Pharmacy Education Reform in Finland

Professor, Dean Jouni Hirvonen
Faculty of Pharmacy, University of Helsinki

PST Annual Conference
Tainan, Taiwan
January 13, 2018
University of Helsinki main building
A genuine three-tier structure

- Doctoral programmes in other universities in Finland and abroad
- Master’s programmes in other universities in Finland and abroad
- Bachelor’s programmes in other higher education institutions in Finland and abroad

Admissions procedure for some programmes

UNIVERSITY OF HELSINKI

OTHER HIGHER EDUCATION INSTITUTIONS
WHY?

Best students for the programmes - best degrees

The degree programmes offered by the University of Helsinki must be attractive and internationally competitive

The learning environment must support studies and learning

- Expertise for future careers
- Employability
- Digitalisation

New programmes designed according to the three-tier degree structure of the Bologna model
Two degrees of pharmacists in Finland

B.Sc. in Pharmacy (3 years including the practical training of 6 months)

M.Sc. in Pharmacy (5 years, including 5 months of scientific work for the master’s thesis)

M.Sc. pharmacy degree(s) according to the Bologna process are regulated by the EU directive 2005/36/EC and its amendments
Pharmacy Education

- Curriculum reform with improved strands and BSc and MSc study programmes (responsive leaders)

- Knowledge – Skills – Outcomes: Constructive alignment of methods and evaluation

- Higher demands already during the first three years
  - Researcher line
  - Optional study paths: Community and hospital pharmacy, Drug industry and officials, Scientific thinking

- Specialized educations in community and hospital pharmacy and in industrial pharmacy

- International Master’s Programme
FIP Education Initiative - FIPEd

FIPEd is working to stimulate transformational change in pharmaceutical education and engender the development of science and practice, towards meeting present and future societal and workforce needs around the world. FIPEd advocates for the use of needs-based strategies where pharmacy education is socially accountable, where practice and science are evidence-based and practitioners have the required competencies to provide the needed services to their communities.
Directive 2005/36/EC on the recognition of professional qualifications

European University Association: Convergence of the directive and Bologna process in Europe

- Course duration (3+2)
- Learning outcomes
  - Bologna: emphasis on student-centred learning
  - Directive: shift from input-based to output-based criteria
- European Qualifications Framework:
  Knowledge (old) – Skills (old) – Competences (new)
EAFP initiated PHAR-QA project (Quality Assurance in Pharmacy Education and Training in Europe)

Focus of PHAR-QA is on the competences and quality assurance in the education and training of European pharmacists.

Adoption of a European QA system in pharmacy education is necessary to face up to the specific challenge of ensuring education of qualified professionals who are capable of working efficiently within a regulatory framework independently of the institution of study.

The bottom line is patient safety.
Degree reform in the Faculty of Pharmacy, University of Helsinki in 2012 - 2017

We needed to **challenge the students more** and to let them to be **more responsible for their own learning**

We needed to **enhance students’ professional identity** and build up the conception of “pharmacy as a discipline”, not to maintain boundaries between community or hospital pharmacies or between drug industry and academic pharmaceutical research

We needed to **increase the amount of optional** -> “specialised studies”, “study paths” (e.g., community/hospital/clinical pharmacy orientation; industrial/administrative pharmacy focus; research/scientist track) – working life relevancy

We truly needed to create a system that would **motivate** the teachers and students alike within the pharmacy education and research
Pharmacy curriculum is based on four strands (2014-):

1) Pharmacy as a multidisciplinary science with numerous opportunities in the working-life
2) Basics of pharmaceutical sciences
3) Patient and medication
4) Optional studies and selected study-paths

• Strand leader is nominated for each multi-disciplinary strand and a responsible teacher for each study course
Master’s degree program, compulsory studies
4th year of pharmacy degrees, 1st term

First period
- Orientation
  - Drug Development
    - Drug development and preclinical evaluation (10 ECTS)
  - Analytical and statistical tools of drug development 5 ECTS

Second period
- Midterm assessment
  - and Use 20 ECTS
    - Drug formulation and rational use of medication (10 ECTS)
- Final Assessment
  - Pharmacoeconomics 5 ECTS

Strands 1-3:
compulsory studies
145 ects

Strand 4:
voluntary studies
35 ects
Made of 3 study paths

The learning outcomes:
a talented pharmacist
The learning outcomes: The core knowledge of pharmacists

1. **Basics of natural sciences**: chemistry, physics, technology, biosciences NEEDED for all the students

2. **Medicine and medication**: compounding of the medicines, holistic view of the medication, pharmacology and biopharmaceutics (side-effects and interactions), patient counselling, efficacy and safety of medicines and medication

3. Comprehensive and supportive interactions of the various disciplines of pharmacy education and research: **the role and significance of pharmacy as a discipline in society, the necessary skills and knowledge in scientific thinking and pharmaceutical research**

4. In addition (esp. at the M.Sc. level): basics of economics and management, multidisciplinarity, hospital pharmacy, scientific writing skills, management skills
Teaching and learning of “general skills” in direct association to subject-specific courses

- Pharmacist’s professional identity – the role in society as a part of the health care system
- Critical and creative thinking
- Problem-solving skills – skills to face uncertainty
- Personal learning skills and life-long learning
- Attitude and sense of responsibility
- Communication skills
## Portfolio of the Pharmacy Programs

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<td>Student’s personal study plans</td>
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<td>Reflection of the student’s learning skills</td>
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<td>Progress testing</td>
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<td>Summarization of the development (years 1–3)</td>
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<td>Demonstration of proof</td>
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<td>Application for the main discipline with a motivation letter</td>
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<td>Summarization of the development (years 4–5)</td>
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