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1-1-2010

Pharmacy Education and Training in Ireland. The PHARMINE survey of European higher education institutions delivering pharmacy education & training - Ireland, 2010.

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Citation

Strawbridge JD, Horgan L, Capdeville-Atkinson C, Noel L, Atkinson J. Pharmacy Education and Training in Ireland. The PHARMINE survey of European higher education institutions delivering pharmacy education & training - Ireland, 2010.

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Pharmacy education & training in

IRELAND

2010

Education and Culture DG
Lifelong Learning Programme

PHARMINE
Pharmacy Education
in Europe

PHARMINE (PHARMacy education IN Europe) is a project funded by the European Commission (LLL programme, Erasmus). Its aims and objectives are to survey the present state of pharmacy education and training in Europe, and on the basis of this survey, formulate recommendations for new competence curricula for pharmacy education and training in the EU. A model for pharmacy education and training for candidate member states and other countries will be proposed. The opportunities for a quality assurance and accreditation scheme for EU pharmacy courses will be investigated.

PHARMINE will take into account two important issues, (i) the EU directive 2005/36/EC on the recognition of professional qualifications and, (ii) the Bologna declaration. PHARMINE will focus both on recommendations for core education and training and for activities such as industrial and hospital pharmacy.

The PHARMINE consortium consists of universities which are members of the European Association of Faculties of Pharmacy (EAFP) and EU partner associations representing community, hospital of industrial pharmacy, together with the European Pharmacy Students' Association and other interested bodies.

In order to reach the objectives of the PHARMINE project, a work-plan was set up and divided into 7 work-packages (WP).

The aims and objectives of PHARMINE WP7 are to:

1. Survey European higher education institutions (HEIs)
2. Produce a databank of pharmacy education and training courses in Europe leading to core pharmacist qualifications and to qualifications required for industrial and hospital pharmacy
3. Survey to what extent the "Bologna" (based on the principles enumerated in the Bologna declaration) and the "Sectoral profession" (based on 2005/36/EC) models for pharmacy education and training are compatible.

PHARMINE WP7 will produce several documents including a WP7 survey by country. Such surveys are intended for the use of students and staff interested in mobility and/or contacts with the country in questions as well as educationalists working on pharmacy education and training in Europe.

(see: The PHARMINE paradigm.pdf)

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Summary.

Pharmacy education is provided for in Ireland by three Higher Education Institutions; The Royal College of Surgeons in Ireland (RCSI), University of Dublin, Trinity College (TCD), and University College Cork (UCC). TCD was the sole provider of the undergraduate programme from 1977 until 2002 when the School of Pharmacy RCSI opened. The Schools educate approximately 150 students per annum. Applications to study pharmacy are far in excess of the places available as demand is high, and the profession is therefore fortunate to attract students of high calibre.

There have been a number of recent developments which have transformed the landscape of pharmacy education and training in Ireland. The Bologna declaration, for instance, prompted curriculum reform in the Schools with RCSI completely reforming in 2005 to be fully compliant.

One of the main drivers for development has been the Pharmacy Act 2007, which conferred responsibility on the Pharmaceutical Society of Ireland (PSI), the pharmacy regulator, for overseeing education, training and lifelong learning in pharmacy.

The PSI recently commissioned The Review of Pharmacy Education and Accreditation (PEARs) Project, a Review of International CPD Models, a review of competency frameworks and a baseline survey of standards in practice. These are intended to inform undergraduate curriculum development and a strategy for lifelong learning. The primary recommendation of the PEARs report (http://www.pharmaceuticalsociety.ie/Education/upload/File/Accreditation/PEARs_Project_Report.pdf) is that "the current 4+1 model of pharmacy education to first registration should be replaced by a five year fully integrated programme of education, training and assessment as the basis for application for registration as a pharmacist." This report will instigate major curriculum reform in the Higher Education Institutions imminently.

The Review of International CPD Models (http://www.pharmaceuticalsociety.ie/News/upload/File/Publications/PSI_International_Review_of%20CPD_Models.pdf) set forth a vision for continuing professional development provision that will be implemented by 2014, as mandated by the Pharmacy Act 2007.

The PSI also prioritised reform of the pre-registration year – the year of training between the undergraduate programme and registration. The National Pharmacy Internship Programme, a globally unique programme, was developed on behalf of the PSI by the School of Pharmacy of the Royal College of Surgeons in Ireland. Successful completion of the programme results in the award of a Masters of Pharmacy (M.Pharm) and entitlement to apply for registration as a pharmacist in Ireland and for subsequent free movement within the EU/EEA under the Professional Qualification Directive (2005/36/EC). The programme is a 12 month, full-time, blended-learning programme, attracting 90 European Credit Transfer and Accumulation System (ECTS) credits on completion. The basis for the

curriculum is a competency framework that describes the knowledge, skills and attitudes required of a newly-registered pharmacist, consistent with international norms.

It is envisaged that improvements in the education and training of pharmacists will allow for significant enhancements to be made to the delivery of pharmacy services that capable of being benchmarked against the best internationally.

Introduction.

Statistics:

Total population: 4,221,000

Gross national income per capita (PPP international $): 34,730

Life expectancy at birth m/f (years): 77/82

Healthy life expectancy at birth m/f (years, 2003): 68/72

Probability of dying under five (per 1 000 live births): 4

Probability of dying between 15 and 60 years m/f (per 1 000 population): 88/56

Total expenditure on health per capita (Intl $, 2006): 3,082

Total expenditure on health as % of GDP (2006): 7.5

Figures are for 2006 unless indicated. Source: World Health Statistics 2008

For further information on organisation of pharmacies in Ireland, see:

http://ppri.oebig.at/Downloads/Results/Ireland_PPRI_2007.pdf

http://ec.europa.eu/internal_market/services/docs/pharmacy/appendices_en.pdf

The most comprehensive information on pharmacy education in Ireland is the recently launched Pharmacy Education and Accreditation Reviews (PEARs) report and the vision for an Irish model for CPD – see links below

http://www.pharmaceuticalsociety.ie/Education/upload/File/Accreditation/PEARs_Project_Report.pdf

http://www.pharmaceuticalsociety.ie/News/upload/File/Publications/PSI_International_Review_of%20CPD_Models.pdf

Chapter 1. Organization of the activities of pharmacists, professional bodies

	Y/N, number or %	Comments.
Community pharmacy		
Number of community pharmacists	3400	
Number of community pharmacies	1616	
Competences and roles of community pharmacists	As defined opposite	1. Supplying prescription medicines 2. Managing medicines for some ailments 3. Giving advice on medicines 4. Screening services 5. Services to the housebound 6. Services to nursing and care homes (medication reviews, advice on storage and administration of medicines) Specific competencies are under development by the Pharmaceutical Society of Ireland (PSI) – the Pharmacy Regulator
Is ownership of a pharmacy limited to pharmacists?	No	
Rules on distribution of pharmacies?	No	
Are drugs and healthcare products available to the general public by channels other than pharmacies?	Yes	There is a General Sales List – the medicines available to the general public by channels other than pharmacies. GSL medicines can be sold by a wide range of shops, such as newsagents, supermarkets and petrol stations. Often, only a small pack size or low strength of the medicine may be sold. Internet Pharmacists are not permitted under the Medicinal Products (Prescription and Control of Supply) Regulations 2003 SI No 540 of 203, as amended
Are persons other than pharmacists involved in community practice?	Yes, pharmaceutical assistants (see Register of Pharmaceutical Assistants on the PSI website) (Also pharmacy technicians – see note)	Note: pharmacy technicians are also members of the pharmacy team but are not regulated in Ireland and therefore there is no data available.. There is no legal standing for pharmacy technicians.
Number	539	
Their qualifications		
Organisation providing and validating the E&T		The pharmacy assistant qualification is no longer awarded in Ireland and the original register has closed. Those previously on the register have acquired rights under the Pharmacy Act 2007. Pharmacy technician training is conducted via City and Guilds through

		the Irish Pharmacy Union, or via the Dublin, Carlow or Athlone Institutes of Technology.
Duration of studies (years)	Number:	N/A
Subject areas		N/A
Competences and roles		N/A
Hospital pharmacy		
Does such a function exist?	Yes	
Number of hospital pharmacists	474	
Number of hospital pharmacies	76	
Competences and roles of hospital pharmacists	As defined	Specific competencies are under development by the Pharmaceutical Society of Ireland (PSI) – the Pharmacy Regulator
Pharmaceutical and related industries		
Companies with production, R&D and distribution	10	This number is approximate
Companies with production only	80	This number is approximate. The authorised manufacturers list for Ireland can be found at: http://www.imb.ie/EN/Medicines/Manufacturing/Authorised-Manufactures-List.aspx
Companies with distribution only	50	This number is approximate. The authorised wholesalers list for Ireland can be found at: http://www.imb.ie/EN/Medicines/Wholesale-Distribution/Authorised-Wholesalers-List.aspx
Companies producing generic drugs only	10	This number is approximate
Industrial pharmacy		
Pharmacists working in industry	85	
Competences and roles of industrial pharmacists	As defined opposite	7. Synthesis and production of new chemical entities and drugs 8. R&D – drugs 9. R&D – health care products other than drugs 10. Preclinical drug evaluation (safety and efficacy) 11. Clinical drug evaluation (safety and efficacy) 12. Marketing 13. Distribution 14. Medic al devices 15. Cosmetology 16. Drug evaluation and registration (governmental and industrial) Specific competencies are under development by the Pharmaceutical Society of Ireland (PSI) – the Pharmacy Regulator The requirements for QP are provided for in the Medicinal Products (Control of Manufacture) Regulations 2007 (SI no 593) and 2009 (SI no 4) These Regulations enforce the European Directive 2001/83/EC Directive.
Other sectors		

Pharmacists working in other sectors	83	
Sectors in which pharmacists are employed		Regulatory, Academic, Health Services (Department of Health and Children, Health Services Executive), National Pharmacoeconomics Centre, National Medicines Information Centre. Of note in Ireland there are no Primary Care/Health Services Pharmacists as defined in section 3 of the introduction above.
Competences and roles of pharmacists employed in other sectors		Specific competencies are under development by the Pharmaceutical Society of Ireland (PSI) – the Pharmacy Regulator
Roles of professional associations		
Registration of pharmacists	Yes Register of Pharmacists	Statutory register held by the PSI under the Pharmacy Act 2007
Creation of community pharmacies and control of territorial distribution	Yes Register of Retail Pharmacy Businesses	Community and hospital pharmacies must be registered in the Register of Retail Pharmacy Business held by the PSI under the Pharmacy Act 2007.
Ethical and other aspects of professional conduct	Yes	Statutory code of conduct under the Pharmacy Act 2007
Quality assurance and validation of HEI courses for pharmacists	Yes	Duty of PSI under the Pharmacy Act 2007 to 'determine, approve and keep under review programmes of education and training suitable to enable persons applying for registration to meet those criteria and pharmacists to comply with those codes.'

References and websites	
Texts and articles of national law	Pharmacy Act 2007 and related regulations and rules http://www.pharmaceuticalsociety.ie/Home/upload/File/Pharmacy_Act_2007/Pharmacy%20Act%202007.pdf
Irish Medicines Board	http://www.imb.ie/default.aspx
Pharmaceutical Society of Ireland	http://www.pharmaceuticalsociety.ie/

Chapter 2. Pharmacy HEIs, students and courses

	Y/N, number or %	If you wish to expand your answer, please add your comments below.
Total number of HEIs in Ireland	3	Royal College of Surgeons in Ireland (RCSI), Trinity College Dublin (TCD), University College Cork (UCC)
Public	2	TCD and UCC
Private	1	RCSI
Organisation of HEIs		
Attached to a medical faculty	Yes	Medical and Health Sciences Faculty
Do HEIs offer B + M degrees?	Yes	2 offer B (TCD), (UCC). 1 offers B + M (RCSI) TCD offers a B.Sc. and UCC offers a B.Pharm. RCSI offers a B.Sc. and an M.Pharm. The majority of job opportunities are for those who are registered as Pharmacists with the PSI. This occurred in the past at B level with one year's pre-registration training, and the vast majority of students undertook this. Since 2009/10 the National Pharmacy Internship programme has replaced the pre-registration training and all graduates of the programme will have an M level degree. In effect from now on, all B undergraduates are likely to proceed to the M degree course.
Do HEIs offer an M. Pharm. after a B degree in another HEI?	Yes	1 offers an M.Pharm. at present (RCSI) for students graduating with a B degree in Pharmacy from RCSI, TCD or UCC. This is an interim arrangement, pending the recommendations of a Review of Pharmacy Education and Accreditation (PEARs) Project (see the PSI website).
Ireland		
Teaching staff		
Teaching staff (nationals)	83%	The recent Review of Pharmacy Education and Accreditation (PEARs) Project indicated that there were 19 staff at RCSI, 53 at TCD and 19 at UCC. Questionnaires were sent and there was a response rate of 60%. The findings were that 46% were female and 83% were Irish Citizens. The remainder were all EU/EEA citizens. The job titles were as follows. Professors 3%, Associate Professor 5%, Adjunct Professor 3%, Senior Lecturer 28%, Lecturer 54% and Teacher Practitioner 5%. 54% were registered as a pharmacist in an EU country.
International teaching staff (from Europe)	17%	
Number professionals (pharmacists and others) from outside the HEIs, involved in E&T	200	There are approximately 200 pharmacists who tutor MPharm students in their training establishments.
Students		
Number of places at traditional entry (beginning of S1 of B1, following secondary school)	150	
Number of applicants for entry	2042	Total number of applicants in 2009 was 2042. Total number of applicants in 2010 was 1828

Number of graduates that become registered pharmacists.	Usual maximum number is 170 in any given year	This includes graduates, mature and non-EU students trained at RCSI.
Number of international students (from EU member states)	Usual maximum 5 in any given year	
Number of international students (non EU)	Usual maximum is 10 in any given year	The process to have a third country qualification recognised and then registered has just commenced in March 2009 in Ireland under the Pharmacy Act 2007 and therefore there are no current data available for numbers outside the national process.
Entry requirements (beginning of S1 of B1, following secondary school)		
Specific pharmacy-related, national entrance examination	No	
Other form of entry requirement at a national level	Yes	There are specific requirements for admission to the undergraduate programmes outlined through the Central Applications Office (CAO – www.cao.ie)
Is there a national *numerus clausus*?	Yes	Yes – in effect. There are 150 places funded by the Government following secondary school
Advanced entry		
At which level?		N/A
Fees per year		
For home students	Amount (€): 0	There are 150 places provided for under the Department of Education's Free Fees Scheme at present.
For EU MS students	Amount (€): unknown	Unknown for all institutions
For non EU students	Amount (€): unknown	Unknown for all institutions
Length of course	**4 years**	
Specialization		
Do HEIs provide specialized courses?	No	
Past and present changes in E&T		
Have there been any major changes since 1999?	Yes	Since 1999 there have been 2 new Schools of Pharmacy (RCSI and UCC). The Bologna Agreement has impacted on the curricula of all schools. The Pharmacy Act 2007 and related rules and regulations is a driver for major changes in E&T. The National Pharmacy Internship Programme (M.Pharm.) commenced in 2009.
Are any major changes envisaged before 2019?	Yes	The Review of Pharmacy Education and Accreditation (PEARs) Project and a Review of International CPD Models have been published by the PSI. These reports along with other commissioned work in developing competency frameworks and baseline survey of standards in practice, will bring major changes to E&T .
Royal College of Surgeons in Ireland		
Teaching staff		
Number of teaching staff (nationals)	16	These are the number employed by the School of Pharmacy directly. It does not include teachers from the School of Medicine which is also part of the same Faculty of Medicine and Health Sciences
Number of international teaching staff (from EU MSs)	2	

Number of international teaching staff (non EU)	1	
Number professionals (pharmacists and others) from outside the HEIs, involved in E&T	200	There are approximately 200 pharmacists who tutor MPharm students in their training establishments.
Students		
Number of places at entry	30 per annum	
Number of graduates that become registered pharmacists.	Number: 50 per annum	
Number of international students (from EU member states)	1 per annum	
Number of international students (non EU)	5 per annum	
Entry requirements (beginning of S1 of B1, following secondary school)		
Your HEI has a specific pharmacy-related entrance examination	No	
Advanced entry		
Fees per year		
For home students	Amount (€): 0	
For EU MS students	Amount (€): €8000 per annum	
For non EU students	Amount (€): €14000 per annum	
Length of course	**4 years**	
Past and present changes in E&T		
Have there been any major changes since 1999 at your HEI?	Yes	School opened in 2002. Curriculum reform to comply with the Principles of the Bologna Agreement in 2005. Commencement of the National Pharmacy Internship Programme (MPharm) in 2009
Are any major changes envisaged before 2019 at your HEI?	Yes	The Review of Pharmacy Education and Accreditation (PEARs) Project and a Review of International CPD Models, competency frameworks and baseline survey of standards in practice, will inform major curriculum reform, including an integrated 5 year MPharm programme, and other changes.
Is your HEI typical of all HEIs in the country?	Yes/No o	RCSI is a private HEI. RCSI follows the same indicative syllabus, which will be reviewed now re PEARs. All institutions have autonomy over curriculum design.

References	
References to texts and articles of national law	Pharmacy Act 2007 and related regulations and rules

Chapter 3. Teaching and learning methods

Student hours

Method	Year 1	Year 2	Year 3	Year 4	Year 5	Total
HEIs courses						
Lecture	225	260	200	150	N/A	**835**
Tutorial	65	40	80	65	N/A	**250**
Practical	170	210	155	50	N/A	**585**
Project work	30	30	50	50	N/A	**160**
Subtotal	490	540	485	315	0	**1830**
Traineeship*						
Hospital					6 or 12 months 40 hours/week	
Community					6 or 12 months 40 hours/week	
Industrial (academic or industrial)					6 months 40 hours/week	
Total	**490**	**540**	**485**	**315**	**2000****	**3830**

All courses are validated by the PSI.

* Traineeship is now a National Pharmacy Internship Programme, delivered on behalf of the PSI by an HEI (RCSI). This programme is validated by the National University of Ireland and the PSI. All students must undertake at least 6 months in a clinical training establishment (either community or hospital). The other 6 months can be in community, hospital, industry or academia to meet the requirements of the Education and Training Rules.

** 40 hours per week x 50 weeks. There is a provision under the Pharmacy Act for a part-time option, but this only permitted under exceptional circumstances.

References	
References to texts and articles of national law	European Council. Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualification. Brussels: European Community 2005

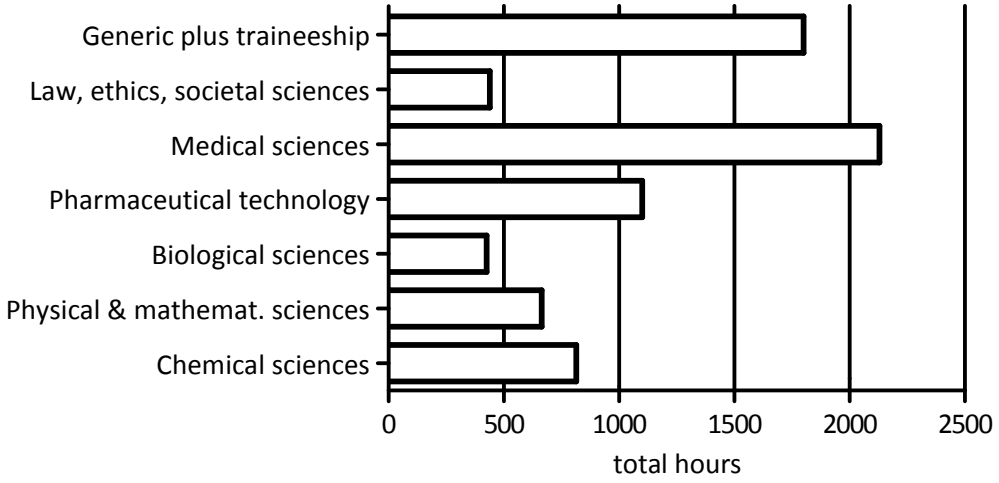
Chapter 4. Subject areas

Student hours

Subject area	Year 1	Year 2	Year 3	Year 4	Year 5	Total
CHEMSCI	**275**	**350**	**65**	**125**		**815**
PHYSMATH	125	100	65	375		**665**
BIOLSCI	125	250	50	0		**425**
PHARMTECH	250	450	250	150		**1100**
MEDISCI	500	250	880	500		**2130**
LAWSOC	125	50	65	200		**440**
GENERIC	100	50	125	150		**425**
GENERIC ° TRAINEESHIP	100	50	125	150	1760	**1760**
Total	**1500**	**1500**	**1500**	**1500**	**1760**	**7760**

The above figures were calculated based on of the content of the RCSI curriculum and an approximation of how this would divide into the subject areas as defined above. The figures in chapter 3 give the contact hours (total 1830), which combined with directed study (1170) give a total of contact and directed study of 3000 hours for the programme. This is in keeping with the PSI requirements and EU directive. The Subject area hours were calculated on the basis of the contact hours, directed study hours and private study hours. Each year has a total of 1500 representing 60 ECTS (at 25 hours per credit) and 240 ECTS for the 4 year Bachelors level cycle.

Hours by subject area.



References	
References to texts and articles of national law	European Council. Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualification. Brussels: European Community 2005

Chapter 5. Impact of the Bologna principles

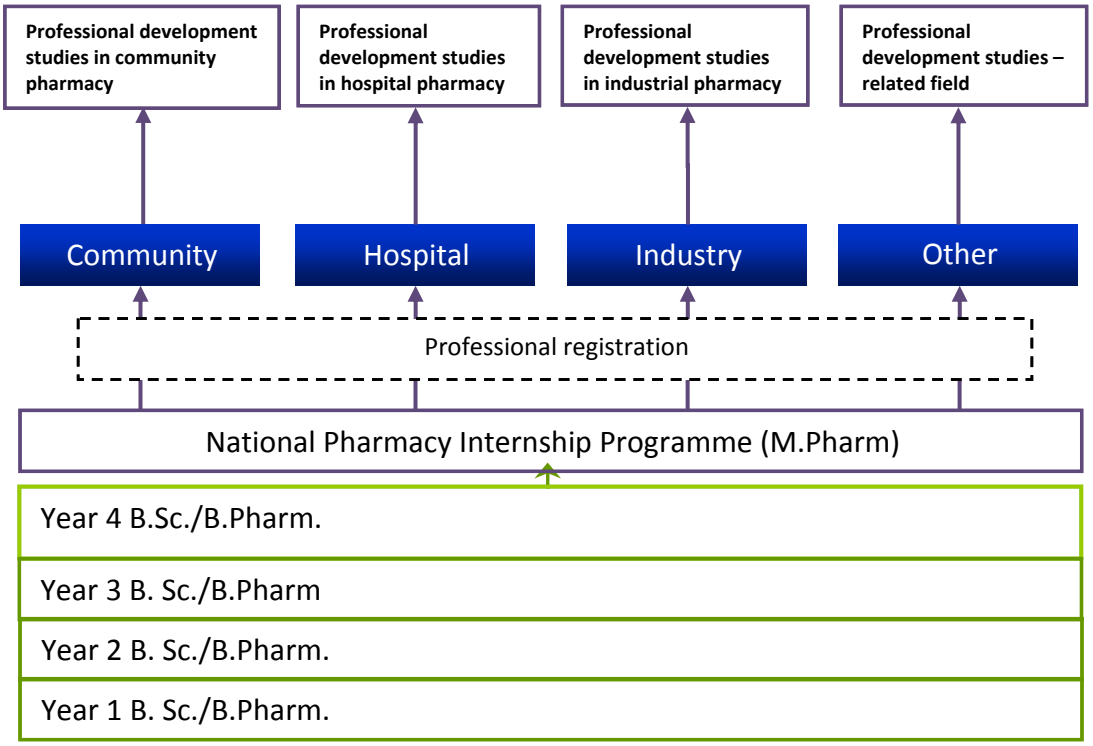
Bologna principle	Is the principle applied? Y/N or partially	How is it applied? Does your HEI have multilateral recognition and agreements? Other comments.
1. Comparable degrees / Diploma Supplement	Yes	**RCSI has multilateral recognition and agreements with several EU HEIs** **Diploma Supplement is provided**
2. Two main cycles (B and M) <u>with entry and exit at B level</u>	Yes	Exit at B level does not fulfil requirements for professional qualification – this is achieved after exit at M level
3. ECTS system of credits / links to LLL	Yes	There is a new framework for CPD and formal activity under this framework will be linked to ECTS. CPD is mandatory, under the Pharmacy Act 2007, and this requirement will be implemented by 2014
4. Obstacles to mobility	Yes	Language, spiral curricula and an integrated approach to education can be obstacles to mobility. All modules are provided in English. Language support is provided in general, but not specifically for ERASMUS students.
5. European QA	No	
6. European dimension		RCSI has an Erasmus University Charter, (STANDARD) granted in 2007 under the framework of the Lifelong Learning Programme *Call for Proposals 2007, EAC/61/2006*. The Charter number is 2007-1-IE-ERASMUS-EUC-1 and the Erasmus ID code is IRLDUBLIN03. There are no collaborative programmes in teaching at present.
ERASMUS staff exchange to RCSI from elsewhere	Staff months: 0	The main obstacle is linguistics
ERASMUS staff exchange from RCSI to other HEIs	Staff months: 0	
ERASMUS student exchange to RCSI from elsewhere	Student months: 48	
ERASMUS student exchange from RCSI to other HEIs	Student months: 6	

Chapter 6. Impact of EC directive 2005/36/EC

The directive states	How does / will this directive statement affect pharmacy E&T?
"Evidence of formal qualifications as a pharmacist shall attest to training of at least <u>five years' duration,</u>…"	**Directive fully implemented**
"…<u>four years of full-time theoretical and practical training</u> at a university or at a higher institute of a level recognised as equivalent, or under the supervision of a university;"	Directive fully implemented
"…<u>six-month traineeship in a pharmacy</u> which is open to the public or in a hospital, under the supervision of that hospital's pharmaceutical department."	Directive fully implemented
"The balance between theoretical and practical training shall, in respect of each subject, give <u>sufficient importance to theory to maintain the university character of the training</u>."	Directive fully implemented

Directive annex	If you wish to expand your answer, please add your comments below. Do you consider the directive annex valid? If not how would you change it?
V.6. PHARMACIST **5.6.1. *Course of training for pharmacists*** **Plant and animal biology / Physics / General and inorganic chemistry / Organic chemistry / Analytical chemistry / Pharmaceutical chemistry, including analysis of medicinal products / General and applied biochemistry (medical) / Anatomy and physiology; medical terminology / Microbiology / Pharmacology and pharmacotherapy / Pharmaceutical technology / Toxicology / Pharmacognosy / Legislation and, where appropriate, professional ethics.**	This annex should be reviewed in light of the changing roles of pharmacists across the EU, and the focus on outcomes and competency based curricula. I would like to see the professional elements strengthened with particular reference to professionalism, ethics, collaborative practice (and potentially Interprofessional education), behavioural science, management and leadership. I also believe that the clinical side could be strengthened with particular reference to clinical pharmacy, therapeutics and patient safety.

The Irish system of pharmacy education and training.



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With the support of the Lifelong Learning Programme of the European Union
(142078-LLP-1-2008-BE-ERASMUS-ECDSP).