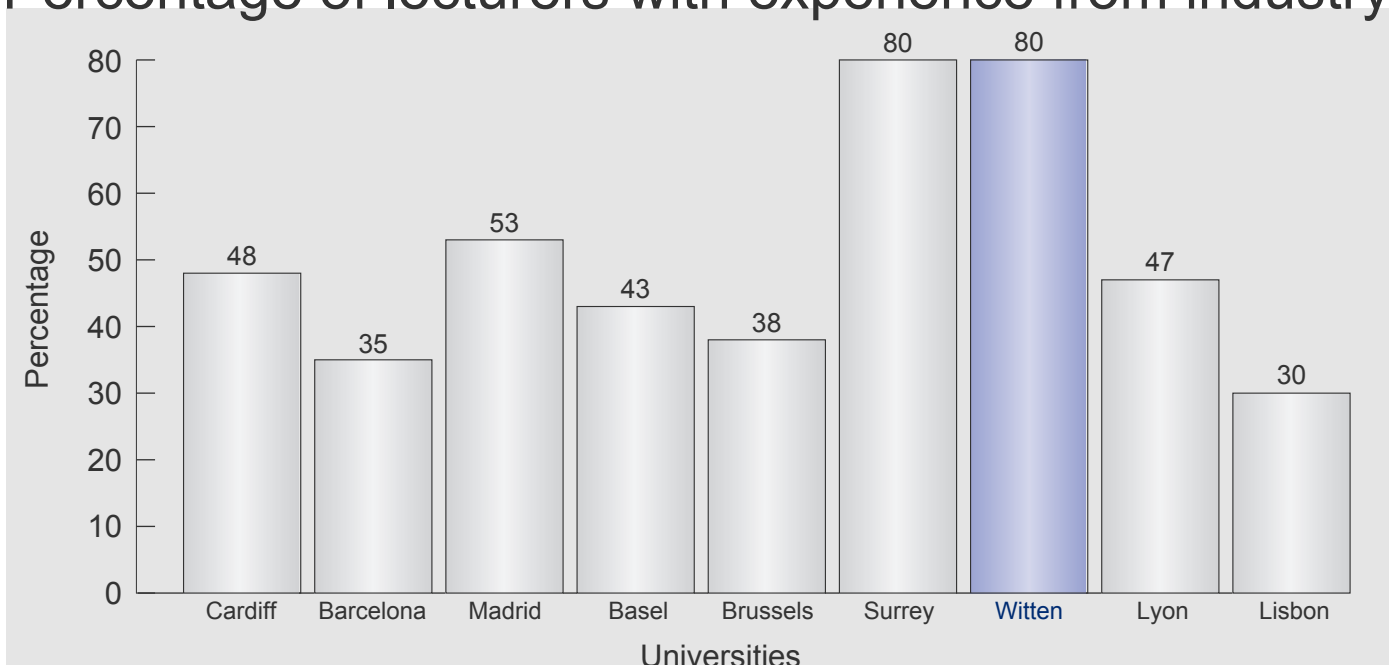


„... the university provides an interdisciplinary, international and practice-oriented academic training ...“

Percentage of lecturers with experience from industry



Postgraduate courses in pharmaceutical medicine in Europe: a pilot survey

IFAPP Working Party on Education in Pharmaceutical Medicine

The first postgraduate course in pharmaceutical medicine was inaugurated in 1974 in the UK by AMAPI (now BrAPP) and was transferred to the University of Wales, Cardiff in 1978. Since that time eight similar courses have been founded in European universities, two in the 1980s and six in the 1990s.

As most of these courses resulted from a close co-operation between pharmaceutical physicians (often represented by the National Association of Pharmaceutical Physicians) and academia, it might be expected that the content of the courses would be quite similar in all of them and correspond overall with the syllabus drafted by the Faculty of Pharmaceutical Medicine and adopted by the International Federation of Associations of Pharmaceutical Physicians (IFAPP).

However, cultural differences and local academic standards and practices have induced major differences in the structure of the courses and the technique of assessments and examination. Since it is in the interest of pharmaceutical medicine in general and pharmaceutical physicians in particular that there is a mutual recognition between countries of the Diplomas in Pharmaceutical Medicine given by the awarding bodies, the initiation of a harmonization process might seem timely and desirable. The first step in such an ambitious enterprise should be to gather information on the characteristics and features of individual courses and to identify those areas which might need to be aligned to allow mutual recognition of the diplomas being delivered to students who pass the examinations. This was the objective of the survey organized by the Working Party on Education in Pharmaceutical Medicine of IFAPP.

In order to collect information on the various courses in operation, a questionnaire was developed and mailed to the Course Directors of the nine following courses listed in chronological order of their foundation:

- Postgraduate Course in Pharmaceutical Medicine, University of Wales Cardiff, UK (1978).
- Postgraduate Diploma in Pharmaceutical Medicine, Autonomous University of Barcelona, Spain (1986).
- Academic Specialty in Pharmaceutical Medicine, Complutense University of Madrid, Spain (1986).
- European Course in Pharmaceutical Medicine (ECPM), University of Basel, Switzerland (1991).
- Postgraduate Programme in Pharmacology and Pharmaceutical Medicine, Free University of Brussels (ULB), Belgium (1992).
- Master of Science in Pharmaceutical Medicine, University of Surrey, UK (1993).
- Postgraduate Study Course in Pharmaceutical Medicine, University of Witten/Herdecke, Germany (1996).
- European Diploma in Pharmaceutical Medicine (EUDIPHARM), University of Lyons, France (1999).
- Course in Pharmaceutical Medicine, New University of Lisbon, Portugal (1999).

Full contact details for these postgraduate courses are shown in the Appendix.

The questionnaire addressed the following items:

- seminars/modules: number, duration, frequency, content
- students: number, qualifications
- examinations: technique, duration, frequency.

Results

Completed questionnaires were received from all the nine universities. The main results of the survey are summarized below as well as in Tables 1–4.

University of Wales, Cardiff (from 1978)

This is a 2-year part-time residential course consisting of 10 modules, five per year, i.e. one every 2 months during the two academic years. Each session lasts 3 days; the full course counts 200 hours of teaching. The courses are held at a number of hotel venues within the UK. Approximately 140 delegates register for the course every 2 years, of whom approximately two-thirds go on to sit the examination organized once a year by the Board of Examiners of the Faculty of Pharmaceutical Medicine. The course is intended for registered physicians only, who have recently joined the pharmaceutical industry or work for a drug regulatory agency. Up to 77 teachers are participating in the course, of which around 50% are from industry.

University of Barcelona (1986)

A 2-year non-residential course consisting of 14 modules of various duration (between 4 and 30 hours) depending on the subject. Courses are all taught at the university 1 day per week from January to June of each year representing a total

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Table 1. Teaching hours on specified subjects/total teaching hours

University	CR	RA	PV	SD	PE	MM	Total
Cardiff	20	20	20	20	15	25	120/200
Barcelona	57	8	8	14	8	16	111/220
Madrid	60	6	9	12	3	24	114/300
Basel	120	28	6	24	6	8	192/216
Brussels	57	20	7	27	10	20	141/280
Surrey	48	24	24	12	12	24	144/288
Witten	75	25	25	25	25	25	200/350
Lyon	120	90	20	20	75	–	325/325
Lisbon	16	16	8	8	16	16	80/176
Average	64	26	14	18	19	18	159/261

CR, clinical research; RA, regulatory affairs; PV, pharmacovigilance; SD, statistics and data management; PE, pharmacoeconomics; MM, medical marketing.

of 220 hours of teaching by 46 teachers of which 16 are from industry. The average number of students registering every 2 years is 30. Up to 1996, only physicians were accepted on the course and at the examinations; today, PhDs in life sciences are also accepted. The present ratio of physicians to non-physicians is 55%:45%. Examinations are conducted twice a year but so far are written only. To register for the examination, candidates need to have attended at least 80% of the courses.

University of Madrid (1986)

This 2-year non-residential course also consists of 14 modules distributed over the months of October to June

and totalling 300 hours of teaching at the University by 88 teachers of which 47 belong to industry. Around 30 students are registering every two years. Up to 1996 they had to be physicians, but since then the requirements are the same as at the University of Barcelona. The present ratio of physicians to non-physicians is 60%:40%. Examinations are conducted once a year and are both written and oral. To register for the examinations students must have attended at least 75% of the courses.

University of Basel (1991)

Although the University of Basel plays a predominant role in its organization and management, this 2-year residential course is a collaborative effort of EUCOR, the European Confederation of the Upper Rhine Universities (Basel, Freiburg i.Br., Strasbourg). It counts six modules: each module takes 3–4 consecutive days of intensive teaching; three modules are taught per year and the total course represents 216 hours of teaching. All modules are taught at the University of Basel by 131 teachers of which 57 are from industry. Around 120 students are registering to the course every 2 years. Both physicians and PhDs in life sciences are accepted on the course as well as at the exams provided they have attended at least five of the six modules. The physicians to non-physicians ratio is 35%:65%. Oral and written examinations are organized every 2 years.

Table 2. Number of teachers and affiliation

University	Industry	CRO	Academia	DRA	Others	Total
Cardiff	37 (48%)	10	10	5	15	77
Barcelona	16 (35%)	3	12	5	10	46
Madrid	47 (53%)	6	25	6	4	88
Basel	57 (43%)	16	32	12	14	131
Brussels	23 (38%)	6	25	6	1	61
Surrey	65 (80%)	8	4	4	–	80
Witten	61 (80%)	6	3	3	3	76
Lyon	X	X	34	–	–	65
Lisbon	6 (30%)	2	8	4	–	20

CRO, contract research organization; DRA, drug regulatory agency.

Table 3. Students

Universities	Number of students/2 years			Course activities (%)
	Full course	Individual seminars	Exams	
Cardiff	140	–	90	Seminars 50. Workshops 25. Group discussions and exercises 25
Barcelona	30	–	30	Seminars 70. Workshops 20. Group discussions 10
Madrid	30	–	30	Seminars 73. Workshops 13. Group discussions 8. Other 6
Basel	120	30–40	80–100	Seminars 76. Workshops 12. Group discussions 12
Brussels	20	60	16	Seminars 80. Workshops 20
Surrey	25	6	25	Seminars 75. Workshops 20. Group discussions 5
Witten	20	–	16	Seminars 50. Workshops 20. Case studies 15. Role playing 10. Group discussions 5
Lyon. First year	7	14	7	Seminars 70. Workshops 10. Case studies 10. Group discussions 10
Lisbon	16	24–28	16	Seminars 80. Workshops 15. Group discussions 5

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Table 4. Examinations

Universities	MCQs	Short questions	Short dissert.	Duration		Assessments	Percent compulsory ^a
				Written	Oral		
Cardiff ^b	50	Yes	No	5 hours	45 min	No	NA
Barcelona	60	Yes	No	2 hours	–	Yes	80%
Madrid	60	Yes	No	2 hours	20 min	Yes	75%
Basel	Yes	No	No	3 hours	30 min	Yes	83%
Brussels	25	Yes	Yes	3 hours	45 min	No	NA
Surrey ^c	No	Yes	Yes	Dissertation		Yes	NA
Witten	25	Yes	Yes	Master thesis	1 hour	Yes	90%
Lyon	40	Yes	Yes	3 hours	1 hour	Yes	NA
Lisbon	No	No	Yes	Dissertation	1 hour	Yes	100%

NA = not applicable.

^aAmount of Course to be attended.

^bFaculty's Diploma in Pharmaceutical Medicine.

^cPhysicians may also sit Faculty's Diploma in Pharmaceutical Medicine – see under Cardiff.

University of Brussels (1992)

This is a non-residential course consisting of eight modules. All modules are taught every year, but the students have the choice between attending all modules in one year or spreading the attendance over 2 or 3 years. Each module takes one full week of every month between November and June leading to a total of 280 hours of teaching at the Université Libre de Bruxelles (ULB). An average of 40 students are registering every year either to the full course or to individual modules taught by 61 teachers of which 23 are from Industry. Both physicians and PhDs in life sciences are accepted; the ratio of physicians to non-physicians is 30%:70%. Physicians passing the examinations are awarded a 'Diploma in Pharmaceutical Medicine' recognized by the Belgian Royal Academy of Medicine and the Faculty of Pharmaceutical Medicine (London), while the non-physicians receive a 'Master's Degree in Pharmacology and Pharmaceutical Medicine'. Oral and written examinations are organized at least once a year. It is not required to follow the courses to register for the examination, provided the candidate is a graduate and has an adequate experience in pharmaceutical medicine.

University of Surrey (1993)

This master of science degree course has 12 modules of which eight are core and four optional (selected from a list of options). Each module is taught over three days at a frequency of one every 4–6 weeks; students take on average one every 2–3 months. One complete cycle is available every 15–18 months, but students have 6 years for attending the total of 288 hours of teaching given by over 80 teachers of which around 65 are from industry. Around 25 students register every 2 years to the full course. Physicians, PhDs in life sciences and other qualifications are accepted for the course; applications of non-graduates are considered and may be accepted on the basis of both professional qualifications and experience. The ratio of physicians to non-physicians is the lowest of all courses: 23%:77%. There is no final examination, but students are assessed before and at the end of each module by written assignments consisting of exercises based on required and recommended reading and incorporating the assessment for the module. A dissertation

has to be presented at the end of the course, and is worth one-third of the credits towards the MSc. Physicians attending this course cover the syllabus in pharmaceutical medicine which prepares them to sit the examination for the Diploma in Pharmaceutical Medicine of the Faculty of Pharmaceutical Medicine.

University of Witten (1996)

This a 2-year non-residential course divided into 18 modules, taught in block seminars on Thursday afternoons, Fridays and Saturdays once per month; this represents a total of 350 hours of teaching. Each module closes with an assessment. The course takes 18 months and is followed by a 6-month time period for the preparation of a thesis, its presentation and an oral examination. Of the 76 teachers participating in the course, 61 are from industry. Around 20 students are registering every 2 years. Physicians and PhDs in life sciences are eligible for the course and examinations; the ratio of physicians to non-physicians is 30%:70%. To be eligible for presentation of the thesis, candidates must have attended 90% of the courses.

University of Lyon (1999)

The postgraduate course in Lyon deviates in several respects from the classical course of pharmaceutical medicine. First, it succeeded in obtaining sponsorship from the European Union. Second, it involves the participation of 14 universities in 11 countries of the European Union. Third, the teaching faculty is very international involving many from UK, Sweden, Germany and Italy. Fourth, the structure of the course is at variance in that it offers a series of options in which the candidate can choose for a subspecialty (drug development, regulatory affairs, post-marketing monitoring, medical marketing activities). During the first year, all students attend three residential seminars of 3 weeks duration; this represents a basic training module with 18 sub-modules. In the second year, they specialize in one of the options mentioned above and attend three to four modules, each of 2 weeks duration. In the first year, all courses are taught at the University of Lyon, but in the second year, students are supposed to move around the various partici-

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pating universities. To obtain the diploma, the candidate has to sit written and oral examinations and submit a dissertation. The total number of teaching hours is estimated at 325. In the first year of operation seven students registered and four passed the examination. Physicians and PhDs in life sciences are accepted.

University of Lisbon (1999)

This is a 6-month non-residential course taught every year from January until June at the rate of twice 2-day sessions per month, which represents a total of 176 hours. The course counts 11 modules taught by 20 teachers of which six are from industry. Around eight students register for the full course, while 12–14 register for individual seminars. Physicians and PhDs in biosciences are accepted; the ratio of physicians to non-physicians is 75%:25%. Assessments are made at the end of each module and only those students who passed the 11 assessments and have attended 100% of the course are allowed to submit a dissertation of around 20 000 words at the end of the course. Successful candidates receive a Diploma in Pharmaceutical Medicine recognized by the National Board of Physicians.

Other universities

Preparations are ongoing at two other European universities, Milan and Stockholm (Karolinska), to set up postgraduate courses in pharmaceutical medicine.

Discussion

It is notable that there are now nine training courses in pharmaceutical medicine established in seven countries of Europe, with six out of the nine being established in the 1990s, some 20 years after the first course was inaugurated.

From the nine completed questionnaires received it is readily apparent that the course designs and procedures as well as techniques used in training and examining the students are very different from one university to another. This should not be surprising, since courses were set up with little or no consultation with the organizers of existing courses. As a consequence, local practices and convenience were determining factors.

Common factors between the courses are that they are all modular, they all cover the principle and core topics from the Syllabus in Pharmaceutical Medicine, the majority (8/9) have a duration of 2-years or the possibility of 2 years or longer, the majority (8/9) are open to non-physicians as well as pharmaceutical physicians, and the majority (6/9) are taught in English.

That is where the similarities end, and as a basis for moving towards a common international standard in the education and training of pharmaceutical physicians, this pilot survey would indicate that harmonization of existing courses would be difficult or impossible to achieve. There is, thus, little basis for the courses themselves to be used as means of mutual recognition of a common standard of education in pharmaceutical medicine.

The Faculty of Pharmaceutical Medicine has approached this by focussing on output rather than educational courses through a recognition of comparability of non-UK Diplomas in Pharmaceutical Medicine. Thus, the UK and Belgian Diplomas in Pharmaceutical Medicine have been accepted by the Royal Colleges of Physicians of the UK as equivalent and are now mutually recognized. A holder of the Belgian Diploma may now apply for membership of the Faculty of Pharmaceutical Medicine. This has been brought about by a close investigation of the comparability of examination content, processes and procedures, an exchange of examiners over 2 years of examinations, an intent to eliminate or streamline any small differences in the examination procedures which have emerged, and an agreement to maintain continuous interchange of examiners and audit of examinations over the years to ensure maintenance of standards and quality of output. The UK Board of Examiners is engaged in a similar process with other Diploma courses mentioned here, so far without further result.

This survey illustrates a large variance between courses in the teaching hours devoted to core topics from the Syllabus in Pharmaceutical Medicine, as well as in the total face-to-face teaching time of the complete courses, and in the relative contribution of teachers from industry/CRO/regulatory areas compared with academia. There is also a large variance in the number of students attending each course, the proportion of physicians to non-physicians, and the teacher-student ratios for each course.

This pilot survey did not attempt to cover many areas of course design and activity in both teaching and examination, which might have a bearing on the comparability of the standard and quality of basic education and training in pharmaceutical medicine in Europe, and this might be the basis of a more in-depth study. Such areas might include the amount of non face-to-face teaching incorporated in each course (distance learning, project work, written assignments).

It is inevitable too that such variance as there is between courses has a great impact on the fee structure for the courses, and although these data are available it is difficult at present to indicate relevant comparability or relative 'value for money'.

No attempt has so far been made to investigate and compare the detailed content of material in the modular courses, or the quality and perceived value of didactic teaching compared with other course activities, such as workshops, group discussions, case studies and role play.

Similarly there is little at present to compare the structure, content, standards and quality of the examinations and other measures of educational output, with the exception of the mutual recognition between the UK and Belgian Diplomas in Pharmaceutical Medicine.

The exact and internationally comparable relationship of the courses and examinations to the standard-setting bodies awarding degrees and diplomas is also important to determine in respect of the recognition and accreditation that can be derived from them. This is particularly important since at present, apart from Switzerland, Pharmaceutical Medicine is not an officially recognized medical specialty in Europe.

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Conclusions

1. With the rapid increase in the number of educational courses available in Europe covering the Syllabus in Pharmaceutical Medicine, it is instructive to attempt to compare them in terms of structure, content and logistics. This is in the interests of firstly moving towards a common international standard for basic education and training in the discipline, and secondly advising, via IFAPP, other countries both within and outside Europe on the establishment of such courses.
2. There is little basis so far in the European experience for considering that a benchmark has been achieved for delivery of education in pharmaceutical medicine.
3. There are many unresolved questions about course structure and logistics raised by this pilot survey and a more in-depth investigation might be justified.
4. The mutual recognition of educational output through examinations for Diplomas in Pharmaceutical Medicine might be a practical way forward to achieve a harmonization and a recognition of the quality and standards of basic education in Pharmaceutical Medicine in Europe.

Herman Lahon, Peter Stonier, Convenors

Appendix

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