Clara Costa Oliveira	Assist. Prof. (IEP-UM)
4 [∞] YEAR		
Hospital Residencies	Nuno Sousa	Assoc. Prof. (ECS-UM)
Health Centre Residency	António Jaime Correia de Sousa	MD/MPH (ECS-UM)
From the Clinic to Molecular Biology I	Cecília Leão	Full Prof. (ECS-UM)
Option Project IV	Patrícia Maciel	Assist. Prof. (ECS-UM)
	Paula Ludovico	Assist. Prof. (ECS-UM)
Vertical Demains IV	Joaquim Pinto Machado	Full Prof. (ECS-UM)
	Clara Costa Oliveira	Assist. Prof. (IEP-ECS)
5th YEAR		
Hospital Residencies	Nuno Sousa	Assoc. Prof. (ECS-UM)
Health Centre Residency	António Jaime Correia de Sousa	MD/MPH (ECS-UM)
From the Clinic to Molecular Biology II	Cecília Leão	Full Prof. (ECS-UM)
Option Project V	Rui Reis	Assist. Prof. (ECS-UM)
Vartical Domains V	Joaquim Pinto Machado	Full Prof. (ECS-UM)
VELUCAI DUIIIAIIIS V	Clara Costa Oliveira	Assist. Prof. (IEP-ECS)

General Scheduling for Curricular Areas and Modules

In the Curricular Year 2005-06, will take place the curricular areas of Phase I (1^{*} and 2^{**} years), Phase II (3^{**} Year) and part of Phase III (4^{**} and 5^{**} years) that figures in the Study Plan on Table III.1, according with the schedule available on ECS site www.ecsaude.uminho.pt.

ECS Lecturers

A list with the teaching staff is presented in Appendix II. On average, each faculty will continue to devote about 6 hours/week to presential classes. Curricular activities will, as much as possible, concentrated in one of the semesters, the other one being essentially dedicated to scientific research.

A large number of guest professors from other University of Minho's Schools or other Institutions will also participate in the curricular activities, insuring Thematic Activities, Seminars and Round Tables about various issues of the different curricular areas.

3.2. Pedagogical Programming for Curricular Areas and Modules

Given the largely positive results of the previous experiences with the 1^{a} , 2^{ad} , 3^{ad} and 4^{a} years there is a strong stimulation to the continuation of the format implemented in 2004-05 for the curricular areas of the first four years of the Study Plan of the Medical Degree. Therefore the organization of these areas will be basically maintained in 2005-06.

In what regards the Clinical Residencies that started running for the first time in the academic year 2004-05 – Medicine I Residency, Maternal and Child Health Residency, Mental Health Residency and Health Centres Residencies I - the results obtained reinforce the idea that multicentric clinical approaches are vital for a holistic formation of medical students, even though there are some difficulties arising from the specificity of each learning scenario. In 2005-06 the new residencies that will take place are Medicine II, Surgical, Optional and Health Centre Residency II will be in accordance with that strategy and take into consideration the results of the experience and evaluation of 2004-05.

The Reports of the Clinical Residencies which already took place to the date of the present Report will be presented in Addenda.

School of Health Sciences

January 2006

APPENDIXES

Appendix I - Clinical Residencies: Reports 2004-05

Appendix I.1: Medicine I Residency
Appendix I.2: Maternal and Child Health Residency
Appendix I.3: Mental Health Residency
Appendix I.4: Health Centre Residency I

Appendix II - Academic Staff, January 2006, including clinical supervisors and tutors

Appendix I.1

MEDICINE I RESIDENCY

Annual Report

2004-05

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Medicine I Residency: Report

1. OVERVIEW

The present report concerns the "Medicine 1" Residency of the Medical Degree of the University of Minho, held for the first time in the present year. It summarizes how it was organized and implemented and presents the students' academic performance and ratings of the Residency. The latter are further analysed and conclusions are drawn.

2. GENERAL ORGANIZATION AND COORDINATION OF THE MEDICINE 1 RESIDENCY

Medicine 1 is the very first 4ⁿ year Residency for the Medical Degree Programme at ECS. It is preceded by the course "Introduction to Clinical Medicine" in which students are trained to master the essentials of clinical skills. The Residency marks the beginning of PHASE III of the Degree, i.e. the start of the Residencies, where learning in clinical settings prevails. The School's approach to this Phase is multicentric: currently, two Hospitals have been affiliated to provide clinical teaching: the "Hospital São Marcos" (HSM) in Braga and the "Hospital Senhora da Oliveira" (HSO), in Guimarães.

The coordination of the Medicine 1 Residency is defined under the Residencies' general coordination framework (see outline below).



3. PREVIEW OF WRITTEN GUIDELINES

The *"Medicine Coordination Group"* (MCG) set out the general guidelines for the residencies. Two of the Group's members originated from the two Hospitals - Drs. Abel Rua (HSM) and Jorge Cotter (HSO) and the remaining members were appointed by the School (Professors J.Pinto-Machado, M.Cerqueira Gomes, Damião Cunha, Óscar Candeias and Nuno Sousa). The two Hospital members have been appointed as Medicine 1 supervisors.

In order to reinforce vertical integration and coordination along with Phase III, this Committee will also coordinate the Medicine 2 Residency that will take place during the 5th year of the Medical Degree and they have assumed identical responsibilities in "Introduction to Clinical Medicine".

The MCG played several roles and assumed diverse responsibilities. Firstly, it had the responsibility to define the Residency's learning objectives, which comprise clinical content (predominantly lectured in campus class seminars) and skills and professional behaviour (essentially of a practical nature and mainly acquired/developed in Hospital rotations in groups of four). Secondly, it defined the student's precise clinical duties (skills and tasks) for the Residency. Thirdly, it defined the assessment criteria and communicated them to the Hospital tutors through the associated Supervisor and through the Chairperson (see above) to guest seminar lecturers, respectively. Lastly, it was their responsibility to guarantee that assessment questions and materials are available in time for the production of written examinations by the Medical Education Unit.

4. ACTIVITIES AT THE HOSPITALS

Activities in Hospitals took place in groups that were randomly assigned by the Medical Education Unit on a daily basis (9.00-13.00h). Student tasks included patient admissions (15), daily visits and registering of clinical observations in a simulated record (identical to the real one but for the colour) and the execution (training) of the planned activities (Appendix 1) for the Residency, attending the tutor/supervisor's practice and participation in the Medical Department/Service meetings.

The supervisors oversaw all clinical teaching within the Hospital. They also defined the order of rotation of student groups among the different Services. They were responsible for ensuring the adequate functioning of learning activities in the Residency's settings, including the adequate involvement of the staff (physicians and nurses), the assignment of tutors (1 for every group of 4 students) to supervise student groups. The list of Supervisors and Tutors is detailed in Appendix 2. In order to minimize practical constraints, the MCG has paid the utmost attention to recommendations provided by Hospital members (see for details Appendix 1). In accordance with the specific context of each Hospital, the MCG also have suggested the most suitable periods for the clerkships within each Hospital (see Table below).

	Internal Medicine	Pneumology	Cardiology	Gastroenterology	Endocrinology
H.S.Marcos	6 weeks	1 week	3 weeks	1 week	1 week
H.Sr ^ª Oliveira	9 weeks		2 weeks	1 week	_

Table 1 – Distribution calendar of rotations within affiliated Hospitals

5. ACTIVITIES AT ECS SEMINARS

The Seminars addressed the topics in afternoon sessions (3 per week) with case-based seminars. As a rule, the MCG proposed "Harrison's Principles of Internal Medicine" as the major bibliographic source¹, which was complemented, whenever suitable, by other references.

¹ It is important to remember that national exams of access to internships are based on that book.

² Adaptation of the clinical student evaluation grid designed by the Jefferson Medical College (source: 2003-04 Student handbook).

Chairpersons prepared the "Discussion panels" for the different topics. Discussions occurred within Campus Seminars, with the participation of the whole class, thus exposing all students to identical teaching experiences. Chairpersons are responsible for the selection and invitation of the seminar speakers and are ultimately responsible for the course materials (including presentation slides, texts and suggested bibliography) that are posted on the School's intranet. Topics selected for the Medicine 1 Residency included clinical aspects of the Respiratory, Cardiovascular, Digestive and Endocrine Systems. A Chairperson has been assigned for each topic (for a calendar of the seminars, consult Appendix 3).

6. ASSESSMENT

6.1. Methodology

The assessment methodology applied in "Medicine 1" can be consulted in detail in Appendix 4. In agreement with the School's principle that students should be endowed with knowledge, skills and attitudes, the evaluation is based on five parameters, equally weighed in the final grade (20% each): professional behaviour², skills², patient examination and discussion and two written grades – one referring to the modules and other to the final integration exam. Student performances in each residency are evaluated at the Hospitals.

6.2. Assessment of the Students

The assessment was in accord with the demands of the Clinical Group and with the criteria decided by the Medicine 1 Coordination Group. Requirements such as format, logistics of examinations, grading, satisfactory residency completion, recommended readings and others were made available prior to the beginning of the Residency. The Medical Education Unit compiled and analysed the grades and is responsible for the following computations and interpretations.

Based on the final grade distribution (see the following table), the vast majority of students (68%) had "good" performances. There were seven (14%) and one (2%) respectively rated as very good or excellent and there were two students (4%) who failed (they failed in written examinations; even though they had very good practical grades (see below).



Table 2 - Grade distribution - Medicine 1 Residency (2004-05)

A detailed analysis of the student's performance in the five parameters (see the following table) unveils global differences between the grades for written and practical duties. All students obtained a grade equal or higher than 14 for their attitudes and skills, while the majority of the students was graded as "fair" in written assignments (50 and 54%, respectively in the module and integrated examinations).

Table 3 – Discriminative grade distribution – Medicine 1 Residency

GRADE	0-7	8-9	8-9 10-13		16-17	18-20	Average
	Failed	Poor	Fair	Good	Very Good	Excellent	± St. Dev.
Attitudes	0 (0)	0 (0)	0 (0)	10 (20)	36 (72)	4 (8)	16 ±1
Skills	0 (0)	0 (0)	0 (0)	24 (48)	24 (48)	2 (4)	16 ±1
Hospital exam	0 (0)	0 (0)	4 (8)	16 (32)	25 (50)	5 (10)	15 ±2
Module written examinations	1 (2)	5 (10)	28 (56)	13 (26)	2 (4)	1 (2)	13 ±2
Integrated written examination	1 (2)	3 (6)	24 (48)	18 (36)	2 (4)	2 (4)	13 ±2

Globally, the results indicate a considerable correspondence between student's preparation at the Health Sciences School and what the Hospital tutors considered to be adequate standards for a 4^{m} year resident. The two failures and the fact that most students did not perform better than "fair" on written examinations is relevant and should be studied in detail, taking into account the perceptions of all of the decisive individuals: the MCG, chairpersons, tutors and students.

6.3. The form for Student to evaluate their rotations

Student ratings on the Residency were assessed using a ten-item multiple choice questionnaire, with a 6 point Likert-type response format (from Strongly disagree to Strongly agree). The questions are the following:

- 1. the tutor was available to answer questions and to clarify doubts
- 2. I was stimulated to share my ideas, knowledge and doubts
- 3. tutors' explanations were organized and clear
- 4. the tutor was keen on letting me contact patients with different pathologies
- 5. the tutor was effective in helping me to identify clinical procedures
- 6. the tutor helped to me to carry through clinical procedures effectively
- 7. My tutor informed me, in time, on the parameters that would be used to assess me
- 8. I received adequate feedback for my performance that allowed me to evolve
- 9. I have accessed all the service components (eg: meetings, visits, examinations, etc.)
- 10. What I've learned in this service was useful

6.4. How the Students evaluations were analysed and summarized

Paper copies of the questionnaires were distributed at the end of each residency segment / module. An optical reader scored the choices, and percentages were computed for each question, using an SPSS suite. The "Positive values" presented below, refer to the summing of the percentages of the three "positive" parts of the scale. For a more straightforward discussion and easier visual interpretation of the data set, results were classified as "very good, good, poor, very poor".

Table 4 - Criteria to define the relative performance of each item for faculty, based on the positive values of the answers for each question

76 – 100%	50 – 75 %	26 – 49%	0- 25%
Very Good	Good	Poor	Very poor

6.5. Results by rotation

The general perception of the students, concerning items enclosed in the inquiry, is summarised in the data included in the table presented in the following page

Question	Internal Medicine	Pneumology	Cardiology	Gastroenterology	Endocrinology*
1	100	100	81	65	92
2	64	93	70	80	100
3	70	100	82	80	100
4	84	93	84	85	75
5	66	86	74	70	100
6	50	72	71	35	75
7	34	32	50	20	36
8	45	36	50	40	50
9	86	72	54	50	92
10	84	100	82	65	100
Average	68	78	70	59	82

Table 5 - Positive values associated to each question, in the different rotations (%)

* - exclusively in S.Marcos Hospital

6.6. Commentaries by rotation

The above values result from the computation of the evaluations collected for the same rotation, in both Hospitals. It is evident that good ratings were given for all the rotations. However, disparities exist between the two institutions, for the same Service (see below).

The rotation of internal medicine, the longest of this clerkship, was given good or very good ratings for all but two of the questions (related to communication of the assessment parameters and to the timing of feedback given to students). The lowest ratings were given to the gastroenterology rotations. The identification of constraints depends on a more thorough collection of data, that should include tutors' perceptions.

6.7. Results by Service

A separate analysis of the clerkships provides more precise information. Table 6 includes data computed for the clerkship services separately for each one of the two Hospitals: S. Marcos Hospital (HSM) and Sra of Oliveira Hospital (HSO).

Question	Internal Medicine		Pneumology		Cardiology		Gastroenterology		Endocrinology*	
	HSM	HSO	HSM	HSO	HSM	HSO	HSM	HSO	HSM	HSO
1	100	100	100	100	83	78	60	70	92	-
2	33	94	100	86	50	89	80	80	100	-
3	57	82	100	100	75	89	80	80	100	-
4	86	82	100	86	67	100	80	90	75	-
5	50	82	86	86	58	89	60	80	100	-
6	29	71	72	72	42	100	40	30	75	-
7	14	53	50	14	0	100	20	20	36	-
8	14	76	57	14	21	78	40	40	50	-
9	72	100	72	72	29	78	20	80	92	-
10	67	100	100	100	64	100	40	90	100	-
Average	52	84	84	73	49	90	52	66	82	-

Table 6 - Positive values associated to each question, for different services (%)

* - exclusively in S. Marcos Hospital

6.8. Comments by Service

The ratings produced for all the questions were heterogeneous. Ratings for five questions -1, 2, 3, 4,10 – were clearly satisfactory. Question **7** - the presentation of the evaluation strategy to the students – and question **8** – the feedback item - received the lowest of the ratings. These observations can lead to the setting of priorities for improving the Residency.

What follows is a detailed analysis, organized around four aspects: communication, full access to services, access to patients and tutor's performances.

- <u>Communication</u> the most troublesome point was the timely communication of students' evaluation parameters (q7), once bottlenecks in the Communication between the coordinating structures and the students are identified and a solution for the problem should be straightforward;
- <u>Full access to services</u> no severe constraints have been identified, with the exception of the service of gastroenterology in
 S. Marcos Hospital; the Medicine coordinating group could work out this aspect with the director of the service;
- <u>Access to patients</u> (q4) this aspect deserved positive ratings;
- Tutor's Performance
 - Availability (q1) tutors should be encouraged to find the necessary time for the tutees, along with their regular duties;
 - Giving Incentive to participation by students (q2) generally good, with the exception of the service of internal medicine in S. Marcos Hospital - appraisal is the key to students learning and should be thoroughly analyzed; the involvement of the Tutors and of the Director of the Service should be sought for the identification and resolution of the underlying issues;
 - o Technical communication tutor/pupil (q3) well rated;
 - o Verbal support for the clinical procedures (q5) well rated, suggesting adequate clarity and opportunity;
 - Support to the execution of the clinical procedures (q6) Excellency should be sought particularly in this item; it needs careful assessment, since students can under-rated it due to exaggerated expectations; three services were rated very well and could be a future reference for the most under-rated services, such as internal medicine,

pneumology, and gastroenterology at the S. Marcos Hospital and also of gastroenterology at the Sra. da Oliveira Hospital; it is possible that, once students grasp the objectives better that are set out in the beginning, they may come to appreciate distinctively the support that they were given;

- Adequate feedback (q8) ratings point to the need of the Service of internal medicine of the S.Marcos Hospital to improve the feedback process, rated unfavourably (q7);
- The global point *Utility of the Rotation* (Q10) it is almost unanimous that they're useful; the exception was the Service of gastroenterology at the S. Marcos Hospital; it would be very important to identify the constraints that cause such ratings.

SUMMARY

- tutors were assessed positively in several aspects;
- seneral ratings for internal medicine and cardiology (HSO) and pneumology and endocrinology (HSM) were very good;
- the service of gastroenterology at the S. Marcos Hospital collected the most unfavourable appreciations the constraints identified related to the tutor being helpful in identifying clinical procedures (q5 and 6), feedback and evaluation (q6, 7 and 8) and full access to the service.

6.9. Student ratings: seminars

Information about students' overall perceptions on the Seminars was collected with a ten-item multiple choice questions questionnaire, using a 6 point Likert-type response format (from Strongly disagree to Strongly agree). The ratings were analysed using the same methods as for evaluations of their tutors. The questions are the following:

- I understood and assimilated the seminar contents
- The lecture was dynamic
- The lecturer approached the contents with clarity
- PowerPoint presentations were well organized and structured
- The way the lecturer organized the seminar captivated my interest
- The rhythm of the seminar made note taking easy (*This question was introduced only from the gastroenterology rotations onwards*)
- Students were encouraged to participate in case discussions
- The lecturer emphasized the relation between theories and concepts with the practices
- Recent developments in the area were discussed
- The recommended bibliography was useful

6.10. Results

The evaluation for subject includes an average of the positive values collected for the speakers of each Seminar.

Table 7. Average (positive values) for each subject, in the respective set of its seminars (%)

Question	Sub modules Average (%)		
1	55		
2	66		
3	58		
4	67		
5	81		
6	52		
7	73		
8	69		
9	68		
10	50		

In general, seminars were rated favourably. The least favourable perception was of the rhythm of the sessions. In this aspect, ECS, through its Medical Education Unit, will be able to contribute with suggestions of time and content management that should have positive results. Nevertheless, these results suggest that a re-evaluation of the amount and depth of presentation of the contents of the sessions is required.

The analysis does not identify additional constraints for improvement and a more detailed analysis will be undertaken.

7. CONCLUSIONS

The first experience with Residencies at ECS came to its end, leaving a feeling of accomplishment behind it. The programme has been turned into reality, performances have achieved a good level and all educational parties have seen their expectations – students, clinical faculty, Hospitals - being met. The challenge of successfully involving 87 new faculty at once within a different teaching & learning philosophy, far from being exhausted, came to a good start.

Students' evaluations, with an average mark of 15/20, were very satisfactory and the two current failures can still be recovered in June's examinations. They performed even better in the most novel part of the Residency– learning in Hospital settings. A general word that might characterize the way students faced the Residency is "enthusiasm". In anecdotal comments, tutors often mention student's enthusiasm and that students have demonstrated adequate attitudes, respect for patients, communicate effectively with them and were able to show understanding and reasoning with clinical problems. In addition, there is a common view that students produced a beneficial impact on the services where they have resided.

Already in their 4th year, they have been good school ambassadors in reaching out to medical care situations.

A new step was climbed in the stair of the School's general student's ratings programme. Keeping its commitment to its philosophy of gathering actual data to evaluate learning environments, ratings were prepared and collected form the vast majority of students. With them, the school has learned about the performances of each rotation and can now take necessary measures to appraise or correct each contribution. The recently computed ratings have been passed on to the Medicine 1 coordination group and will be distributed confidentially to the individual tutors. Targets for School plans for faculty Development have become clearer. Appraisal will be helpful in capitalizing physicians' interest in getting involved in research or educational collaborations

with ECS. Getting to know the physicians better will be key to gain deeper insight on the reality of the bedside learning of University of Minho's medical students. The school looks forward to that with great enthusiasm.

Appendixes

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List of Tasks and duties: Medicine I Residency

Competence in clinical skills or clinical procedures has been defined according to three levels:

Level 1	Awareness and understanding of the demonstrated	reasons for carrying out	the skill/procedure or	have seen
Level 2	Ability to carry out the skill/procedure ur	der supervision		
Level 3	Ability to carry out the skill/ procedure w	ithout supervision or as rou	utine	
Determination of vital s	3			
Airway maintenance –	ventilation with a mask		3	
Tracheal intubation			1/2	
Anergy panel			1	
Arterial Puncture			2	
Venous Puncture			3	
Insertion of a periphera	l intravenous catheter		3	
Insertion of a central in	travenous catheter		1/2	
Change of dressings /	Other care of hygiene to the patient		3	
Blood cultures			3	
Sputum Culture			3	
Fecal occult blood tests			3	
EKG			3	
Gram Stain			1	
Injections (sc, im, iv)			3	
Insertion of a Foley cath	neter		2	
Insertion of an NG tube			2	
Local Anaesthesia			2	
Lumbar Puncture			1/2	
Evaluation of the Nutrit	onal State		3	
Bandaging Wounds			3	
Performance and interp	pretation of urine dipstick/Urinalysis - micr	oscopic	3	
Performance and interp	pretation of the tuberculin test		3	
Bladder catheterization			2	
Accomplishment and in	terpretation of arterial blood gases		2	
Determination of capilla	ary glucose tests		3	
Administration of drugs	(orally, topically, rectally, i.m.,i.v.)		3	
Paracentesis			1/2	
Thoracocentesis			1/2	
Use of ventilation mask	S		3	
Use of sterilization tech	niques		3	

List of tasks (minimal) to achieve during the residency:

Minimal number of:

_18_New admissions (clinical admissions and physical examination)

APPENDIX II

List of clinicians involved in learning/teaching activities in the clerkships

Clinical Supervisors

Medicine I Internal Medicine Pneumology Cardiology Gastroenterology Endocrinology Clinical Tutors Hospital S.Marcos – Braga Internal Medicine Maria Adelina Ferreira Narciso Oliveira *HSM-Braga* Abel Rua Abel Rua Mariano Machado Adelino Correia Mário Marcelino Altino Frias *HSO-Guimarães* Jorge Cotter Jorge Cotter Maria Manuel João Almeida José Cotter

Hospital S.Marcos – Braga Internal Medicine Alexandre Carvalho Juan Rafael G. Sanchez-Reyes Garcia Sameiro Neves Maria João Nogueira Costa Pneumology João Cunha Manuel Macedo Gonçalves Lurdes Ferreira José Eduardo Oliveira Cardiology Jorge Marques Alberto Salgado Márcia Torres Sérgia Rocha Rui André Rodrigues Gastrenterology José Barata **Raquel Gonçalves** Vera Dias Endocrinology Olinda Amélia Pinho Margues Cástor G. Pereira Maria Lopes Pereira Hospital Senhora da Oliveira - Guimarães Internal Medicine Maria Helena Jacinto Sarmento Pereira Maria da Glória Sousa Alves Maria Elisa Barroso Torres Maria Emília Castro Lopes Pedro Miguel Guimarães Cunha Lurdes Natália Mendes Oliveira Pneumology Maria Manuel Figueiredo Cardiology António Rodrigo Miranda Lourenço Gastrenterology Salomé Bruno Costa Gonçalves Lima

Cognitive programme

Clinical Residencies – cognitive learning plan Medicine I

D	ate		Theme	Snokesnerson
	En	docrine System	Nuno Sousa	
	Dig	gestive System	José Cotter & Nuno Sousa	
	Ca	rdiovascular System	Mário Cerqueira Gomes	
	Re	spiratory System	Óscar Candeias	
			Chairpersons	

Date	Theme	Spokesperson					
Pneumology							
21/09	Pneumonia da Comunidade	Dr. Pedro Cunha					
,	Pneumonia Hospitalar	Dr. Manuel Pizarro					
23/09	Espirometria	Dr. João Cunha					
,	DPCO	Dr. Jorge Almeida					
	Tabaco	Dr. Manuel Macedo					
	Abordagem Psicossocial do Tabagismo	Dra Fernanda Afonso					
24/09	RX Pulmonar	Dr. Pedro Pinto					
21,00	Ventilação Assistida	Dr. Jorge Almeida					
	Insuficiência Respiratória	Dra Rute Sampaio					
	ELA e SAOS						
28/09	Edema Pulmonar não Cardíaco	Dr. José Eduardo Oliveira					
20,00	Doencas Intersticiais do Pulmão	Dra Lurdes					
	Asma e DPCO	Dra Rute Sampaio					
30/09	Embolia Pulmonar	Dr. António Oliveira e Silva					
50/05	Hipertensão Pulmonar Primitiva						
01/10	Doencas da Pleura	Dr. Pedro Cupha					
01/10	Derrames Pleurais	Dr. Mariano Machado					
	Aema						
04/10	Hemontices	Dra Maria Manuel					
04/10	Neoplasias do Pulmão						
	Como dar Más Notícias	Dr. Manuel Salvador Araújo					
	Cordiology	Dr. Manuel Salvador Araujo					
12/10	Introdução	Prof M. Corqueira Comes					
12/10	Padrãos do ECC patológico	Dr. João Coutinho					
14 0 15	Factores de risse CV	Prof. Jorgo Polónia					
14 e 15	Factores de risco CV	Prof. Jorge Polofila					
10/10	DV Terrácias Volvulenatios (provención de endecendite infeccions)	Draf Damião Cunha					
19/10	RA Toracico. Valvulopatias (prevenção de endocardite intecciosa)	Prof. Daniao Cunna Desf. Filing Magada					
01 - 00	Diamástica de Dan Tanásica	Prof. Filipe Macedo					
21 e 22	Diagnostico de Dor Toracica						
	Doença coronaria	Dr. Joao Coutinno					
26/10	Arritmias: Palpitações. Síncope.	Prof. Damião Cunha					
	Fibrilação Auricular. Morte Súbita. Electrofisiologia. Pacemakers. Ressincronização-CDI	Dra Adília Ribeiro					
		Dr. Victor Sanfins					
28 - 20	Insuficiência Cardíaca	Drof Dadra Battanaaust					
20 8 29	Insuliciencia Cardiaca	Prof. Pedro Bellencourt					
02/11	ramacologia CV. latrogenia / interacções Re/CV. Hipocoagulação	Prof. Maruer vaz Silva					
04/11	Factores Psicossociais na progressão das Doencas Cardiovasculares e na Reabilitação	Prof ^a Teresa McIntvre					
,	Cardíaca						
	Gastrenterology	•					
09/11	Hemorragia digestiva	Dr. José Cotter					
11/11	Doenca péptica	Dr. José Pedrosa					
16/11	Henatite	Dra Carla Marinho					
10/11	Cirrose benática						
18/11	Dor abdominal	Dra Carla Marinho					
10/11	Diverticulose						
10/11		Dr. António Ponhudo					
22/11	Doonoo inflomatória intestinal	Dr. Antonio Bannudo					
22/11		Dra kaquel Goliçaives					
25/11	Disidgia e outifologia.	Dra. Isabelle Cremers					
	Doença do Renuxo gastroesolagico e dismotilidade esolagica						
00/11	Endocrinology						
30/11	Diabetes	Dra. Elisa Torres					
00/10							
02/12	Diabetes	Dra. Elisa Torres					
		Dra. Natalia Oliveira					
03/12	Patologia Hipofisária com eixos	Dr. Olinda Marques					
		Dra. Leonilde Coelho					
		Dr. Rui Almeida					
06/12	Patologia da Tiróide	Dr. Castor Gil					
		Dra. Maria Lopes Pereira					
		Dr. Pedro Koch					

Assessment Methodology

Items assessed at the Hospitals (requirements for promotion on a 0-20 scale)

- 1. Professional behaviour² (10)
- 2. Clinical skills² (10)
- 3. Patient examination and discussion: observation (clinical story e physical examination) of one patient (10)

Written examinations (requirements for promotion on a 0-20 scale)

- 4. Module examinations Multiple Choice tests at the conclusion of each system (7,5 in every examination)
- Final grade: weighed average (Module1 x number of weeks + Module2 x number of weeks + ...)
- 5. Final integration exam with Multiple Choice Questions and Clinical cases (7,5)

To be promoted, each student should have attained an weighed average equal or higher to 9,5; therefore grades from 7,5 to 9,5 in a module exam are admitted, in accordance with the assessment regulation of the School of Health Sciences.

Final grading

Medicine 1 grade = 20% * (1 + 2 + 3 + 4 + 5)

² Adaptation of the clinical student evaluation grid designed by the Jefferson Medical College (source: 2003-04 Student handbook).

Appendix I.2

MATERNAL AND CHILD HEALTH RESIDENCY

ANNUAL REPORT

2004-05

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Maternal and Child Health Residency: Report

1. OVERVIEW

The present report summarizes the organization and implementation of the "Maternal and Child Health" (MCH) Residency of the 4th year Medical Degree of the School of Health Sciences of the University of Minho. The document describes the academic performance on the students and their ratings on the Residency. The latter are further analysed and conclusions are drawn.

2. GENERAL ORGANIZATION AND COORDINATION OF THE MATERNAL AND CHILD HEALTH RESIDENCY

MCH is the second residency of the 4^{m} year Hospital Residencies for the Medical Degree Programme. It was held in 2004/2005 for the first time, after the Medicine I residency. It was divided into two clerkships: Obstetrics and Paediatrics.

The residency integrates activities in the Hospitals (clerkships) for which two Hospitals were affiliated to provide clinical teaching (identically to Medicine I): the "Hospital S. Marcos" (HSM) in Braga and the "Hospital Sra da Oliveira" (HSO), in Guimarães; and activities in the University (seminars).

The coordination of the MCH Residency is under the responsibility of the MCHCG (Maternal and Child Health Clinical Group) and is defined under the Residencies' general coordination framework (see outline below).

The Coordination Group set out the general guidelines for the residencies clerkships.



3. CLERKSHIPS

Activities in Hospital took place on a daily basis (9.00-13.00h). Daily hospital assignments included patient admissions (18), daily visits and recording of clinical observations (in a simulated record identical to the real one but for the colour) and the execution (training) of the planned tasks and duties (Appendix 1) for the Residency, attending the tutor/supervisor's practice and participation in the Medical Department/Service meetings. Students worked in groups, which were randomly assigned by the School of Health Sciences Medical Education Unit.

Supervisors were responsible for the clinical teaching at the Hospitals. They further defined the order of student groups rotations through the different Services and were generally made responsible for ensuring the learning activities in the Residency's

settings, including the adequate involvement of the staff (physicians and nurses) and the assignment of tutors (1 for every group of 4 students) to supervise the groups. The list of Supervisors and Tutors is detailed in Appendix 2. In order to minimize practical constraints, the MCHCG has paid the utmost attention to recommendations provided by Hospital members (see for details Appendix 1). The MCHCG matched the periods for running the clerkships in accordance for each Hospital's specific context (see Table below).

4. SEMINARS

The cognitive programme was addressed in case-based Seminars. Chairpersons invited lecturers and prepared "Discussion panels" for the different themes. Seminars were held in campus, with the participation of the whole class, thus exposing all students to identical teaching experiences. Responsibility for the course materials (including presentation slides, texts and suggested bibliography) that were posted on the School's intranet, rested with the chaipersons (for a calendar of the seminars, consult Appendix 3). The seminars took place during the afternoons, three times per week.

As a rule, for Obstetrics, the MCHCG has proposed "Cunningham, G. et. all (2001). Williams Obstetrics. 21^a Edition. MacGraw-Hill" and "Graça, L. et all. (2000). Medicina Materno-Fetal. Lidel" as the major bibliographic sources, which were complemented, whenever suitable, by other references. As for Paediatrics, the MCHCG proposed the "Hay, W.; Levin, M; Sondheimer, J; Deterling, R. Current Pediatric: diagnosis and Treatment. 17^a Edition".

Table 1 – Distribution calendar of rotations within affiliated Hospitals

	Obstetrics	Paediatrics
H. S. Marcos	4 weeks	7 weeks
H. Sr ^a Oliveira	4 weeks	7 weeks

5. ASSESSMENT

5.1. Methodology for assessing the students

The assessment methodology applied in MCH can be consulted in detail in Appendix 4. In agreement with the School's principle that students should be endowed with knowledge, skills and attitudes, the evaluation is based on five parameters, equally weighed in the final grade (20% each): professional behaviour³, skills¹, patient examination and discussion and two written grades – one referring to the modules and other to the final integration exam. Student performances in each residency are evaluated at the Hospitals.

The assessment was in accord with the demands of the Clinical Group and with the criteria decided by the MCH Coordination Group.

Requirements such as format, logistics of examinations, grading, satisfactory residency completion, recommended readings and others were made available prior to the beginning of the Residency. The Medical Education Unit compiled and analysed the grades and is responsible for the following computations and interpretations.

Based on the final grade distribution (see the following table), the vast majority of students (60%) had "very good" performances.

³ Adaptation of the clinical student evaluation grid designed by the Jefferson Medical College (source: 2003-04 Student handbook).

5.2. Results and commentaries

CRADE	0-7	8-9	10-13	14-15	16-17	18-20	Average ± St.
GRADE	Failed	Poor	Fair	Good	Very Good	Excellent	Ber
Students %	0	0	0	38	60	2	16 ±1

Table 2 – Final Grade distribution – Maternal and Child Health Residency (2004-05)

A detailed analysis of the student's performance in the five parameters (see the following table) unveils global differences between the grades for written and practical duties. All students obtained a grade equal or higher than 16 for their attitudes and skills, while the majority of the students was graded as "fair" in written assignments (44% and 50%, respectively in the modules and integrated examinations).

	Students (%)					Avera da	
GRADE	0-7	8-9	10-13	14-15	16-17	18-20	Average
	Failed	Poor	Fair	Good	Very Good	Excellent	St. Dev.
Attitudes	0	0	0	0	68	32	17±1
Skills	0	0	0	0	86	14	17±1
Hospital Exam	0	0	0	0	74	26	17±1
Module written examinations	0	0	44	42	10	4	14±2
Integrated exam	0	0	50	36	12	2	13±2

Table 3 - Discriminative grade distribution - Maternal and Child Health Residency

Globally, the results indicate a considerable correspondence between student's preparation at the School of Health Sciences and what the Hospital tutors considered to be adequate standards for a 4th year resident. There was an evident distance between written and the remaining examinations. The fact that half the class students did not perform better than "fair" on written examinations is relevant and should be studied in detail, taking into account the perceptions of all of the stakeholders: the MCHCG, chairpersons, tutors and students.

5.3. Students ratings: service and tutor

Student ratings on the Residency were assessed using a twelve-item multiple choice questionnaire, with a 6 point Likert-type scale format (from Strongly disagree to Strongly agree). The questions are the following:

- 1. The tutor was available to answer questions and to clarify doubts
- 2. I was stimulated to share my ideas, knowledge and doubts
- 3. Tutors' explanations were organized and clear
- 4. The tutor was keen on letting me contact patients with different pathologies
- 5. The tutor was effective in helping me to identify clinical procedures
- 6. The tutor helped to me to carry through clinical procedures effectively
- 7. The tutor dominated the concepts, phenomena and clinical practices

- 8. My tutor informed me, in time, on the parameters that would be used to assess me
- 9. I received adequate feedback for my performance that allowed me to evolve
- 10. I have accessed all the service components (eg: meetings, visits, examinations, etc.)
- 11. What I've learned in this service was useful
- 12. He's/She's an excellent tutor

Paper copies of the questionnaires were distributed at the end of each residency segment / module. An optical reader scored the choices, and percentages were computed for each question, using an SPSS suite (SPSS 13.0).

5.4. Results and Commentaries by rotation

The Coordination of the Medical Education Unit is responsible for the following comments.

The "Positive values" presented in the tables, refer to the sum of the percentages of the three "positive" parts of the scale. For a more straightforward discussion and easier visual interpretation of the data set, results were classified as "very good, good, poor, very poor" and colours were assigned to the different categories.

Table 4 - Criteria to define the relative performance of each item for faculty, based on the positive values of the answers for each question

76 – 100%	50 – 75 %	26 – 49%	0- 25%
Very Good	Good	Poor	Very poor

The general perception of the students, concerning items enclosed in the inquiry, is summarised in the data included in table 5

Question	Obstetrics	Paediatrics
1	96	98
2	93	94
3	86	98
4	93	96
5	93	98
6	88	94
7	90	100
8	73	71
9	85	81
10	100	100
11	100	100
12	86	98
Average	90	94

Table 5. Positive values associated to each question, in the different rotations (%)

The values above result from the computation of the evaluations collected for the same rotation, in both Hospitals. It is evident that very good ratings were given for all the rotations. Results that refer to the role of tutors in practice (questions 4, 5, 6, 7 and 10) were all highly ranked, thus indicating a very clear understanding of their role in clinical teaching. Accordingly, students have

appreciated the usefulness of what they have been taught and have rated tutors very high. The least rated aspect was the timing when tutors informed students of the assessment process, which should not be hard to improve in future rounds. As to the remaining aspects, all of them deserved very good ratings. Broadly, the ratings demonstrate that, in the student's perspective, this has been a very successful residency.

5.5. Results and Commentaries by Service

Table 6 includes data computed for the clerkship services separately for each one of the two Hospitals: S. Marcos Hospital (HSM) and Hospital Sra of Oliveira (HSO).

Question	Obstetrics		Paedi	atrics
	HSM	HSO	HSM	HSO
1	92	100	96	100
2	92	95	88	100
3	87	84	96	100
4	96	90	92	100
5	96	90	96	100
6	92	84	88	100
7	96	84	100	100
8	83	63	64	78
9	88	83	68	94
10	100	100	100	100
11	100	100	100	100
12	88	84	96	100
Average	92	88	90	98

Table 6: Positive values associated to each question, for different services (%)

A separate analysis of the clerkships provides more precise information. In this case, two services have been under-rated for question 8 and another one for question 9. The latter indicates that some tutors may not have understood how best to provide feedback to students, an issue that should be approached by the supervisor before the next round.

5.6. Student ratings: seminars

Information about students' overall perceptions on the Seminars was collected with a ten-item multiple choice questions questionnaire, using a 6 point Likert-type response format (from Strongly disagree to Strongly agree). The ratings were analysed using the same methods as for evaluations of their tutors. The questions are the following:

- 1. I understood and assimilated the seminar contents
- 2. The lecture was dynamic
- 3. The lecturer approached the contents with clarity
- 4. PowerPoint presentations were well organized and structured
- 5. The way the lecturer organized the seminar captivated my interest
- 6. The rhythm of the seminar made note taking easy
- 7. Students were encouraged to participate in case discussions
- 8. The lecturer emphasized the relation between theories and concepts with the practices

- 9. Recent developments in the area were discussed
- 10. The recommended bibliography was useful

5.7. Results and Commentaries

The evaluation for subject includes an average of the positive values collected for the lecturers of each Seminar.

Question	Obstetrics Average (%)	Paediatrics Average (%)
1	96	91
2	82	67
3	96	86
4	93	77
5	85	89
6	91	88
7	79	80
8	96	87
9	91	75
10	91	83
Average	90	82

Table 7. Average (positive values) for each subject, in the respective set of its seminars (%)

In general, seminars were rated extremely well. The least favourable perception was of the bibliography recommended for the seminars on Paediatrics. The analysis does not identify significant constraints for improvement.

6. CONCLUSIONS

The first experience with the MCH Residency at ECS came to its end, leaving a feeling of accomplishment behind it. The programme has been turned into reality, performances have achieved a good level and all educational parties have seen their expectations – students, clinical faculty, Hospitals - being met. The challenge of successfully involving 102 new faculty at once within a different teaching & learning philosophy, far from being exhausted, came to a good start.

The input enthusiasm from the clinical tutors was enormous.

Students' evaluations, with an average mark of 16/20, were very satisfactory and there were no failures. They performed even better in the most novel part of the Residency– learning in Hospital settings. A general word that might characterize the way students faced the Residency is "enthusiasm". In addition, there is a common view that students produced a beneficial impact on the services where they have resided. Already in their 4th year, they have been good school ambassadors in reaching out to medical care situations.

Appendixes

List of Tasks and duties

Maternal and Child Health Residency

Module 1: Obstetrics

Competence in clinical skills or clinical procedures has been defined according to three levels:

Level 1	Awareness and understanding of the reasons for carrying out the skill/procedure or have seen it						
	demonstrated						
Level 2	Ability to carry out the skill/procedure under supervision						
Level 3	Ability to carry out the skill/ procedure without supervision or as routine						
Level 3 Be able to take a f Elaboration of a cl Presentation/Disc Identification of ot Accomplishment of Resuscitation mar Observation of an Gestational Age ca Know how to corre Classification of th Accomplishment of Measurement of th Detect and measu Monitoring fetal w CTG pre-labour: b Be able to carry of Interpretate clinica Observe a B mode Observe the perfor Observe the perfor Amniocentesis: pr Assist the period of Renewal of placen	Ability to carry out the skill/ procedure without supervision or as rotuine full medical and obstetric history inical report in obstetrics ussion of a clinical history in obstetrics usstetric material and equipment of technological manoeuvres in the dummy ooeuvres of the new-born in the dummy obstetrics consultation liculus ectly fill individual obstetric antenatal forms or logbooks (Boletim de Saúde da Grávida) e pregnancy risk of the Leopold manoeuvres ne uterine height (fundal) re foetal heart activity ell-being during labour asic notions of indications, techniques and interpretation ut vaginal speculum examination al analysis in obstetrics e obstetric ecography rmance of a biophysics profile rmance of a fluxometry escription, technical observation of extinction and dilatation of expulsion ta						
Palpation and mas	ssage of the security globe						
Observation of a E	pisiotomy/Episiorrafia						
Observe the perine	eal infiltration with local anestesia						
Observe the uterin	Observe the uterine emptiness						
Observe a caesare	an reisel interventione						
Assist obstetric su							
Cares of disinfection	on and asepsis						
List of tasks (mini Minimal number o	nal) to achieve during the residency: f:						

_18_New admissions (clinical admissions and physical examination)

List of Tasks and duties

Maternal and Child Health Residency Module 2: Paediatrics Competence in clinical skills or clinical procedures has been defined according to three levels:

- Level 1
 Awareness and understanding of the reasons for carrying out the skill/procedure or have seen it demonstrated

 Level 2
 Ability to carry out the skill/procedure under supervision
- Level 3 Ability to carry out the skill/ procedure without supervision or as routine

New-born

Determination of the Apgar level Evaluation of the gestational Age Primitive Reflexes Three malformations minor Three malformations major Evaluation of the general state of the NB Three signs of SDR Red Reflex Ortolani/Barlow Three signs of neo-natal sepsis Three attitudes in the prevention in the diagnosis and treatment of hypoglycemia Three possible colorations of the NB's skin Two attitudes in neo-natal convulsion Fontanels Infant, child and adolescent Weight Length/stature Cephalic Perimeter Percentiles register Puberty stadium Evaluate and register temperature, cardiac and respiratory frequency Blood pressure and its percentiles Fill out the BIS Draw and identify three different growth curves Palpation of peripheral wrists Otoscopy Oral exam Three signs of meningeal irritation Three signs of dehydration Pulmonary auscultation Cardiac auscultation Abdominal palpation Testicular palpation Perineum observation Neurological summary exam **Diagnostic and therapeutic procedures** Urine test Uriculture Interpretation of urine summary exam Hemogram Interpretation Ionogram Interpretation Determination of glicemia by capillary punction Gasometry Interpretation Nebulization preparation Nasogastric Intubation Secretions aspiration Cardio-respiratory monitor readings and interpretations Description of thoracic teleradiography Observation of lumbar and venous punction Tuberculinic Proof - interpretation and technique Prescription of vitamins A,C,D, K Prescription of iron and fluor Prescription of paracetamol, acetylsalicylic acid, ibuprofen Prescription of diazepam, rectal an endovenous Prescription of amoxicylin, and clavulanic acid Prescription of salbutamol in nebulization Calculus of basal hydric necessities for 8,15,25 and 35 \mbox{kg} Prepare a bottle Accompany a child in performing an ecography, radiography

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List of clinicians involved in learning/teaching activities in the clerkships

Maternal and Child Health Residency Module 1: Obstetrics

Clinical Supervisors *HSM-Braga* Lucinda Antunes

Clinical Tutors

Hospital S.Marcos – Braga Maria Luísa Cardoso Domingos Ribeiro Luís Carvalho Manuela Araújo Paula Pinheiro Pedro Cabrita Pedro Vieira de Castro

HSO-Guimarães

Hospital Senhora da Oliveira - Guimarães Isabel Maria Dória Nóbrega Gonçalves Reis Buhier Elsa Pereira Maria Sofia Dantas Pinto L. Xavier Maria José Gonçalves Pires Costa Rosa Maria Freitas Fernandes Maria Odosinda Rosmaninho Lopes Sousa

Module 2: Paediatrics

Clinical Supervisors *HSM-Braga* Almerinda Pereira Clinical Tutors

Hospital S.Marcos – Braga Isabel Cunha Henedina Marques Esmeralda Silva Maria Helena Silva Maria Augusta Gonçalves Ana Maria Antunes *HSO-Guimarães* Pedro Freitas

Hospital Senhora da Oliveira - Guimarães Fernando Eduardo Meireles Maio Graça Cristina Maria Gonçalves Ferreira Maria José Teixeira Cabral Costeira Paulo Clara Sofia Domingues Paz Dias Ana Cláudia de Castro Tavares Susana Noites de Brito Peres

APPENDIX III

Cognitive programme

Maternal and Child Health Residency

Obstetrics Chairperson

Pedro Vieira de Castro and Lucinda Antunes

Date	Theme	Spokesperson
04/01	Pregnancy Normal	Dra. Isabel Reis
06/01	Curent Clinical Problems in the Pregnancy Routine Obstetric Ultrasonography Surveillance of the Normal Pregnancy	Dra Maria José Pires Dra. Sofia Dantas
07/01	Extrinsic agents with teratogenic potential Puerpérium	Dra Elsa Pereira Dra Adosinda Rosmaninho
11/01	Vaginal birth and Caesarean	Dr. Pedro Oliveira Dra. Rosa Maria Fernandes
14/01	Pre-birth diagnosis and termination of the Pregnancy	Dra Alexandra Cadilhe Dra. Luísa Cardoso
18/01	Infectious pathology in the pregnancy	Dr. Pedro Cabrita, Dr. Luís Alberto Carvalho Dra. Maria José Rocha
19/01	Endocrine pathology in the pregnancy	Dra Manuela Araújo
20/01	Obstetric Haemorrhages	Dra. Paula Pinheiro
21/01	Problems in Fetal Growth/ Pre-term Labour	Dr. Jorge Braga Dr. Joaquim Gonçalves
25/01	Hypertensive Disease in the Pregnancy Diabetes in the Pregnancy Isoimune Fetal Hidropsy	Prof. João Bernardes

Paediatrics Chairperson

Jorge Correia-Pinto and Helena Jardim

Date	Theme	Spokesperson		
01.Fev.05	RN term e pré-term	Dr.ª Carla Sá		
		Dr. Fernando Graça		
03.Fev.05	Neonatal pathology	Dr.ª Almerinda Pereira		
		Dra Esmeralda Rodrigues		
		Dr.ª Clara Paz Dias		
04.Fev.05	Child Health Consultation	Dr. ^a Isabel Cunha		
		Dr. José Luís Fonseca		
10.Fev.05	Adolescence	Dr. ^a Ana Antunes		
		Dr.ª Alice Chorão		
		Dr.ª Margarida Tavares		
11.Fev.05	Development and psychopathology	Dr.ª Sara Figueiredo		
		Prof. ^a Júlia Guimarães		
15.Fev.05	Respiratory Infections	Dr. ^a Cristina Castro		
		Dr.ª Susana Peres		
17.Fev.05	Respiratory chronic pathology	Dr.ª Carla Moreira		
		Dra Augusta Gonçalves		
		Dr.ª Águeda Matos		
18.Fev.05	nephritic/nephrotic Syndromes	Dr. Matos Marcos		
		Dr.ª Cláudia Tavares		
	22 Eav 05	Urinany Infections	Dr.ª Helena Silva	
---	------------	--	---------------------------------------	--
	22.1 ev.05	offinary intections	Cláudia Tavares	
Î	28.Fev.05	Acute gastroenteritis and dehydration	Dr. ^a Bernardete Fernandes	
			Dr.ª Cristina Ferreira	
	01.Març.05	Chronic diarrheas and mal-absorption	Dr. ^a Henedina Antunes	
			Prof. Jorge Correia-Pinto	
Î	03.Mar.05	Exanthematic diseases and common dermatological diseases	Dr. ^a Paula Vieira	
			Dr. João Luís Barreira	
	04.Mar.05	Pediatric Cardiology	Dr.ª Maria João Baptista	
		Anemia and oncology in pediatrics	Dr.ª Maria João Gil da Costa	
Î	08.Mar.05	Surgical and orthopedic common pathology in pediatrics	Prof. Jorge Correia-Pinto	
			Dr. Jorge Coutinho	
Î	10.Mar.05	Gravely III Child	Dr. ^a Albina Silva	
			Dr. ^a Lúcia Cardoso	
			Dr. Francisco Cunha	
Î	11.Mar.05	Child with hidro-electrolitic and acid-base unbalance	Dr. Augusto Ribeiro	
			Prof. Jorge Correia-Pinto	
	15.Mar.05	Child with bad estaturo-ponderal progression	Dr. ^a Eduarda Abreu	
			Dr. ^a Alice Chorão	
			Dr. ^a Susana Pissarro	

Assessment Methodology

Items assessed at the Hospitals (requirements for promotion on a 0-20 scale)

- 1. Professional behaviour⁴ (10)
- 2. Clinical skills² (10)
- 3. Patient examination and discussion: observation (clinical story e physical examination) of one patient (10)

Written examinations (requirements for promotion on a 0-20 scale)

- 4. Module examinations Multiple Choice tests at the conclusion of each module (7,5 in every examination) *Final grade: weighed average (Module1 x number of weeks + Module2 x number of weeks + ...)*
- 5. Final integration exam with Multiple Choice Questions and Clinical cases (7,5)

To be promoted, each student should have attained an weighed average equal or higher to 9,5;

Grades from 7,5 to 9,5 in a module exam are admitted, in accordance with the assessment regulation of the School of Health Sciences.

Final grading

Maternal and Child Health grade = 20% * (1 + 2 + 3 + 4 + 5)

⁴ Adaptation of the clinical student evaluation grid designed by the Jefferson Medical College (source: 2003-04 Student handbook).

APPENDIX I.3

MENTAL HEALTH RESIDENCY

ANNUAL REPORT

2004-05

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Mental Health Residency: Report

1. OVERVIEW

The present report concerns the "Mental Health" Residency of the 4th year Medical Degree of the University of Minho, held for the first time in 2004-2005. The report summarizes how this residency was organized and implemented and presents the students' academic performance and ratings of the Residency. The latter are further analysed and conclusions are drawn. All the information in the document regards exclusively the Residency at the Hospital São Marcos (HSM).

2. GENERAL ORGANIZATION AND COORDINATION OF THE MENTAL HEALTH RESIDENCY

Mental Health is the third residency of the 4th year Hospital Residencies for the Medical Degree Programme at ECS. The HSM (Braga) is one of the Hospitals that have been affiliated to provide clinical teaching. The coordination of the Mental Health Residency is defined under the Residencies' general coordination framework (see outline below). The conceptual frame of this Residency was the responsibility of Prof. Rui Mota-Cardoso.

Each of the Coordination Groups set out the general guidelines for the residencies. The Hospital member (Dr João Guerra) has been appointed as Mental Health Supervisor. The remaining members were appointed by the School



3. ACTIVITIES AT THE HOSPITAL (CLERKSHIP)

Activities in Hospital took place on a daily basis (9.00-13.00h). Daily hospital assignments included patient admissions (15), daily visits and registering of clinical observations in a simulated record (identical to the real one but for the colour) and the execution (training) of the planned activities (Appendix 1) for the Residency, attending the tutor/supervisor's practice and participation in the Medical Department/Service meetings. Students worked in groups, which were randomly assigned by the School of Health Sciences Medical Education Unit.

The Supervisor was responsible for the clinical teaching at the Hospitals. He further helped to define the order of student groups rotations through the different settings and was generally made responsible for ensuring the learning activities in the Residence,

including the adequate involvement of the staff (physicians and nurses) and the assignment of tutors (1 for every group of 4 students) to supervise the groups.

The list of Supervisor and Tutors is detailed in Appendix 2.

4. ACTIVITIES AT ECS (SEMINARS)

The cognitive programme was addressed in case-based Seminars. Chairpersons (Prof. Mota Cardoso and Dr. Bessa Peixoto) invited lecturers and prepared "Discussion panels" for the different themes. They also acted as lecturers in most of the seminars.

Seminars were held in campus, with the participation of the whole class, thus exposing all students to identical teaching experiences. The seminars took place during the afternoons, three times per week.

Responsibility for the course materials (including presentation slides, texts and suggested bibliography) that were posted on the School's intranet, rested with the chairpersons (for a calendar of the seminars, consult Appendix 3).

5. ASSESSMENT

5.1. Methodology for assessing the students

The assessment methodology applied in "Mental Health" clerkship can be consulted in detail in Appendix 4. In agreement with the School's principle that students should be endowed with knowledge, skills and attitudes, the evaluation is based on five parameters: professional behaviour¹, skills⁵, patient examination and discussion of reports and clinical histories and a written grade.

Student performances in each residency are evaluated at the Hospital.

The assessment was in accord with the demands of the Clinical Areas Coordination Group and with the criteria decided by the Mental Health Coordination Group.

Requirements such as format, logistics of examinations, grading, satisfactory residency completion, recommended readings and others were made available prior to the beginning of the Residency.

5.2. Results and commentaries

The Medical Education Unit compiled and analysed the grades and is responsible for the following computations and interpretations.

GRADE	0-7	8-9	10-13	14-15	16-17	18-20	Average ± St. Dev
UNDL	Failed	Poor	Fair	Good	Very Good	Excellent	
Students %	0 (0)	0 (0)	0 (0)	3 (7)	24 (59)	14 (34)	17 ±1

⁵ Adaptation of the clinical student evaluation grid designed by the Jefferson Medical College (source: 2003-04 Student handbook).

Table 2 – Discriminative grade distribution – Mental Health Residency

	Students (%)						Avorago
GRADE	0-7	8-9	10-13	14-15	16-17	18-20	±
	Failed	Poor	Fair	Good	Very Good	Excellent	St. Dev.
Reports and clinical histories	0 (0)	0 (0)	1 (2)	7 (17)	15 (37)	18 (44)	17 ±2
Exam	0 (0)	0 (0)	1 (2)	4 (10)	13 (32)	23 (56)	17 ±1
Attitudes	0 (0)	0 (0)	2 (5)	6 (15)	17 (42)	16 (39)	17 ±2
Skills	0 (0)	0 (0)	1 (2)	1 (2)	20 (49)	19 (46)	17 ±2
Final grade	0 (0)	0 (0)	0 (0)	3 (7)	24 (59)	14 (34)	17 ±1

Globally, student scores have been very good, thus indicating a good match between the learning expected by the instructors and what the students have accomplished. The fact that the scores registered for the individual components of the assessment are similar, testify the quality of the student's clinical training and conceptual evolution.

The fact that errors in Multiple Choice answers were not penalized sheds no shadow in the level of student's marks. In summary, the indicators suggest this to have been a very successful programme. Further comments and suggestions would require taking into account the perceptions of all the decisive individuals: the MHCG, chairpersons, tutors and students.

5.3. Students ratings: service and tutor

Student ratings on the Residency were assessed using a twelve-item multiple choice questionnaire, with a 6 point Likert-type response format (from Strongly disagree to Strongly agree). The questions are the following:

- 1. The tutor was available to answer questions and to clarify doubts
- 2. I was stimulated to share my ideas, knowledge and doubts
- 3. Tutors' explanations were organized and clear
- 4. The tutor was keen on letting me contact patients with different pathologies
- 5. The tutor was effective in helping me to identify clinical procedures
- 6. The tutor helped to me to carry through clinical procedures effectively
- 7. The tutor dominated the concepts, phenomena and clinical practices
- 8. My tutor informed me, in time, on the parameters that would be used to assess me
- 9. I received adequate feedback for my performance that allowed me to evolve
- 10. I have accessed all the service components (eg: meetings, visits, examinations, etc.)
- 11. What I've learned in this service was useful
- 12. He's/She's an excellent tutor

Paper copies of the questionnaires were distributed at the end of each residency segment/ module. An optical reader scored the choices, and percentages were computed for each question, using an SPSS suite (SPSS 13.0).

5.4. Results and commentaries

The Coordination of the Medical Education Unit is also responsible for the following comments.

The "Positive values" presented in the tables, refer to the summing of the percentages of the three "positive" parts of the scale. For a more straightforward discussion and easier visual interpretation of the data set, results were classified as "very good, good, poor, very poor" and colours were assigned to the different categories.

Table 3 - Criteria to define the relative performance of each item for faculty, based on the positive values of the answers for each question

76 – 100%	50 – 75 %	26 – 49%	0- 25%
Very Good	Good	Poor	Very poor

The general perception of the students, concerning items enclosed in the inquiry, is summarised in the data included in the table presented in the following page

Question	Average %
1	100
2	97
3	97
4	93
5	100
6	100
7	100
8	96
9	100
10	89
11	100
12	100
Average	98

Table 4. Positive values associated to each question, in the different rotations (%)

5.5. Student ratings: seminars

Information about students' overall perceptions on the Seminars was collected with a ten-item multiple choice questions questionnaire, using a 6 point Likert-type scale format (from Strongly disagree to Strongly agree). The ratings were analysed using the same methods as for evaluations of the tutors. The questions are the following:

- 1. I understood and assimilated the seminar contents
- 2. The lecture was dynamic
- 3. The lecturer approached the contents with clarity
- 4. PowerPoint presentations were well organized and structured
- 5. The way the lecturer organized the seminar captivated my interest
- 6. The rhythm of the seminar made note taking easy
- 7. Students were encouraged to participate in case discussions
- 8. The lecturer emphasized the relation between theories and concepts with the practices
- 9. Recent developments in the area were discussed
- 10. The recommended bibliography was useful

5.6. Results and commentaries

The evaluation for subject includes an average of the positive values collected for the speakers of each Seminar.

Question	Average (%)
1	95
2	95
3	92
4	85
5	94
6	92
7	94
8	98
9	88
10	69
Average	90

Table 5. Average (positive values) for each subject, in the respective set of its seminars (%)

In general, the ratings on the seminars were excellent. The least favourable perception was of the bibliography recommended. The analysis does not identify additional constraints for improvement.

6. CONCLUSIONS

The first experience with the MH Residency at the HSM came to its end with as a very successful Residency. The programme has been respected, tutors have performed very well and the seminars were highly rated. Every educational party has seen their expectations – students, clinical faculty, Hospitals - being met.

Students' evaluations, with an average mark of 17/20, were very good and there were no failures. Student's demonstrated the skills and professionalism expected by their tutors. A general word that might characterize the way students faced the Residency could be "enthusiasm". Responsible persons deserve to be congratulated.

Appendixes

List of Tasks and duties

Module III (Mental Health)

Competence in clinical skills or clinical procedures has been defined according to three levels:

Level 1	Awareness and understanding of the reasons for carrying out the skill/procedure or have seen it
	demonstrated

Level 2 Ability to carry out the skill/procedure under supervision

Level 3

Ability to carry out the skill/ procedure without supervision or as routine

CONSULTATION	1	2	3
Problem: nature, history, effect			Х
Other problems: life stiles, risk factors			х
Patients concerns and expectations			х
Understanding and sharing			х
Choosing, sharing, prescribing solution			Х
Making the patient participate			Х
Managing time			Х
MENTAL STATE EXAMINATION			
Attitude, appearance, general exam			Х
Speech, activity and movements			Х
Humor, affect			Х
Perception, thought, judgment			х
Memory, attention, abstraction			х
Will, impulse control			х
Orientation, conscience and insight			х
THERAPEUTICAL RELATION			
Security and affective warmth		х	
Empathetic understanding		х	
Respect and acceptance of the autonomy		х	
Authenticity, maturity		х	
Anguish continent		х	
Self-understanding of the relation		х	
CLINICAL HISTORY			Х
COMMUNICATIVE COMPETENCIES			
Communicating the diagnosis		х	
Advising and getting adherence		х	
Teaching symptoms- alert	х		
Responding to cry or anger		х	
Giving bad news		х	
Proposing internment		х	
Relating in teams			х
DEALING WITH EMERGENCIES	 		
Atemptive suicide		х	
Alcoholism / <i>Delirium Tremens</i>		х	
Agitation		х	
Abstinence		х	
RECOGNISING PROBLEMS	 		
Of the patient		х	
Family		х	
Social- professionals		х	
Crisis (mourning, change)		х	
Risk of suicide		х	
Abuse, battered person, negligence		x	
IDENTIFYING HUMORS	 L		·
Anxious Humor			х
Depressive Humor			x
Dysphoric / irritable Humor		x	~
euphoric Humor		x	
psychotic Humor	x	~	
	 ^		1

Ciclotímic Personality				Х	
Hysteric Personality				х	
anancastic Personality				х	
phobic Personality			х		
Paranoid Personality		х			
Psychopatic Personality				х	
DIAGNOSIS					
Psychopathologic Syndromes				х	
Anxious Disturbances				х	
Depressive Disturbances				х	
Psychotic Disturbances		х			
Differential Diagnosis			х		
PSICOFARMACOLOGY					
Indications and counter-indications			х		
Collateral Effects, interactions			х		
Doses, duration			х		
Intoxication and its treatment		х			

List of clinicians involved in learning/teaching activities in the clerkships

Module III (Mental Health)

Clinical Supervisors

HSM-Braga

João Guerra

Clinical Tutors

Hospital S.Marcos – Braga

Dr. Joaquim Duarte

Dr. Alberto Bessa Peixoto

Dra. Luisa Silva

Dr. Joaquim Gonçalves

Dra Lúcia Soares

Dra. Isabel Mota

Dra. Natália Fernandes

APPENDIX III

Cognitive programme

Module III (Mental Health) *Chairpersons* Rui Mota Cardoso Alberto Bessa Peixoto

Date	Theme	Teacher
30/03	Semiology	Prof. Rui Mota-Cardoso
		Prof. Alberto Bessa Peixoto
31/03	Aetiology	Prof. Rui Mota-Cardoso
		Prof. Alberto Bessa Peixoto
04/04	Treatment	Prof. Rui Mota-Cardoso
		Prof. Alberto Bessa Peixoto
06/04	Humour Disturbances	Prof. Rui Mota-Cardoso
		Prof. Alberto Bessa Peixoto
07/04	Bipolar Disease	Prof. Rui Mota-Cardoso
		Prof. Alberto Bessa Peixoto
11/04	Anxiety Disturbances	Prof. Rui Mota-Cardoso
		Prof. Alberto Bessa Peixoto
13/04	Panic and Obsessive-Compulsive Disturbances	Prof. Rui Mota-Cardoso
		Prof. Alberto Bessa Peixoto
14/04	Appetite, sleep and sexual Disturbances	Dr ^a Margarida Figueiredo
18/04	Psychoses. Schizophrenias	Prof. Rui Mota-Cardoso
		Prof. Alberto Bessa Peixoto
20/04	Organic Psychoses	Prof. Rui Mota-Cardoso
		Prof. Alberto Bessa Peixoto
21/04	Toxic dependencies	Dr ^a Isabel Prado e Castro
27/04	Pedopsychiatry	Dra. Luísa Morais
		Dra. Filipa Dias

Assessment Methodology

- **1.** The final evaluation, with summative character, shall be done through the pondered evaluation of the materials presented by the students and the absence of exclusion specific circumstances.
- 2. The evaluation done by the tutors of the 2nd and 4th clinical cases, the "Clinical History", the final theoretical evaluation and the tutor's general evaluation will be pondered
- **3.** The reports of the 4 clinical cases and the "Clinical History" will be evaluated from 0 to 4 (bad, mediocre, fair, good, very good). The evaluation of the 1st and 3st clinical cases had a formative character. The evaluation of the 2st and 4st cases have formative and summative character. The theoretical evaluation will be assed by and pondered in "values"
- 4. The tutor's general evaluation shall verse on the following aspects:
 - Professional behavior.
 - Knowledge and their use
 - Clinical competencies
- 5. Exclusion circumstances:
 - Failing to present the "Register Notebook" or to confirm the entire "List of observations and mandatory prescriptions"
 - Negative evaluation (0-1) of both reports or in the Clinical History
 - Failing in any of the topics
 - Demonstrated unawareness in anyone of the broad topics of the study
 - Not presenting the "Lecturers evaluation"
- 6. The final grade will be the algebraic sum of the following values:
 - 2nd report evaluation (40%) and 4th report evaluation (60%): 4 values
 - Clinical History Evaluation: 4 values
 - Theoretical Evaluation: 2 values per area, in a total of 10 values
 - Tutor's general evaluation: 2 values

APPENDIX I.4

HEALTH CENTRE RESIDENCY I

ANNUAL REPORT

2004-05

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Health Centres Residency: Report

1. OVERVIEW

The present report summarizes the organization and implementation of the Health Centres Residency (HCR) on the 4th year of the Medical Degree of the School of Health Sciences of the University of Minho. The document presents and analyses students' academic performance and the ratings gathered on the Residency and the participating clinical tutors.

2. GENERAL ORGANIZATION AND COORDINATION OF THE RESIDENCY

HCR concludes the programme of the 4th year Medical Degree Residencies. The residencies were carried out in urban and rural Health Centres located in the geographical areas of Braga, Guimarães and neighbouring administrative districts.

A total of three Health Centres and seven health units were affiliated to provide clinical teaching.

The coordination of the Health Centres Residency is defined under the Residencies' general coordination framework (see outline below). The conceptual frame of this Residency was the responsibility of Dr. Jaime Correia de Sousa.



3. ACTIVITIES AT THE HEALTH CENTRES (CLERKSHIPS)

Activities in the Health Centres followed the chronogram below. Daily assignments in the health centres included attending consultations with the tutors, registering of clinical observations and carrying out the planned activities (Appendix 1) for the Residency, attending the tutor/supervisor's practice and participation in the regular meetings.

Teaching / learning was based on scripts (handouts) structured as "Handbooks for guidance and recording"; its aims were organised according to the level of knowledge, skills and attitudes that represent the student's competence acquisition when he/she finishes the residency, namely "Primary care knowledge", "Clinical knowledge and skills" and "Attitudes". The handbook included charts and assessment tables. The activities were mostly of practical nature, clinical and non-clinical, always under tutor's pedagogical guidance.

Students took part in health teams (one or two per team) tutored by Family Physicians (General Practitioners); other personnel from different areas with varied skills and expertise, like nurses, social workers, nutritionists, psychologists, secretaries, and other staff were also involved in the team/ teaching work.

	Week	_	MOND	TUES	WED	THUR	FRID
May	★		2	3	4	5	6
Ividy	1	М	3	3	3	3	3
		Т	3	3		3	
	-	-	9	10	11	12	13
	1'	M T			ACADEMIC WEEK		
			16	17	18	19	20
	2	М	4	3	3	3	3
		Т		3	Vertical Domains	3	2
				-			
			23	24	25	26	27
	3	М	4	4	4	Holiday	3
		Т	3	3		rioliday	3
May June			30	31	1	2	3
may surre	4	М	3	3	3	4	3
		Т		3	Vertical Domains	3	2

The list of Supervisors and Tutors is detailed in Appendix 2.

4. ACTIVITIES AT ECS (SEMINARS)

The cognitive programme was addressed in interactive Seminars (the calendar is presented in appendix 3). The whole cohort of 4° year students attended the sessions.

The HCR Coordination Group shared the responsibility for the selection of the speakers (listed in Appendix 3), the main themes, and for the quality of the course materials (including bibliography, audiovisuals and the texts that were placed on the School's intranet). The number of sessions / seminars appointed to the main themes are presented in the table below.

Themes	Number of Sessions
Learning in Family Medicine (FM)	1
The Family Physician (FP) and its position in the health system	3
The consultation in FM	4
Patient diagnosis and management	2
Frequent health problems in FM	4
Management of chronic diseases	1
The family in FM	2
The consultation in special situations	5

Table 2 – Distribution of the number of cognitive seminars or workshops per main subject

As a rule, the HCCG proposed "Jones R, Britten N, Culpepper L, Gass DA, Grol R, Mant D and Silagy C, editors. Oxford Textbook of Primary Medical Care. New York, NY, Oxford University Press, 2004" as the bibliographic reference which was complemented, whenever suitable.

5. ASSESSMENT

5.1. Assessment method

The following is an overview of the assessment methodology applied in the Residency, which is detailed in Appendix 4. In agreement with the School's principle that students should demonstrate knowledge, skills and attitudes, the evaluation was based on four parameters, unequally weighed in the final grade (see Appendix 4): procedure list, professional behaviour, skills, (evaluated at the Health Centres), essays and a final test (evaluated in the University).

The Medical Education Unit analysed all the grades and is responsible for the following computations and interpretations.

5.2. Results and commentaries

Final grade distributions are presented in the following tables:

Number		Students (%)				Average	
of	CURRICULAR ÁREA	0 - 9	10-13	14-15	16-17	18-20	± Standard
Students		Failed	Fair	Good	Very good	Excellent	Deviation
50	Health Centres Residency I	0	0	0	8 (16)	42 (84)	18 ± 1

Table 3 - Final Grade distribution - Health Centres Residency I (2004-05)

Table 4 – Discriminative grade distribution – Health Centres Residency I (2004-05)

			Students (%)			Average
	8-9	10 - 13	14 - 15	16 – 17	18 - 20	± Standard
	Failed	Fair	Good	Very good	Excellent	Deviation
Essays	0	0	4 (8)	22 (44)	24 (48)	17 ± 1
Professionalism	0	0	6 (12)	20 (40)	24 (48)	17 ± 1
Skills	0	0	11 (22)	29 (58)	10 (20)	17 ± 1
Procedures	0	0	0 (0)	0 (0)	50 (100)	20 ± 0
Final exam	0	0	8 (16)	28 (56)	14 (28)	17 ± 1

Student scores have been very good, thus indicating a good match between the learning expected by the instructors and what the students have accomplished. The scores registered for the individual components of the assessment were very similar, except for the evaluations of the Procedures, unanimously rated at the top of the scale. Globally, the evaluations have concentrated on the highest part of the scale and resulted in little discrimination between students.

5.3. Student ratings: tutor and area

Student ratings on the Residency were gathered using a 14-item multiple-choice questionnaire, with a 4-point Likert-type scale format (from Strongly disagree to Strongly agree). The questions are the following:

- 1. The tutor was available to answer questions and to clarify doubts
- 2. I was stimulated to share my ideas, knowledge and doubts
- 3. Tutors' explanations were organized and clear
- 4. The tutor sought to show me patients with different health problems

- 5. The tutor helped to me identify clinical procedures effectively
- 6. The tutor helped to me to carry through clinical procedures effectively
- 7. The tutor dominated the concepts, phenomena and clinical practices
- 8. The tutor told me which were the parameters from which he would assess me
- 9. I received feedback about my performances, in a way that I could evolve
- 10. I have accessed all the service components (eg: meetings, vulnerable groups consultation, etc.)
- 11. What I've learned in this health centre was useful
- 12. He's/She's an excellent tutor
- 13. I would have done this curricular area even if it wasn't mandatory
- 14. Globally, I consider this an excellent area

Students answered the questionnaires on paper copies of at the end of the area. Student choices and percentages were computed for each question, using an SPSS suite (SPSS 14.0).

5.4. Results and Commentaries

For a more straightforward discussion and easier visual interpretation of the data set, results were classified as "very good, good, poor, very poor" and colours were assigned to the different categories.

Table 5 - Criteria to define the relative performance of each item for faculty, based on the positive values of the answers for each question

76 – 100%	50 – 75 %	26 – 49%	0-25%
Very Good	Good	Poor	Very poor

Table 7 includes data computed for the clerkship services.

Question	Average %
1	100
2	100
3	100
4	98
5	100
6	98
7	100
8	92
9	92
10	88
11	98
12	100
13	88
14	80

Table 7 - Positive values associated to each question, for the clerkship (%)

The values above result from the computation of the evaluations collected for all tutors in all the Health Centres. The ratings gathered for every item were very good. Results that refer to the role of tutors in practice (questions 4 to 10) indicate a very clear understanding of their role in clinical teaching. Accordingly, students have appreciated the usefulness of what they have been taught and have rated tutors very high.

The final two questions refer to the area as a whole. The two items gathered very good ratings, albeit at a lower level than most of tutor ratings. Broadly, the ratings demonstrate that, in the student's perspective, this has been a very successful Residency.

5.5. Student ratings: seminars

Information about students' overall perceptions on the Seminars was collected with a ten-item multiple choice questionnaire, using a four point Likert-type response format (from Strongly disagree to Strongly agree). The ratings were analysed using the same methods as for evaluations of their tutors. The questions are the following:

- 1. I understood and assimilated the seminar contents
- 2. PowerPoint presentations were well organized and structured
- 3. The way the lecturer organized the seminar captivated my interest
- 4. The lecture was dynamic
- 5. The lecturer approached the contents with clarity
- 6. The rhythm of the seminar made note taking easy
- 7. Students were encouraged to participate in case discussions
- 8. The lecturer emphasized the relation between theories and concepts with the practices
- 9. Recent developments in the area were discussed
- 10. He's an excellent lecturer

5.6. Results and Commentaries

 $\label{eq:table 8} \textbf{Table 8}. \ \mbox{Average (positive values) in the respective set of its seminars (\%)}$

Question	Average %
1	93
2	67
3	78
4	88
5	84
6	87
7	79
8	87
9	76
10	82

In general, seminars were rated extremely well. The least favourable perception was the organization of the presentations, an item that can be improved in the next edition of the area. The ratings do not identify significant constraints for improvement.

6. CONCLUSIONS

The first experience with the Health Centres Residency at ECS came to its end, leaving a feeling of accomplishment behind it. Students' evaluations, with an average mark of 18/20, were very high and there were no failures. The programme has been turned into reality and performances have achieved very good levels. The challenge of successfully involving 25 new faculty and 7 new institutions at once within a different teaching & learning philosophy, far from being exhausted, came to a good start.

Appendixes

List of Tasks and duties Health Centres Residency

Competence in clinical skills or clinical procedures has been defined according to three levels:

Level 1 Awareness and understanding of the reasons for carrying out the skill/procedure or have seen it

demonstrated

Level 2 Ability to carry out the skill/procedure under supervision

Level 3 Ability to carry out the skill/ procedure without supervision or as routine

To observe in, at least, 5 consultations the delivery by the FP of patient centred care and to discuss its features with the tutor To recognize in, at least, 5 consultations prevention opportunities in FM To recognize in, at least, 5 consultations the decision to consult a physician and the reason for encounter To observe in, at least 5 consultations, exploration by the tutor of patients' ideas and health beliefs regarding their symptoms and disease, their concerns, expectations and understanding of illness To obtain a patient history in a minimum time with non-biased questions in, at least, 5 consultations To assess the sexual history including risk markers for violent behaviour in at least, 2 consultations To explore previous contacts with the health system including previous medical and surgical interventions in at least, 5 consultations To explore occupational, environmental and cardiovascular risk markers, current activity level, substance abuse, nutrition habits, self-medication habits, immunization status, household conditions, family health history, quality of emotional attachment to other family members in at least, 3 consultations To perform a complete physical examination in at least, 2 consultations To observe the tutor performing a focused physical examination in at least, 5 consultations and to discuss its rationale with the tutor To measure the blood pressure in at least, 5 consultations To measure blood glucose in at least, 2 consultations To use and interpret urine dipstick tests in at least, 2 consultations To discuss indications for rectal examination in, at least, one consultation To discuss indications and observe testicular examination in, at least, one consultation To examine the skin for skin cancer in, at least, one consultation To examine the oral cavity in, at least, 2 consultations To perform vision testing in, at least, 2 consultations To perform otoscopy in, at least, 2 consultations To measure PEF in, at least, one consultation To administer intramuscular and subcutaneous injections at least once To administer tuberculin tests at least once To present oral and written clinical information in, at least, 5 consultations To observe and discuss with the tutor communication of clinical information to patients and families in, at least, 2 consultations To use problem-oriented medical records in, at least, 5 consultations To use the International Classification for Primary Care (ICPC 2) in, at least, 2 consultations To observe the use of electronic clinical records, at least, five times, discussing with the tutor its benefits To observe the assessment by the tutor of the magnitude of clinical problems and the need for urgent action in, at least 5 consultations To observe the assessment of functional aspects of the most common diseases and its impact in the patient's daily activities in, ate least, 5 consultations To observe and discuss with the tutor in, at least 5 consultations, the use of strategies for the management of chronic diseases To adequately analyse the patient's family history in, at least, 2 consultations To observe the assessment in the consultation of the quality of the bonds between the patient and the other family members in, at least, 2 families To perform the biometric assessment of newborns and infants in, at least, 2 consultations To observe the physical examination of infants and children in, at least, 2 consultations To observe the promotion and practice of the National Vaccination Plan and additional immunisation procedures in, at least, 2 consultations To observe the assessment of physical and mental status in elderly people in, at least, 2 consultations To attend, at least, 2 home visits with the tutor To observe the exploration of substance abuse in, at least, one consultation To observe the assessment of violent behaviour in, at least, one consultation

List of clinicians involved in learning/teaching activities in the clerkships

Health Centres Residency

Health Centre

Centro de Saúde de Braga - Unid. Saúde do Carandá Centro de Saúde de Braga - Unid. Saúde do Carandá Centro de Saúde de Braga - Unid. Saúde do Carandá Centro de Saúde de Braga - Unid. Saúde do Carandá Centro de Saúde de Braga - Unid. Saúde do Carandá Centro de Saúde de Braga - Unid. Saúde do Carandá Centro de Saúde de Braga - Unid. Saúde do Carandá Centro de Saúde de Braga - Unid. Saúde do Carandá Centro de Saúde de Braga - Unid. Saúde de Infias Centro de Saúde de Braga - Unid. Saúde de Infias Centro de Saúde de Braga - Unid. Saúde de Infias Centro de Saúde de Braga - Unid. Saúde de Infias Centro de Saúde de Braga - Unid. Saúde de Infias Centro de Saúde de Braga - Unid. Saúde de Infias Centro de Saúde de Braga - Unid. Saúde de Maximinos Centro de Saúde de Braga - Unid. Saúde de Maximinos Centro de Saúde de Braga - Unid. Saúde de Maximinos

Role	Name
Supervisor	Dr. Margarida Lima
Tutor	Dr. Adriana Dias
Tutor	Dr. Isabela Chorão
Tutor	Dr. Ramón Areas
Tutor	Dr. José Carones
Tutor	Dr. Maria Palmira Carneiro
Tutor	Dr. Maria Augusta Pereira
Tutor	Dr. Maria Eloína Rodrigues
Tutor	Dr. Maria Raindo
Tutor	Dr. Mário Mendonça
Tutor	Dr. José Luís Franqueira
Tutor	Dr Maria José Cabrita
Tutor	Dr. Ricardo Armada
Tutor	Dr Isabel Subiela
Tutor	Dr. Maria dos Anjos Ribeiro
Supervisor	Du Luía Lauaniaina

	Supervisor	Dr. Luís Laranjeiro
Centro de Saúde das Taipas	Tutor	Dr. Alice Dias
Centro de Saúde das Taipas	Tutor	Dr. João Carvalho Silva
Centro de Saúde das Taipas	Tutor	Dr. Nuno Castro
Centro de Saúde das Taipas	Tutor	Dr. Mário Dias
Centro de Saúde das Taipas	Tutor	Dr. Maria Alcina Castro
Centro de Saúde das Taipas	Tutor	Dr. Maria João Varandas
Centro de Saúde de Guimarães - Unid. Saúde de Urgezes	Tutor	Dr. Angela Sperb
Centro de Saúde de Guimarães - Unid. Saúde de Urgezes	Tutor	Dr. Jorge Nogueira
Centro de Saúde de Guimarães - Unid. Saúde de Urgezes	Tutor	Dr. Marco Pina
Centro de Saúde de Guimarães - Ext. Saúde de Serzedelo	Tutor	Dr. José Manuel Sousa
Centro de Saúde de Guimarães - Ext. Saúde de Pevidém	Tutor	Dr Paula Silva

Cognitive programme

Health Centres Residency

Chairpersons

Jaime Correia de Sousa

Date	Theme	Lecturer
02-05-2005	Learning in Family Medicine (FM)	Dr. Jaime Correia de Sousa et all
02-05-2005	Learning Resources in FM	Dr. Manuel Montenegro
03-05-2005	The Family Physician (FP) and its position in the health system (1)	Dra Clara Fonseca
03-05-2005	The FP and its position in the health system (2)	Dr. Jaime Correia de Sousa et all
03-05-2005	The consultation in FM (1)	Maria José Ribas et. All
04-05-2005	The consultation in FM (2)	Dr. Jaime Correia de Sousa et all
17-05-2005	The consultation in FM (3)	Dr. Jaime Correia de Sousa et all
19-05-2005	Patient diagnosis and management (1)	Dr. Jaime Correia de Sousa et all
20-05-2005	Psychological problems in FM (1)	Prof. Sónia Gonçalves
27-05-2005	The consultation in FM (4)	Dr. José Nunes
27-05-2005	Patient diagnosis and management (2)	Prof. Armando Brito e Sá
30-05-2005	Frequent health problems in FM	Dr. Jaime Correia de Sousa et all
31-05-2005	The family in FM (1)	Dr. Jaime Correia de Sousa et all
31-05-2005	Management of chronic diseases	Dr. Jaime Correia de Sousa et all
01-06-2005	The family in FM (2)	Dr. Jaime Correia de Sousa et all
03-06-2005	The FP and its position in the health system (3)	Dr. Jaime Correia de Sousa et all
	The consultation in special situations (1)	
07-06-2005	Psychological problems in FM (2)	Dr. Jaime Correia de Sousa et all
09-06-2005	The consultation in special situations (2)	Dr. Jaime Correia de Sousa et all
13-06-2005	The consultation in special situations (3)	Dr. Jaime Correia de Sousa et all
16-06-2005	The consultation in special situations (4)	Dr. Jaime Correia de Sousa et all
17-06-2005	Rural Family Medicine	Prof. Berta Nunes

Assessment Methodology

The assessment of the Area of HCR included four parameters unequally weighed in the final grade:

•	Procedure list	- 40%
•	Final test	- 35%
•	Essay: group work on a family medicine subject	- 15%
•	Behaviours and Attitudes:	- 10%

Academic Staff, January 2006, including clinical supervisors and tutors

Academic Staff, January 2006

Nome	Grau	Categoria	Área de Investigação	Área de Docência
Joaquim Germano Pinto Machado Correia da Silva	MD, PhD, Agregação	Prof. Catedrático Emeritus 50%		CSH;SC;C
Maria Cecília L.P. Estrela Leão	PhD, Agregação	Prof. Catedrática Exc. 100%	Doenças Infecciosas	MC
António Carlos Megre Eugénio Sarmento	MD, PhD, Agregação	Prof. Catedrático Conv. 30%		BP
Damião J. Gaspar Lourenço da Cunha	MD, PhD	Prof. Catedrático Conv. 30%		С
Mário José Cerqueira Gomes Braga	MD, PhD, Agregação	Prof. Catedrático Conv. 30%		С
Óscar Ferreira Rolão Candeias	MD	Prof. Catedrático Conv. 30%		С
Joana Almeida Santos Pacheco Palha	PhD	Prof. * Associada Exc. 100%	Neurociências	SOF
Jorge Manuel Rolo Pedrosa	PhD	Prof. Associado Exc. 100%	Doenças Infecciosas	BP
Nuno Jorge Carvalho de Sousa	MD, PhD	Prof. Associado 100%	Neurociências	SOF
Jorge Manuel Nunes Correia Pinto	MD, PhD	Prof. Associado Conv. 50%	Desenvolvimento e Neoplasias	SOF
João D. C. do Sameiro Espregueira Mendes	MD, PhD	Prof. Associado Conv. 20%		С
Pedro Nuno Ferreira Pinto Oliveira	PhD, Agregação	Prof. Associado (equivalente a 10%)		
António Gil Pereira de Castro	PhD	Prof. Auxiliar Exc. 100%	Doenças Infecciosas	BP
Armando Alberto Nova Pinto de Almeida	PhD	Prof. Auxiliar Exc. 100%	Neurociências	SOF
Fernando José dos Santos Rodrigues	PhD	Prof. Auxiliar Exc. 100%	Doenças Infecciosas	MC
Isabel Maria Mestre Marques Palmeirim Alfarra Esteves	MD, PhD	Prof. * Auxiliar Exc. 100%	Desenvolvimento e Neoplasias	MC
Maria de Fátima Monginho Baltazar	PhD	Prof. ª Auxiliar Exc. 100%	Desenvolvimento e Neoplasias	BP
Manuel João Tavares Mendes da Costa	PhD	Prof. Auxiliar (requisição) 100%		CSH
Patrícia Espinheira Sá Maciel	PhD	Prof. ª Auxiliar Exc. 100%	Neurociências	SOF
Paula Cristina C. A. Monteiro Ludovico	PhD	Prof. ^a Auxiliar Exc. 100%	Doenças Infecciosas	MC
Rui Manuel Vieira Reis	PhD	Prof. Auxiliar Conv. Exc. 100%	Desenvolvimento e Neoplasias	BP
Clara Costa Oliveira	PhD	Prof [®] Auxiliar (equivalente a 40%)		CSH
João Carlos Cruz Sousa	PhD	Prof. Auxiliar Conv. 30%	Neurociências	SOF
António José Alegre Sarmento	MD	"Chefe de Serviço de Saúde Pública" (requisição) 50%		SC
Filipa Santos Costa Pinto Ribeiro	Lic. Biologia	Assistente Conv. 100%	Neurociências	SOF
Manuel José Lima Costa Rodrigues	MD	Assistente Conv. 50%	Neurociências	SOF
André Filipe Couto Carvalho	MD	Assistente Conv. 40%	Neurociências	SOF
Ana Maria Resende Morais Mateus	MD	Assistente Conv. 40%		SC
Carla Rolanda da Rocha Gonçalves	MD	Assistente Conv. 40%	Desenvolvimento e Neoplasias	SOF
Hugo Miguel Braga Almeida Tavares	MD	Assistente Conv. 40%	Neurociências	SOF
Isabel Margarida Moura Mesquita	MD	Assistente Conv. 40%		BP
João José Fernandes Cardoso de Araújo Cerqueira	MD	Assistente Conv. 40%	Neurociências	SOF
João Miguel Seiça Bessa Peixoto	MD	Assistente Conv. 40%	Neurociências	SOF
João Paulo Soares Fernandes	MD	Assistente Conv. 40%	Desenvolvimento e Neoplasias	SOF
José Miguel Gomes Moreira Pêgo	MD	Assistente Conv. 40%	Neurociências	SOF
Luís Miguel Gonçalves Torrão	MD	Assistente Conv. 40%	Desenvolvimento e Neoplasias	SOF
Maria Fernanda Grillo Milanezi	MD	Assistente Conv. 40%	Desenvolvimento e Neoplasias	BP

Cont.				
Nome	Grau	Categoria	Área de Investigação	Área de Docência
Maria João Ribeiro Leite Baptista	MD	Assistente Conv. 40%	Desenvolvimento e Neoplasias	SOF
Mário Jorge Alves Oliveira	MD	Assistente Conv. 40%	Neurociências	SOF
Pedro Alexandre Leão A. Gonçalves Teixeira	MD	Assistente Conv. 40%	Neurociências	SOF
Rui Pedro da Rocha Bastos	MD	Assistente Conv. 40%	Desenvolvimento e Neoplasias	SOF
Tiago da Silva Pinto Teixeira	MD	Assistente Conv. 40%		BP
Mário Nélson Morais Freitas	MD	Assistente Conv. 30%		SC
Pedro de Paula Santos Alves Monteiro	MD	Assistente Conv. 30%		BP
Ana Mª Lacerda M.F.C.A. Horta	MD	Assistente Conv. 20%		BP
António Jaime Botelho Correia Sousa	MD	Assistente Conv. 20%		SC
Elisabete Guimarães de Sousa	MD	Assistente Conv. 20%		BP
Fernando Henrique Pires Pardal Oliveira	MD	Assistente Conv. 20%		BP
Cristina Isabel Nogueira da Silva	Estudante 5º ano	Monitora		SOF
Gustavo Filipe Melo Alves Rocha	MD	Monitor	Desenvolvimento e Neoplasias	SOF
José Mário Coutinho Roriz	MD	Monitor	Desenvolvimento e Neoplasias	SOF
Colaboradores				
Nome	Grau	Categoria	Área de Investigação	Área de Docência
Adhemar Longatto Filho	PhD	Prof. Auxiliar Conv. Exc. 100%	Desenvolvimento e Neoplasias	BP
Carlos Alberto de Almeida Valério	MD	"Chefe de Serviço de Clínica Geral" 30%		SC
Cláudio Henrique Sunkel Cariola	PhD, Agregação	Prof. Associado / ICBAS - UP		MC
Constantino Theodor Sakellarides	PhD	Prof. Catedrático (equivalente a 10%)		SC
Fernando Carlos de Lander Schmitt	MD, PhD	Prof. Associado - FMUP	Desenvolvimento e Neoplasias	BP
Jorge António Gonçalves Pinto Basto	MD	"Interno Complementar no Inst. de Genética Médica"		BP
Luís Filipe F. Lima Laranjeiro	MD	"Chefe Serviço de Cuidados Personalizados de Saúde" (Centro Saúde de Guimarães)		SC
Margarida Conceição Lima	MD	Centro de Saúde de Gualtar – Braga		SC
Maria Amélia Ferreira Duarte	MD, PhD, Agregação	Prof. * Catedrática / FMUP		SOF

Prof.ª Catedrática Univ. Castilla-la-Mancha (Assessoria)

PhD

Maria Teresa Alfonso Roca

UEM

Clinical Tutors – Curricular I	Area "Follow-up	of a Family I e II" (2005-06)

Health Centre	Tutors (MD,)	
Centro de Saúde de Braga I	Adelaide Alves	
	Adriana Dias	
	Cristina Lopes	
	Filomena Carvalho	
	Isabela Chorão	
	Maria Augusta Pereira	
	Olga Silva	
	Peláez Carones	
Contro do Saúdo do Braga II	Fornanda Maria Vioira	
Centro de Sadde de Braga II		
	Maria dos Anjos Vioira Piboiro	
	Maria do Carma Pais Machada	
	Maria do Carrio Fais Macriado	
	Maria Madalona Graca	
	Maria Teresa Almeida Concelves	
	Paula Marques	
	i aula inalques	
Centro de Saúde de Braga III	Aparicio Barbosa Silva Braga	
C C	Luísa Carvalho	
	Maria da Conceição S. Ferreira Cruz	
	Maria de Fátima Pinto	
	Maria José Cabrita	
Unidade de Saúde de Gualtar	Eugénia Esteves	
	Márcia Milet	
	Teresa Macedo	

Clinical Tutors - Curricular Area "Follow-up of a Family I e II" (2005-06)

Health Centre

Tutors (MD_.)

Contro do Saúdo do Braga	
Unidade de Saúde do Carandá	Adriana Vaz Dias
	Isabela Chorão
	Peláez Carones
	Maria Augusta Pereira
	Maria Eugénia Esteves
	Maria Palmira Carneiro
	Rámon Areas
Unidade de Saúde de Infias	Luisa Carvalho
	Maria Eloina Rodrigues
	Maria Raindo
	Mário Mendonça
	Maria José Cabrita
Unidade de Saúde de Maximinos	Isabel Subiela
	José Luís Franqueira
	Maria dos Anjos Ribeiro
	Ricardo Armada
	Ân acta Linna Craste
Extensão de Urgeses	
	Jorge Edurenço Casiro
Extensão de Pevidém	Paula Cristina Silva
	Maria José Teixeira
Extensão de Serzedelo	José Manuel Sousa
	Susana Cristina Pires
Centro de Saúde das Taipas	Alice Conceição Pérez Dias
	João Luís Barata Silva
	Maria Alcina Dias de Castro
	Maria João Pinto Ribeiro
	Nuno Manuel Dias de Castro

Clinical Tutors - Hospital de São Marcos (2005-06)

Residency/Sub-Especiality		Tutors (MD)		
Introductions to Clinic Medicine				
	Internal Medicine	Maria Adelina Ferreira		
		Sameiro Ferreira		
		Narciso Oliveira		
		Juan Rafael G. Sanchez-Reyes Garcia		
		Sameiro Neves		
		Maria João Nogueira Costa		
Medicine I				
	Internal Medicine	Maria Adelina Ferreira		
		Narciso Oliveira		
		Alexandre Carvalho		
		Juan Rafael G. Sanchez-Reyes Garcia		
		Sameiro Neves		
		Maria João Nogueira Costa		
	Pneumology	João Cunha		
		Manuel Macedo Gonçalves		
		Lurdes Ferreira		
		José Eduardo Oliveira		
	Cardiology	Jorge Marques		
		Alberto Salgado		
		Márcia Torres		
		Sérgio Rocha		
		Rui André Rodrigues		
	Gastroenterology	José Luis Barata		
		Raquel Gonçalves		
		Vera Dias		
	Endocrinology	Olinda Amelia Pinno Marques		
		Castor G. Pereira		
Motornal on	d Child Holoth	Maria Lopes Pereira		
		Maria Luísa Cardoso		
	Obstetrician			
		Manuela Araúio		
		Paula Pinheiro		
		Pedro Cabrita		
	Pediatrics	Isabel Cunha		
		Henedina Marques		
		Esmeralda Silva		
		Maria Helena Silva		

Maria Augusta Gonçalves

Ana Maria Antunes

		And Maria Antunes		
Mental Health				
	Mental Health	Joaquim Duarte		
		Alberto Bessa Peixoto		
		Luísa Silva		
		Joaquim Gonçalves		
		Lúcia Soares		
		Isabel Mota		
		Natália Fernandes		
Surgery				
	Surgery 1	Joaquim Falcão		
		Ricardo Pereira		
		Sandra Martins		
		Maia da Costa		
		Sónia Vilaça		
		Fernando Ferreira		
		Mário Reis		
	Surgery 2	Pedro Koch		
		Conceição Antunes		
		Fernando Manso		
		Virgínia Soares		
		Carlos Gomes		
	Ginecology	Arlindo Ferreira		
		Luís Castro		
		Etelvina Cruz		
		José Gabriel Silva		
		Maria Teresa Silva		
		Maria José Rocha		
	Urology	Mário Cerqueira		
		Vila Mendes		
		Miguel Mendes		
		António Lemos de Sousa		
	Ophthalmology	Fernando Silva		
		Carla Pinto		
		José Manuel Lemos		
	Otorrinolaringology	Francisco Oliveira		
		Vicente Azevedo		
		Higínio Fonseca		
		Luís António Dias		
	Orthopaedic	António Pedro Malheiro		

		Helena Ferreira
		Mário Ventura
		Ramiro Fidalgo
	Neurosurgery	Eva Gonzalez
		José António Costa
		Manuel Afonso Pinto
		Rui Jorge Almeida
Medicine II		
	Internal Medicine	Maria Teresa Pimentel
		José Manuel Paz
		Ilídio Brandão
		Adelina Ferreira
		Narciso Oliveira
	Nefrology	Isabel Salomé
	Neurology	Maria Esperança Lourenço
		Carla Ferreira
		Ricardo Maré
	Hemato-oncology	Teresa Macedo
		Maria Júlia Pereira
	Dermatology	Maria da Luz Duarte
		Maria Celeste Brito
		Ana Paula Vieira
		José Carlos Fernandes
		Cristina Macedo

Clinical Tutors - Hospital Senhora da Oliveira (2005-06)

Residency/Sub-Especiality		Tutors (MD.)		
Introduction to Clinical Medicine				
	Internal Medicine	Maria Helena Jacinto Sarmento Pereira		
		Maria da Glória Sousa Alves		
		Maria Elisa Barroso Torres		
		Maria Emília Castro Lopes		
		Pedro Miguel Guimarães Cunha		
		Lurdes Natália Mendes Oliveira		
Medicine I				
	Internal Medicine	Maria Helena Jacinto Sarmento Pereira		
		Maria da Glória Sousa Alves		
		Maria Elisa Barroso Torres		
		Maria Emília Castro Lopes		
		Pedro Miguel Guimarães Cunha		
		Lurdes Natália Mendes Oliveira		
	Cardiology	António Rodrigo Miranda Lourenço		
	Gastroenterology	Salomé Bruno Costa Gonçalves Lima		
Maternal an	d Child Health			
	Obstetrícy	Isabel Maria Dória Reis Buhier		
		Elsa Pereira		
		Maria Sofia Dantas Pinto Xavier		
		Maria José Gonçalves Pires Costa		
		Rosa Maria Freitas Fernandes		
		Maria Odosinda Rosmaninho Lopes Sousa		
	Pediatrics	Fernando Eduardo Meireles Maio Graça		
		Maria José Teixeira Costeira Paulo		
		Clara Sofia Domingues Paz Dias		
		Ana Cláudia de Castro Tavares		
		Susana Noites de Brito Peres		
		Cristina Maria Gonçalves Ferreira		
Mental Heal	Mental Health			
	Mental Health	Ana Geraia		
		Emanuela Lopes		
		José Luís Gouveia		
		Gerly Macedo		
Clinical Tutors - Hospital Senhora da Oliveira (2005-06) (Cont.)

Residency/Sub-Especiality		Tutors (MD.)
Surgery		
	Surgery	Jorge Magalhães
		Salete Ferreira
		António Abreu
		Carlos Alpoim
		Manuel Ferreira
		Lima Terroso
	Surgery Vascular	Celso Carrilho
	Ginecology	José Manuel Furtado
		Fernanda Tavares
		José Vivas de Freitas
		Manuela Mesquita
		Maria José Pires
		Pedro Oliveira
	Urology	Carlos Guimarães
	Oftalmology	António Fernandes
	Otorrinolaringology	Carlos Matos
		Nuno Lousan
		Rui Fonseca
	Orthopaedics	Carlos Vilela Gomes
		António Gomes Cruz
		Manuel Loureiro
		Vitor Caetano
		Gomes Cruz
		Manuel Ferreira
Medicine II		
	Internal Medicine	Elisa Torres
		Helena Sarmento
		Natália Oliveira
		Glória Alves
		Emília Lopes
		Pedro Cunha
	Nourology	Lurdes Pedriques
	neurology	
		הווצבום טוועם
	Oncology	Camila Pinto
	Dermatology	Olga Ferreira