Pharmacy education & training in

POLAND

2010

Education and Culture DG
Lifelong Learning Programme

PHARMINE
Pharmacy Education in Europe

This document was validated by Prof. Dr. Jan Krzek, Dean of the Faculty of Pharmacy, Jagiellonian University Medical College.

Signature and seal
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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)

The "PHARMINE survey of European higher education institutions delivering pharmacy education & training – POLAND" was produced by:

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All the data and information provided in this document have been provided to the best of the knowledge of the authors. Any comments and suggestions will be welcomed: jeffrey.atkinson@pharma.uhp-nancy.fr

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Summary.

There are 10 higher education institutions (HEIs) offering pharmacy education and training in Poland. The study course is a uniform 5 years long + 6 months and ends with an MSc in Pharmacy. First two years of university study are devoted mainly to basic and applied sciences including laboratories, practical exercises and basic medical sciences (physiology, biochemistry). Beginning from year 3 curricula contains generic subjects, patient counselling, pharmaceutical technology and advanced medical sciences (pathophysiology). After years 3 and 4 one month long compulsory traineeships in open and hospital pharmacy respectively are included.

Pharmacies don't have a monopoly on the dispensation of medicines in Poland as drugs are also delivered via medical shops and some of them are available in common sale (i.e. supermarkets). Internet trade is also allowed. According to the law regulations pharmacists cannot provide any diagnostic services. Not only pharmacists are pharmacy owners as it is commonly allowed to own a community pharmacy. Only registered pharmacists follow a 5.5-years (M.Sc. Pharm.) degree course with a 6 months' traineeship can dispense all drugs and counsel patients. To be a pharmacy manager it is obligatory to possess minimum 5 years of experience or minimum 3 years of experience plus specialization in community pharmacy. Pharmacy technicians after vocational schools (2 years long course) can dispense some drugs under pharmacist supervision but cannot counsel patients.

Advanced level subject specific courses and six months' research period and reporting (Master's thesis) typically end the university studies.

Introduction.

Statistics for Poland.

Total population: 38082 (2007)

Gross national income per capita (PPP international $): 15330 (2007)

Life expectancy at birth m/f (years): 71/80 (2007)

Healthy life expectancy at birth m/f (years, 2003): 64/70 (2007)

Probability of dying under five (per 1 000 live births): 7 (2007)

Probability of dying between 15 and 60 years m/f (per 1 000 population): 209/79

Total expenditure on health per capita (Intl $, 2006): 919

Total expenditure on health as % of GDP (2006): 6.2

Highlights on health in Poland.

In 2005 Poland spent 6.2% of gross domestic product (GDP) on health care, of which approximately 70% was public expenditure. Private expenditure on pharmaceuticals has grown from 23% in 1994 to 35.1% in 2006. In comparison with other European countries, Poland spends a disproportionately high percentage of total health expenditure (THE) on pharmaceuticals. Health care in Poland can be broadly divided into two sectors: public health insurance (dominates) and private sector insurance.

The general phenomenon observed in Western European countries connected with population ageing is also observed in Poland. In 2007, about one third (31.3%) of Poland's population were people in the 0-24 age group; 55.3% were people aged 25-64, and the +65 age group accounted for 13.4% of the country's total population9. It should be added, however, that since the 1990s, demographers have observed a rapid decrease in the number of children and youth. According to the preliminary estimates for 2008 (Table 2), the category of people in the pre-working age (0-17 years of age) represented approximately 19% of the total population, which was about 10pp less than in 1990. Over this period, a decrease in the pre-working age group was accompanied by an increase in the working age category (people aged 18-59/64) and in the senior (retirement) age group (60+/65+), by 6.3pp respectively, up to a level of ca 64.5%, and by 3.5pp, up to a level of 16.3%10. In 2007, the average life expectancy, which has been on the increase ever since the early 1990s, was 79.7 years for women and 71 years for men.

In 2006 in Poland the total mortality rate increased by 0.8% compared with 2000. In the years 2001-2004 a drop in the mortality rate (compared with 2000) was recorded respectively by 1.3% in 2001, by 2.3% in 2002, by 0.6% in 2003, and by 1.0% in 2004, and then it again increased by 0.3% in 2005. This resulted from age specific changes in the population structure, as well as age specific death rates. Assuming that the structure of 2000 has been constant, the total death rate in 2006 is lower by 11.4% (compared with 2000), due to the decreasing age specific death rates (respectively: by 3.1% in 2001, by 5.7% in 2002, by 5.6% in 2003, by 8.2% in 2004, and by 9.2% in 2005).

A favorable dropping tendency in infant mortality in Poland was recorded in the entire post-war period, with the highest intensity in the 1990s. In 2006 the infant death rate was four times lower than in 1980.

In Poland the risk of death due to tobacco smoking is very high. Still every fourth Pole is a daily smoker (33.9% of men and 19.3% of women), despite the fact that in the period between the two surveys (1996, 2004) the share of men smoking tobacco declined significantly (from 47.3% to 38.0%). However, the drop among women was slight (from 24.4% to 23.1%).

More and more adults drink alcohol. Total abstinence in the recent 12 months was declared by only 25% of the surveyed (in 1996 – nearly 30%). The percentage of women drinking alcohol also increased (over 67% in 2004 and less than 60% in 1996), while the percentage of men drinking alcohol was over 83%, which is slightly higher than in 1996 (81%).
(From the WHO "Highlights on health in Poland", 2005. **http://www.euro.who.int/Document/E88745.pdf**

Official statistics of the ministry of Health – available in Polish only
(http://www.mz.gov.pl/wwwmz/index?mr=b32651&ms=265&ml=pl&mi=266&mx=0&ma=2440 and
http://www.mz.gov.pl/wwwfiles/ma_struktura/docs/zielona_ksiega_06012009.pdf)

Official statistics of the Central Statistical Office – available in Polish and English
(http://www.stat.gov.pl/bdren_n/app/strona.indeks)

http://ppri.oebig.at/Downloads/Results/Poland_PPRI_2007.pdf

http://www.stat.gov.pl/cps/rde/xbcr/gus/PUBL_L_prognoza_ludnosci_na_lata2008_2035.pdf

http://libserver.cedefop.europa.eu/vetelib/eu/pub/cedefop/vetreport/2009_CR_PL.pdf)

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

	Y/N, number or %	If you wish to expand your answer, please add your comments below.
Community pharmacy		
Number of community pharmacists	21 534	Based on the 2008 data. (www.stat.gov.pl)
Number of community pharmacies	10 628	Based on the 2008 data. (www.stat.gov.pl) In current law situation there is no differentiation between main and subsidiary pharmacies. There are ca. 2 pharmacists per pharmacy in average. The average number of inhabitants per pharmacy is 3590.
Competences and roles of community pharmacists		1. Supplying prescription medicines 2. Managing medicines for some ailments 3. Giving advice on medicines 4. Galenic drugs manufacturing 5. Patients counselling 6. Pharmacy management 7. Drugs rotation management 8. Pharmaceutical care delivering (not obligatory though) (Competencies are defined in the pharmaceutical law - http://isap.sejm.gov.pl/search.jsp*)
Is ownership of a community pharmacy limited to pharmacists?	No	Every EU citizen can own community pharmacy after satisfying law requirements regarding professional staff and locum. The ownership is NOT limited to pharmacists but the pharmacy manager has to be a qualified pharmacist (either 5 years of professional experience or minimum 3 years of professional experience plus specialization). As defined in the pharmaceutical law (http://isap.sejm.gov.pl/search.jsp*)
Rules governing the distribution of pharmacies?	No	
Healthcare products available to the general public by other channels	Yes	Governed by the Ministry of Health list of medicinal products available for sale in specialized drugstores (medical shops, pharmacy points) and for the common sale (supermarkets etc.). The internet based retail and mail-orders are also allowed for OTC and Rx drugs. (http://isap.sejm.gov.pl/search.jsp*)
Are persons other than pharmacists involved in community practice?	Yes	Pharmacy technicians
Their titles and number(s)	20 052	Based on the 2007 data – official statistics of the Central Statistical Office. (www.stat.gov.pl). Presented data shows number of technicians working in community pharmacies. Total number of pharmacy technicians is estimated to ca. 80 000. No official pharmacy technicians registry exist.
Organisation providing and validating the E&T		Vocational schools accessible for people after the secondary school education. Vocational schools are operating under the Ministry of Education control and have high level of independence regarding the curriculum construction but have common base. Examples: http://www.omega.szkola.pl/ Such schools have common curriculum granted by Ministry of Education.
Duration of studies	2 years	

Subject areas		Basic anatomy and physiology, pharmacodynamics and basic drug chemistry, pharmaceutical technology, pharmacognosy, basic pharmaceutical law and economy, basic psychology, public health, drug analysis and obligatory 2 years long practice after passing the final exams.
Competences and roles		Role – dispensing Rx and OTC-medicines, galenic drug preparation. All activities can be done only under the pharmacist supervision. It is denied to dispense and prepare narcotics (N, I-P and II-P drugs) and intensely acting drugs (list 'A') –as defined in Polish pharmaceutical law (*Ustawa Prawo farmaceutyczne).*
Hospital pharmacy		
Does such a function exist?	Yes	Polish representative in EAHP (www.eahp.eu) is General Pharmaceutical Chamber (www.nia.org.pl).
Number of hospital pharmacists	1100	
Number of hospital pharmacies	615+93	There are 615 hospital pharmacies (in some cases dived into one central pharmacy and dependent branches in small hospitals) and 93 small pharmacy units in health resorts, prisons and other institutions where drugs are dispensed but where hospital pharmacies were not established.
Competences and roles of hospital pharmacists		Drug dispensing; galenic formulations preparation; drug related information preparation and dissemination; parenteral and non-parenteral nutrition elements preparation; unit doses preparation (including anti-cancer drugs); infusion fluids preparation; hospital supply chains organization (drugs and medical devices; it includes procedures preparation); haemodialysis and peritoneal dialysis solutions preparation; ADRs monitoring; taking part in clinical trials (filing system preparation); pharmacotherapy rationalization.
Pharmaceutical and related industries		
Number of companies with production, R&D and distribution	248	Based on the 2007 data. (www.stat.gov.pl). It is a number of Manufacturing or Importation Authorizations (MIA) issued by Main Pharmaceutical Inspector. MPI does not differentiate companies with and without R&D.
Number of companies with production only	248	Same number as above. NOT production ONLY – total number of companies WITH production.
Number of companies with distribution only	609	Number of Wholesale Authorizations issued by Main Pharmaceutical Inspector.
Industrial pharmacy		
Number of pharmacists working in industry		No estimation possible.
Competences of industrial pharmacists		R&D, management, drug registration, pharmacovigilance
Other sectors		
Pharmacists working in other sectors		No estimation possible.
Sectors in which pharmacists are employed		Local and National Pharmaceutical Boards, scientific institutions, Local and Main Pharmaceutical Inspectorate, Sanitary Inspection, central administration (i.e. Ministry of Health)
Competences of pharmacists employed in other sectors		Education, research, participation in law regulations preparation, sanitary control, pharmacies quality control.
Roles of professional associations		
Registration of pharmacists	Yes	Only certified (registered) pharmacist can work in community and hospital pharmacy. Registration is handled by the local pharmaceutical chambers, the latter also handle evaluation of the candidates for pharmacy manager.

Creation of community pharmacies and control of territorial distribution	No	In Polish law community pharmacy certificate of approval is issued by the Pharmaceutical Inspectorate (administrative decision). Pharmaceutical Boards have consultative opinion only which is not obliging for the inspectorate.
Ethical and other aspects of professional conduct	Yes	Code of the vocational ethics and deontology.
Validation of HEI courses	Yes	Representatives of the professional organizations have an advisory voice during the development of HEI curricula.

References	
References to texts and articles of national law	Code of the vocational ethics and deontology. Act of parliament about pharmaceutical boards. (In polish - Ustawa o izbach aptekarskich.) Act of parliament about pharmaceutical law. (In polish – Ustawa Prawo farmaceutyczne) http://isap.sejm.gov.pl/search.jsp Ministry of Health – http://www.mz.gov.pl National Pharmaceutical Board – http://www.nia.org.pl Main Pharmaceutical Inspectorate - http://www.gif.gov.pl Office for Registration of Medicinal Products, Medical Devices and Biocidal Products - http://www.urpl.gov.pl English versions are not available. There are no direct links to the pdf files as the website actively manages the file access.

Chapter 2. Pharmacy HEIs, students and courses

<table>
<tr><th></th><th>Y/N, number or %</th><th>If you wish to expand your answer, please add your comments below.</th></tr>
<tr><td>Total number of HEIs in your country</td><td>10</td><td>1. Medical University of Bialystok / Uniwersytet Medyczny w Białymstoku (http://www1.umb.edu.pl/)
2. Nicolaus Copernicus University in Torun Medical College / Uniwersytet Mikołaja Kopernika Collegium Medicum (http://www.cm.umk.pl/)
3. Medical University in GDanks / Gdański Uniwersytet Medyczny (http://www.gumed.edu.pl/)
4. Jagiellonian University Medical College / Uniwersytet Jagielloński Collegium Medicum (www.cm-uj.krakow.pl)
5. Medical University of Lublin / Uniwersytet Medyczny w Lublinie (http://www.umlub.pl/)
6. Medical University of Lodz / Uniwersytet Medczyny w Łodzi (http://www.umed.pl)
7. Poznan University of Medical Sciences / Uniwersytet Medyczny im. Karola Marcinkowskiego w Poznaniu (http://www.usoms.poznan.pl/)
8. Medical University of Silesia / Śląski Uniwersytet Medyczny w Katowicach (http://www.slam.katowice.pl)
9. Medical University of Warsaw / Warszawski Uniwersytet Medyczny (http://www.wum.edu.pl/)
10. Wroclaw Medical University / Akademia Medyczna im. Piastów Śląskich we Wrocławiu (http://www.am.wroc.pl/)</td></tr>
<tr><td>Public</td><td>10</td><td></td></tr>
<tr><td colspan="3">Organisation of HEIs</td></tr>
<tr><td>Independent faculty</td><td>Yes</td><td>All listed HEIs are independent regarding the education and research but are members of the Medical Universities (independent from other Faculties though).</td></tr>
<tr><td>Do HEIs offer B + M degrees?</td><td>No</td><td>No bachelor level at the pharmaceutical faculties. Master level only (uniform system in the whole country).</td></tr>
<tr><td colspan="3">Poland</td></tr>
<tr><td colspan="3">Teaching staff</td></tr>
<tr><td>Number of teaching staff (nationals)</td><td>Number: 1446</td><td>
<table>
<tr><th></th><th>ALL</th><th>Full professors</th><th>Associated professors</th><th>Assistant professors</th><th>Research scientists</th><th>Academic teachers</th></tr>
<tr><td>Białystok</td><td>122</td><td>16</td><td>22</td><td>57</td><td></td><td>27</td></tr>
<tr><td>Toruń</td><td>162</td><td>7</td><td>22</td><td>34</td><td>79</td><td>20</td></tr>
<tr><td>Gdańsk</td><td>97</td><td>11</td><td>18</td><td>36</td><td>6</td><td>26</td></tr>
<tr><td>Kraków</td><td>129</td><td>15</td><td>9</td><td>52</td><td>34</td><td>19</td></tr>
<tr><td>Lublin</td><td>119</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Łódź</td><td>150</td><td>16</td><td>16</td><td>50</td><td>35</td><td>33</td></tr>
<tr><td>Poznań</td><td>145</td><td>20</td><td>8</td><td>11</td><td>81</td><td>25</td></tr>
<tr><td>Katowice</td><td>220</td><td>15</td><td>30</td><td>77</td><td>33</td><td>65</td></tr>
<tr><td>Warszawa</td><td>190</td><td>5</td><td>23</td><td>88</td><td>39</td><td>35</td></tr>
<tr><td>Wrocław</td><td>112</td><td>5</td><td>10</td><td>4</td><td>77</td><td>16</td></tr>
</table>
</td></tr>
<tr><td>Number of international teaching staff (from EU MSs)</td><td>Number: 1</td><td>Poznań</td></tr>
<tr><td>Number of international teaching staff (non EU)</td><td>Number: 2</td><td>Warszawa (1), Wrocław (1)</td></tr>
</table>

Number professionals (pharmacists and others) from outside the HEIs, involved in E&T	Number: 228			
Students				
Number of places at entry following secondary school	Number: -	Numbers of places at each HEI depends on the funds governed centrally and allocated each year by the Ministry of Health.		
Number of applicants for entry	Number: ~1500		Białystok	100
			Toruń	120
			Gdańsk	115
			Kraków	170
			Lublin	NA
			Łódź	238
			Poznań	156
			Katowice	230
			Warszawa	160
			Wrocław	203
Number of graduates that become registered/professional pharmacists.	Number: ~1200		Białystok	84
			Toruń	NA
			Gdańsk	110
			Kraków	170
			Lublin	NA
			Łódź	114
			Poznań	NA
			Katowice	150
			Warszawa	NA
			Wrocław	84
Number of international students (from EU member states)	Number:		Białystok	0
			Toruń	1
			Gdańsk	1
			Kraków	1
			Lublin	NA
			Łódź	0
			Poznań	2
			Katowice	0
			Warszawa	1
			Wrocław	0
Number of international students (non EU)	Number:		Białystok	1
			Toruń	1
			Gdańsk	0
			Kraków	9
			Lublin	NA
			Łódź	1
			Poznań	26
			Katowice	0
			Warszawa	7
			Wrocław	6

Entry requirements (beginning of S1 of B1, following secondary school)		
Specific pharmacy-related, national entrance examination	No	Final secondary school exam results (which are conducted at the same day in the whole country). Exams are divided into two levels – basic and advanced. Advanced level of the exam in Biology and Chemistry is required.
Is there a national *numerus clausus*?	Yes	Numbers of places at each HEI depends on the funds governed centrally and allocated each year by the Ministry of Health.
Fees per year		
For home students	Amount (€):	Fees are set independently by the Senates of Medical Universities.
For EU MS students	Amount (€):	
For non EU students	Amount (€):	
Length of course	**5.5 years**	
Specialization		
Do HEIs provide specialized courses?	Yes	All HEIs offer specialised postgraduate courses. Specialization courses are offered for pharmacists. At the national level, according to the Polish law (Act of the Ministry of Health - Rozporządzenie Ministra Zdrowia z dnia 15 maja 2003r. w sprawie specjalizacji oraz uzyskiwania tytułu specjalisty przez farmaceutów /Dz. U. Nr 101, poz.941/) there are 12 various paths: 1. Pharmaceutical analysis 2. Food and nutrition 3. Community pharmacy 4. Clinical pharmacy 5. Industrial pharmacy 6. Hospital pharmacy 7. Pharmacology 8. Natural drugs 9. Microbiology 10. Pharmaceutical biotechnology 11. Public health 12. Environmental health To run each of them, an independent accreditation is granted by the National Accreditation Commission for Pharmacists Post-Graduate Specialization is compulsory.
Past and present changes in E&T		
Major changes since 1999?	Yes	Bologna guidelines accommodation - different level for different HEIs.
Major changes envisaged before 2019?	Yes	
Krakow		
Teaching staff		
Number of teaching staff (nationals)	129	The classification according to the academic position is as follows: Full professors – 15 Associated professors (habilitation – DSc level) – 9 Assistant professors – 52 Research scientist - 34 Academic teachers - 19

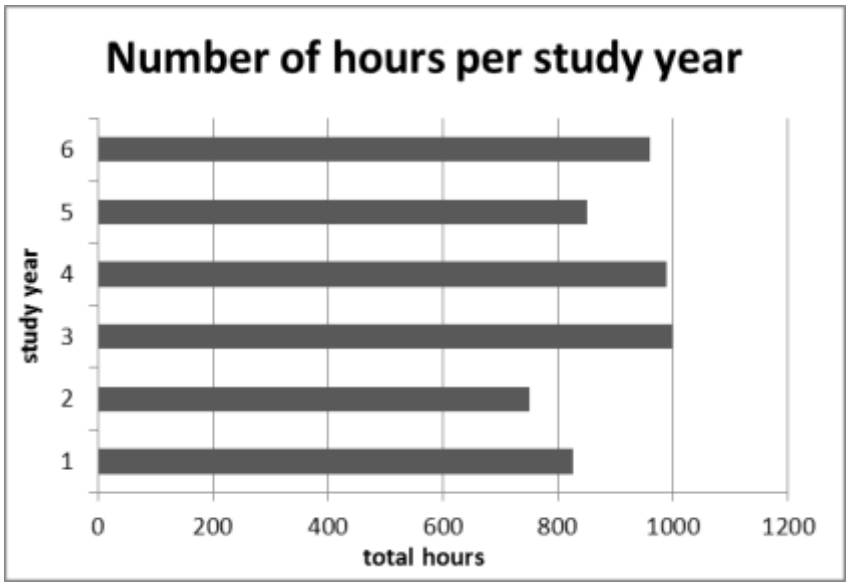
Number professionals (pharmacists and others) from outside the HEIs, involved in E&T	~10	Pharmacists and medical doctors - they are mainly involved in teaching vocational subjects (pharmaceutical care, pharmacotherapy). Such courses are offered for students from higher study years. Traineeships are managed by university teachers but direct supervision is given by professional (pharmacists) working in community/hospital pharmacies. It also includes Police specialists (i.e. drug addiction specialists), foreign languages native speakers.
Students		
Number of places at entry following secondary school	110+60	110 – number of state-commissioned places (based on the 2009 data). 60 – number of paid (self-financed) places.
Number of applicants for entry	827	It varies from year to year. During the last 4 years the average number of applicants was 8 per 1 place (6-10).
Number of graduates that become registered/professional pharmacists.	~170	As the part of the curriculum there is the professional practice (6th study year) after the study all graduates automatically become registered pharmacists. The pharmacy students' drop-out is negligible (high prestige, good future perspectives, high level of competition during qualification).
Number of international students (from EU member states)	1	Czech Republic
Number of international students (non EU)	9	Kazakhstan, Ukraine
Entry requirements (beginning of S1 of B1, following secondary school)		
Your HEI has a specific pharmacy-related entrance examination	No	The final secondary school exam results (which are conducted at the same day in the whole country) counts. Exams are dived into two levels – basic and advanced. Advanced level of the exam in Biology and Chemistry is required.
Fees per year??		
For home students	0	Higher education in Poland in general is free - however according to the Higher Education Act there is a pool of paid places for candidates who are below the entry level and wish to pay for the study. At the Faculty of Pharmacy Jagiellonian University the fee is equal to ~1500 € per semester.
Length of course	**5.5 years (11 semesters)**	
Specialization		
Does your HEI provide specialized courses?	Yes • undergraduate studies – in form of elective courses • specialized postgraduate studies for pharmacists	Jagiellonian University Medical College Faculty of Pharmacy used to have specialization for undergraduate students (analytical pharmacy, clinical pharmacy, community pharmacy from either 1971 {analytical pharmacy} or 1978 {clinical pharmacy} up to 1998). It was decided to unify all of them and provide one course based on the one curriculum. Three educational paths included this year into the curriculum bring in specialized courses in industrial, clinical, community pharmacy parallel to the elective courses. They are obligatory for 4th and 5th year students (75 hours altogether). Students choose from the list of facultative topics and consequently follow the chosen path. Additional specialized training courses are delivered for pharmacists. Faculty of Pharmacy Jagiellonian University offers courses during specialization for post-graduate students (pharmacists) in Community Pharmacy (accreditation granted by the National

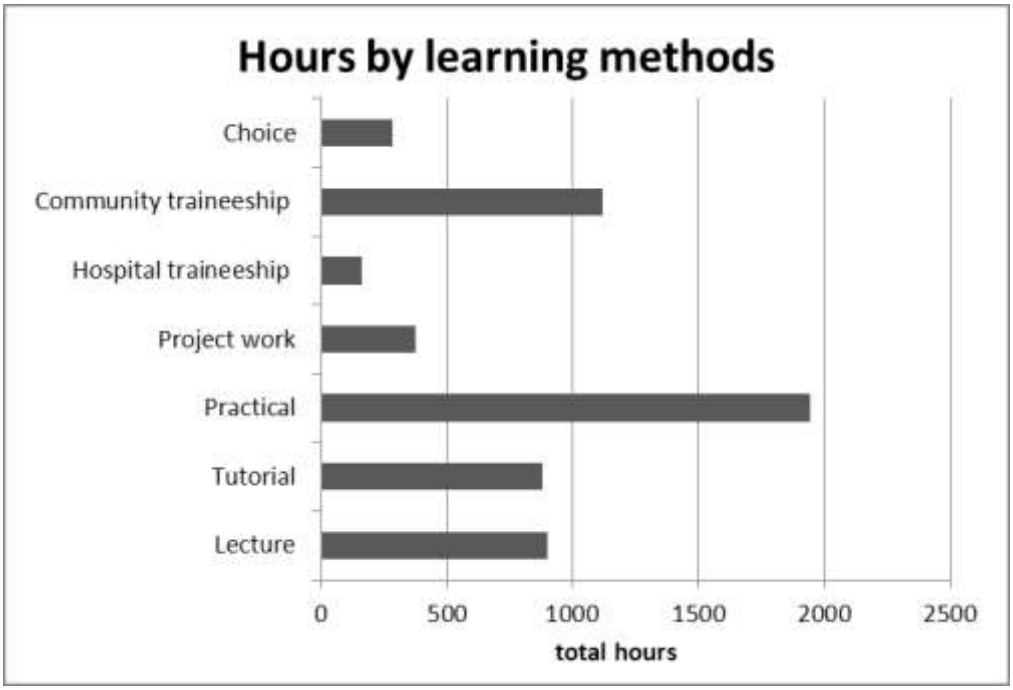
		Accreditation Commission for Pharmacists Post-Graduate Specialization).
In which years?	4th and 5th Postgraduate studies	4th study year – 30 hours 5th study year – 45 hours
In which specialisation (industry, hospital…)?		Industrial pharmacy Clinical pharmacy Community pharmacy
What are the student numbers in each specialization?	4th year 5th year	Industrial pharmacy - 21 Clinical pharmacy - 50 Community pharmacy - 75 Industrial pharmacy - 16 Clinical pharmacy - 56 Community pharmacy - 69
Past and present changes in E&T		
Have there been any major changes since 1999 at your HEI?	Yes	Bologna guidelines accommodation: readable and comparable degrees in EU, ECTS credit system, quality assurance, free students' mobility (no major obstacles). Pharmaceutical care and practical pharmacy implementation to the curriculum as separate courses. Focus on personalized pharmacotherapy. Educational paths were included into the curriculum. 4th and 5th study years students choose from the list of facultative topics and consequently follow the chosen path (industrial, clinical, community).
Are any major changes envisaged before 2019 at your HEI?	Yes	Increase the impact of the practical pharmacy and pharmaceutical care philosophy. Change the focus to the patient related and individualized pharmacotherapy. Pharmacists role are evolving from that of compounders and dispensers of medicines to that of experts on medicines within multidisciplinary health care teams.
Is your HEI typical of all HEIs in Poland?	Yes	

Chapter 3. Teaching and learning methods

Student hours

Method	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
HEIs courses						
Lecture	130	232	226	189	121	
Tutorial	104	145	156	245	229	
Practical	591	373	458	396	125	
Project work					375	
Subtotal						
Traineeship (obligatory for diploma)						
Hospital				160		
Community			160			960
Electives						
Choice		+ (60)	+ (75)	+ (75)	+ (75)	
Optional			Scientific research	Scientific research	Scientific research	Scientific research
			Under the umbrella of the student scientific organizations and research scientist supervision.			
Total	*825*	*750*	*840*	*830*	*850*	*960*



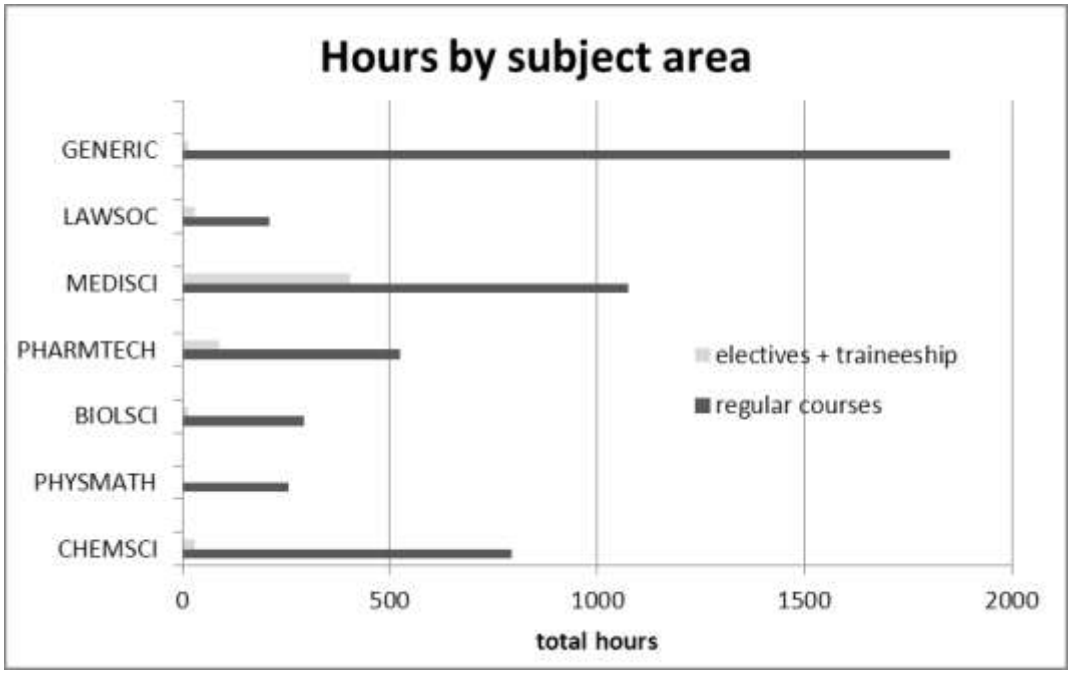

Hours by learning methods
Choice
Community traineeship
Hospital traineeship
Project work
Practical
Tutorial
Lecture
0
500
1000
1500
2000
2500
total hours

Chapter 4. Subject areas.

Student hours

Subject area	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
CHEMSCI	360	180	255 (+ 15*)	(+ 15*)	-	-	795 (+ 30*)
PHYSMATH	135	105	-	-	15	-	255
BIOLSCI	160	135 (+ 15*)	-	-		-	295 (+ 15*)
PHARMTECH	-	-	165	245 (+ 45*)	115 (+ 15*)	-	525 (+ 90*)
MEDISCI	-	150 (+ 60*)	330 (+ 75*)	430 (+ 120*)	165 (+ 150*)	-	1075 (+ 405*)
LAWSOC	-	45 (+ 30*)	15	60	90	-	210 (+ 30*)
GENERIC	120	75 (+ 15*)	160**	160**	375***	960****	1850 (+ 15*)

* - summarized hours of electives; ** - summer traineeship; *** - master thesis project; **** - diploma traineeship



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	General ECTS systems. There is no international accreditation system. Pharmaceutical degrees earned in EU are recognized based on the Polish pharmaceutical law. Pharmaceutical faculties issue diploma supplements in Polish and other official EU languages (e.g. English, French, Spanish).
2. Two main cycles (B and M) with entry and exit at B level	No	One cycle –11 semesters MSc course
3. ECTS system of credits / links to LLL	Yes	2003. ECTS based undergraduate curricula are connected with pharmaceutical long-life learning but there is no ECTS system for pharmaceutical LLL.
4. Obstacles to mobility	Partially	Language skills and financial issues can become obstacles.
5. European QA	No	Altough QA is carried out ar a national level by two independent bodies – National Accreditation Committee (PKA) (last, positive recommendation dates back to 2006 and the next one is scheduled for 2011) and the Accreditation Committee for the Medical Universities (KAAUM - http://www.kaaum.pl/), (last positive recommendation 2009).
6. European dimension		
ERASMUS staff exchange to your HEI from elsewhere	~10	Number of staff ~10. Duration of stay varies.
ERASMUS staff exchange from your HEI to other HEIs	~40	Number of staff ~40 (in average 3 months long stay - ~120 person-months).
ERASMUS student exchange to your HEI from elsewhere	Number of student months: ~30	Number of staff ~40 (in average 6 months long stay - ~240 person-months).
ERASMUS student exchange from your HEI to other HEIs	Number of student months: 680	Total number of student months from four years (2004-2008). 2004-2005 26 students 5 months 130 student months 2005-2006 31 students 5 months 155 student months 2007-2008 45 students 5 months 225 student months 2008-2009 34 students 5 months 170 student months France 1. Université d'Auvergne - Clermont-Ferrand 1 2. Université Montpellier I

		3. Université Claude Bernard - Lyon 1 Spain 4. Universidad Complutense de Madrid 5. Universitat de Barcelona Holland 6. Universiteit Utrecht 7. Rijksuniversiteit Groningen Iceland 8. Háskóla Íslands Malta 9. L-Università ta' Malta Germany 10. Rheinische Friedrich-Wilhelms- Universität Bonn 11. Universität Regensburg 12. Johann Wolfgang Goethe-Universität Frankfurt am Main 13. Bayerische Julius-Maximilians- Universität Würzburg 14. Friedrich-Alexander-Universität, Erlangen-Nürnberg Turkey 15. Mersin Űniversitesi 16. Inönü Űniversitesi Great Britain 17. University of Strathclyde, Glasgow Italy 18. Università di Perugia 19. Universita di Catania 20. Universita della Calabria 21. Universita degli Studi di Cagliari 22. Universita degli Studi di Ferrara

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

The directive states	Comments
"Evidence of formal qualifications as a pharmacist shall attest to training of at least five years' duration,…"	Already implemented.
"…four years of full-time theoretical and practical training at a university or at a higher institute of a level recognised as equivalent, or under the supervision of a university;"	Four years long study are not planned to be implemented in Poland but they are recognized as equivalent to the five years long pharmaceutical education.
"…six-month traineeship in a pharmacy which is open to the public or in a hospital, under the supervision of that hospital's pharmaceutical department."	Already implemented. Traineeship is carried out under the practicing pharmacist and university scientific staff member supervision.
"The balance between theoretical and practical training shall, in respect of each subject, give sufficient importance to theory to maintain the university character of the training."	Already implemented. Practical training in the university laboratories has been expanded. New opportunities for external practices (industry, hospital pharmacy) have been added.

Directive annex	How does / will this directive annex affect pharmacy E&T?	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.**	Already implemented.	Directive should be expanded with genetics, proteomics, mathematical modelling, proteogenomics, and metabolomics.

References	
References to texts and articles of national law	27th of July 2005 Act on Higher Education (Journal of Laws 2005 No. 164, item. 1365, of 2006 No. 46, item. 328 and later changes). In polish - Ustawa z dnia 27 lipca 2005 r. Prawo o szkolnictwie wyższym (Dz.U. z 2005 r. Nr 164, poz. 1365, z 2006 r. Nr 46, poz. 328 i zm. późn.). 12th of July 2007 on the training standards for particular fields and levels of education, as well as the modes of production and the conditions to be met by the University to carry out interdisciplinary studies and macro-specializations, Annex No 28 (Journal of Laws 2007

	No 164 item. 1166, Annex 28). In polish - Rozporządzenie z dnia 12 lipca 2007 r. w sprawie standardów kształcenia dla poszczególnych kierunków oraz poziomów kształcenia, a także trybów tworzenia i warunków, jakie musi spełniać uczelnia, by prowadzić studia międzykierunkowe oraz makrokierunki, załącznik nr 28 (Dz.U. 2007 nr 164 poz. 1166, zał. 28). Rules of studies of first, second and Master uniform degree adopted by the Senate of the Jagiellonian University resolutions of 31 May 2006, of 25 April 2007 and 7 May 2008 (in force since 1 October 2008). In polish - Regulamin studiów I stopnia, II stopnia oraz jednolitych studiów magisterskich uchwalony przez Senat Uniwersytetu Jagiellońskiego uchwałami z dnia 31 maja 2006 r., z dnia 25 kwietnia 2007 r. oraz z dnia 7 maja 2008 r. (w brzmieniu obowiązującym od 1 października 2008 r.).

Scheme for pharmacy education in Poland.

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

Website: www.pharmine.org