



# Continuing education for community pharmacists in Denmark – the case of Master of Drug Management

**Birthe Søndergaard**

**Associate Professor**

**Department of Pharmacology and Pharmacotherapy,  
Section of Social Pharmacy**

**Faculty of Pharmaceutical Sciences**

**University of Copenhagen**



## Outline

- Master of Drug management
- Continuing education of community pharmacies in Denmark
- Content of the MDM 2004 programme
- Why a new curriculum on MDM?
- Challenges in medicine use
- Aim of MDM 2009 programme
- Competence profile
- Content of the courses
- Experiences to far
- Conclusions



# Master of Drug Management

- Part-time masters programme
- 60 ECTS credit points (Compulsory courses: 30 ECTS, Elective courses: 15 ECTS, Master's thesis: 15 ECTS)
- To be completed within 3-6 years
- Access requirements are a relevant three-year bachelor's degree and at least two years of relevant postgraduate professional experience
- Costs: 14.000 – 21.000 Euro



# Master of Drug Management (MDM)

## Aim of the programme

- To integrate theories on medicine use and management in the student's professional practice
- To provide the master's graduate with skills that improve patient safety, compliance, patient counselling and rational use of medicines by focus on the patient and the medication
- After completion the master's graduate can independently and on a scientific ground contribute to a better, safe and rational use of medicine in individual patients and in society



## Community pharmacy in Denmark

- Number of pharmacies = app. 240
- Full-time pharmacists = app. 600
- Full-time pharmacy assistants = app. 3,000
  
- Mean number of professional staff = 14.5 persons

# Continuing education of community pharmacies in Denmark



- Traditionally been dealt with in a collaboration between Danish College of Pharmacy Practice (Pharmakon), the Faculty of Pharmaceutical Sciences, Danish Pharmaceutical Association and the Association of Pharmacists in a body called Puf-A
- Short courses, 1-3 days
- A need for longer and more structured CE programmes within community pharmacy
- Puf-A initiated in the 1990's a development project with focus on CE in pharmacy practice in Europe
- Diploma education in pharmacy practice was started in 2001



## From diploma education to master programme

- Each community pharmacist has a right to one post graduate course per year
- During the 1990's most of the community pharmacies gathered in chains and started to offer their own courses, often with pharmacists and pharmacy assistants attending the same courses
- Master's programmes were strategically important for the University
- This trend stimulated the desire of a certified Master's programme in medicine use and management - 2004



## MDM – 2004 (content)

### Six compulsory courses

- Pharmaceuticals in health care – approaches and theories
- Counselling in medicine use
- Evaluation and documentation of medicine use
- Clinical pharmacy and therapeutics
- Leadership in health care
- From idea to project





- The programme is extensively based on interdisciplinary teaching and problem solving
- The student's professional practice is integrated in the courses
- All courses includes a term paper, where theories are applied to daily practice



# Pharmaceuticals in health care – approaches and theories

---

## Theories on

- Professions within medicine use
- Disease prevention and health promotion
- User perspectives
- Medicine use



# Counselling in medicine use

## Theories on

- Learning, change of behaviour, counselling, teaching and communication
- Change in health, disease and medicine behaviour
- Intercultural perspectives in medicine knowledge, attitude and practice

## Methods on

- Information, communication, coaching, counselling, teaching, counselling models



# Evaluation and documentation of medicine use

## Planning, implementation and evaluation

- Types of evaluation, design, methods, statistics, validation of instruments

## Prerequisites for studies

- Ethic and law, good research practice, evidence based practice

## Theories and methods

- ECHO, HTA, quality assurance, pharmacoepidemiology, health economics



## Clinical pharmacy and therapeutics

- Clinical pharmaceutical perspectives based on medication profiles and patient histories
- Assessment of patient data and handling of risk patients
- Medication review and patient interviews
- Physician /pharmacist communication
- Assessment of treatment regiments



## Leadership in health care

---

- Management and organisation
- Human resource management
- Development of organisations (vision, goals)
- Management in the health care sector



## From idea to project

- Literature search
- Project planning
- Project management
- Project proposal
- Communication/publication of results



## MDM – 2004 (participants)

- 32 participants in the Master programme (2004-2008)
  - All but one student are pharmacists
  - 27 students are working in community pharmacies
  - Two are working in medical industry
  - Two are working in organisations
  - One is working in hospital
- 
- 31 'single-course' participants have attended in 11 courses



## Master's thesis

**Gram-Hansen, Mette.** Counselling in pharmacy – a study on customers expectation to the pharmacy and professional counselling. 2007

**Kristoffersen, Inge Trine Svanborg,** Medication review in nursing homes – a development project. 2007.

**Agerholm, Helene,** Development of the pharmacy through registration of drug related problems at the counter – an action research project. 2006.





## Why a new curriculum on MDM?

- Attract a broader group of students
- Make an inter-disciplinary education, with different professions from different sectors to strengthen corporation and synergy between them
- Make a more clear profile: focus on patient and society aspects of medicine use and management after marketing of the medicine
- Wanted to gather theories and relevant methods in the same course
- Less focus on general method components – evaluation, leadership, project planning - and more focus on medicine use related issues
- Fewer and larger courses to make room for a more in-depth learning, discussion and reflection and to improve the concrete use of the theories and methods in daily professional practice



## What challenges in medicine management should the MDM graduates be able to solve?

- Costs of medicine are still rising despite many attempts to regulate use and costs
- Marketing of new and very expensive biological drugs – which can make prioritizing even more necessary
- Discussion on liberalisation of medicine supply and distribution and increased access to medicine on the Internet
- Discussion of the use of certain groups of medication ea. benzodiazepines, antidepressants to children, pain killers OTC, preventive treatment (statin)



## Challenges

- Involvement of the patients in decisions about medicine treatment and use (concordance and adherence)
- Patients attitude to medicine use and risks assessment influences patients adherence and should be integrated in decisions about treatment
- The enormous amount of information about medicine demands knowledge on how to communicate with professional, patients and society
- Knowledge on critical evaluation and selection of information about medicine



## Challenges

- Implementation of new electronic information systems about medicine introduces new type of errors
- High frequency of drug related problems and adverse drug events
- Increased focus on patient safety and medicine safety
- Great problems with seamless care and continuity in medicine use



## Challenges

- Increased demands on quality assurance and development and documentation of medicine use
- Increased focus on chronic diseases and poly pharmacy patients
- Increased demand for quality assurance and documentation of effect of cognitive services
- Diffusion of tasks between different health care professionals (prescribing pharmacists, expert nurses, clinical pharmacists)



## Target groups

- Employees in public administration (Ministries, administration, Counties, Communities) working with pharmaceutical policy, medicine and medicine use, evidence based medicine and information about medicine
- Employees in private sector working with pharmaceutical policy, medicine supply and distribution, drug utilization (pharmaceutical industry)
- Employees in hospitals working with medicine administration, distribution and use and quality assured medicine use (nurses, physicians, pharmacists)
- Employees in primary health care (community pharmacy, nursing homes, general practice, community health care)





## Access requirements

- Relevant natural scientific, health care scientific or social scientific education on minimum bachelor/diploma level
- Access educations like pharmacist, medical doctor, nurse, dentist, economist, political scientist, lawyer
- At least two years of relevant postgraduate professional experience





## Focus of the MDM programme

- The MDM programme has focus on the patient related and society related aspects of medicine and medicine use after marketing from a natural-, health care-, social scientific perspective
- The education involve theories, methods and practice
- Focus areas are pharmaceutical policy, medicine supply and use, information, communication and information about medicine use and evidence based medicine in practice



## Content in new curriculum

### Four compulsory courses (7.5 ECTS credit points)

- Pharmaceutical policy and the implication on medicine use (in English)
  - Around medicine use – from producer to patient
  - Communication, counselling and information on medicine use
  - Evidence based medicine use in practice
- 
- Clinical pharmacy and therapeutics (elective course)
- 
- Elective courses (15 ECTS)
  - Master's thesis (15 ECTS)



## Example of study plan

1. term	2. term	3. term	4. term	5. term	6. term	7. term
Pharmaceutical policy	Around medicine use – from producer to patient	Communication, counselling and information on medicine use	Evidence based medicine use in practice	Elective courses	Elective courses + master's project	Master's project
7.5 ECTS	7.5 ECTS	7.5 ECTS	7.5 ECTS	10 ECTS	10 ECTS	10 ECTS



## MDM competence profile

- Take responsibility for tasks in relation to pharmaceutical policy, medicine supply and use, communication, counselling and information on medicine use and evidence base medicine use
- Develop, implement and evaluate projects and activities within these areas
- Work inter-disciplinary in the health care sector with pharmaceutical policy, medicine supply and use, communication, counselling and information on medicine use, and evidence based medicine use



## MDM competence profile

- Lead quality assurance and quality development of medicine use
- Take professional, ethical and societal responsibility for quality assured medicine use
- Take responsibility for own professional development and specialisation
- Communicate research based knowledge and discuss professional and scientific subjects with both professionals and lay persons



# Pharmaceutical policy and the implication for medicine use

The aim of the course is

- To give the students insight into and understanding of current developments affecting pharmaceutical policy making
- To give the students better understanding of the theories and methods available for analysing the effects of policy interventions
- Train the students in analyzing questions and appraising different approaches to policymaking on a national as well as international level



The course focus on

- How policies are made
- How regulations are formulated and administered
- Effects of the policy
- Interaction between the three areas
- EU-policy and Case studies from Denmark



## Examples of content

- EU pharmaceutical policy, the role of the Commission and the Parliament
- Introduction to the EU political system – The case of revising the regulatory framework for pharmacovigilance
- Theoretical approaches to policy – economic theories
- Theoretical approaches to policy – political science theories
- The National arena – the political system in Denmark





## Examples of content

- Deregulation of medicine distribution in Denmark
- Introduction and use of new medical products – the case of introducing cancer medicine
- How to measure the effects of new systems that should support rational drug use
- From regulation to effect: the case of evaluating liberalization of the pharmacy sector in Norway (economic perspective)
- The reimbursement system in Denmark and examples of evaluation of the effects on medicine consumption



# Around medicine use – from producer to patient

The aim of the course is

- To educate the students to prevent and solve problems with loss of effect of medicine from producer to patient
- To give knowledge and understanding of the very complex medication use process and the different actors involved in the process
- To evaluate preconditions for and consequences of medicine use



The course focus on

- Supply and distribution of medicine
- Pricing and marketing of medicine
- Management of continuous medicine processes
- Health economic consequences of medicine use
- Pharmacoepidemiology
- Medicine use
- User perspective of attitudes to medicine and medicine use
- Patient adherence and compliance



- The course 'Communication, counselling and information on medicine use' are made from element from the 'old' counselling course and the 'old' theory course
- The course 'Evidence based medicine use in practice' is a combination of element from the 'old' documentation course and the 'old' theory course
- Because we want to have theories and relevant methods and activities in the same course



## Experiences so far

- 21 participants in the Pharmaceutical Policy course
- Six participants were non-pharmacists
- Pharmacists from community pharmacy, organisations, public administration and pharmaceutical industry
- Participants from Norway and Sweden
- The participants were very satisfied with the interdisciplinary discussions
- The participants was satisfied with the English language



## Status on MDM right now

- Eight students on the Master's programme 2009
- Both pharmacists and non-pharmacists
- Both community pharmacists and pharmacists from other sectors
- Six students have started on their Masters' thesis (2004 programme)
- Development and planning of the new courses



## Conclusions

- We have succeeded in giving the programme a more clear profile
- We have succeeded in making the programme interdisciplinary
- We have succeeded in keeping the community pharmacists interested in the programme



Thank you for your attention

[bs@farma.ku.dk](mailto:bs@farma.ku.dk)

<http://farma.ku.dk/index.php/Master-of-Drug-Management/2011/0/>