Department of Health Management and Health Economics Faculty of Medicine University of Oslo

Programme evaluation of Master programme in Health Economics, Policy and Management 2009-2014

Preword

In 2005 the first class of students started at the master programme in Health Economics, Policy and Management. In 2009 the programme was evaluated for the first four-year period. Changes have been done to the programme both prior to, and after the evaluation in 2009. The biggest change happened in 2013. This change was thoroughly prepared from 2010 and will be central in this internal review.

The purpose of this report is to provide a self-evaluation of the Master programme in Health Economics, Policy and Management in the period from January 2009 to May 2014, and the report is to act as a background paper for an external evaluation committee being appointed by the Faculty of Medicine. The report focuses on three main aspects. First, a description of the programme itself is given. Second, a summary of the various evaluations held at this programme is provided. Third, our own experiences (main weaknesses and strengths) are presented, including the rationales for the various revisions that have been implemented over time.

The report is authored by the current head of programme Eline Aas, Hans Olav Melberg, programme leader from 2011-2014, and student advisor Birthe Neset. The report builds upon data taken from the Studentdatabase and mid-term evaluations.

Oslo, November 24, 2014 Eline Aas Programme Manager

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Introduction: the study programme- History and composition

The Master's Degree in Health Economics, Policy and Management (HEPMA) was established in the autumn of 2005 and grew out of the Bachelor programme in Health Management and Health Economics which started 3 years earlier, in 2002. The main purpose of a Master programme was to respond to an observed demand for such a programme in Norway as well as to supply a complete educational programme for our Bachelor candidates.

The Master's Degree Programme in Health Economics, Policy, and Management (HEPMA) is a multidisciplinary programme that gives the students the opportunity to specialize in three highly relevant fields for the national and international health care sector: Health Economics, Health Management and Economic Evaluation.

Summary of external report 2009

The external evaluation committee of 2009 suggested that the programme should develop to secure entirety and connection of the study programme. They specifically suggested that the study programme should get a clearer profile, and that the programme should focus more on specialization and depth. The committee further said that the programme's academic profile could be weakened because of its high percentage of elective courses (50%), and therefore suggested that the programme should strengthen the aiming for health economic evaluation – and specialize in the direction of health economics and business economics.

This internal report will outline what has happened since the programme evaluation of 2009, and specifically it will focus on the structure changes in the last couple of years.

Composition and structure:

From 2009-2013 the programme had the structure illustrated in Table 1.

Table 1: Structure of the Master programme in Health Economics, Policy and Management from 2009 to 2013 according to semesters

4th semester	Thesis work				
3rd semester	<u>Thesis work</u>	Elective course		Elective course	
2nd semester	HMM4301 - Optimal allocation of health care resources and economic evaluation of health care technologies	HMM4104A- Research Design	HMM ⁴ Quali meth	<u>tative</u>	HMM4101 - Research methods and statistics or elective course
1st semester	HMM4101 - Research methods and statistics or HMM4100- Introduction to statistics	HMM4401 - Health and medicine or elective	HMM4202 - Structure, organization and financing of health care systems		
Credits	10 credits	10 credits	10 credits		

In addition to the mandatory courses listed in Table 1, the programme offered the following elective courses irregularly during the period from 2009-2013.

Elective courses in health management, policy and organization:

HME4205- Internship

HME4206-Topics in Health Policy

HME4208- Just Health Care

HME4209- Leadership, coordination and organization in health care services. Advanced course.

HME4210- Leadership in action

HME4211- Evidence informed Health Policy

HME4212.- Leadership in theory and practice

Elective courses in health economics and economic evaluation:

HME4302- Health Economics

HME4303- Project evaluation and analysis of investment decisions

HME4304- Cost accounting and budgeting

HME4305- Methods for the economic analysis of costs and demand

HME4306- Topics in Health Economics

HME4308- Health economics and market failures

HME4309- Advanced course in economic evaluation of health care interventions

HME4310- Medical Informatics and Logistics

Elective courses in medicine and epidemiology:

HME4401- Need for health care services related to demographic, epidemiologic, and health care technology development.

HME4402- Evaluation of the quality of services delivered by the health care sector

HME4404- Health Communication

HME4405- Epidemiology and public health

It was always an aim for the programme to offer courses in each of the four fields. From the programme started in 2005 until 2013 the programme solved this by offering elective courses in each field, in addition to the compulsory courses. Although the programme managed to offer a handful of courses in each field every semester, the offer varied from year to year along with the teaching resources available at the Department.

In 2010 the Department started cooperation with the Erasmus University of Rotterdam, Management Center Innsbruck and the University of Bologna on a Joint Degree. This was done to create a unique offer for students within the field- to provide the best of the best in Europe within Health Economics and Health Management- and also to answer the suggestions of the external committee of 2009. This cooperation gave rise to the European Master in Health Economics and Management starting in autumn 2013. To exploit the resources, and to make a better offer for the students at the existing HEPMA programme, the Department decided to offer three specializations for HEPMA and EU-HEM- students, see Table 2.

The programme now consists of

- Mandatory fundamental courses (1st semester 30 credits). All fundamental courses need to be passed (or exemption received) in order to start the 2nd semester
- Specialization or General programme (2nd and 3rd semester- 40 credits)
- Thesis work (4th semester 30 credits)
- Elective courses (20 credits)

Table 2: The programme structure of the Master in Health Economics, Policy and

Management post spring 2013 according to semesters

4th semest er	Thesis work					
3rd semest er	Specialization and General programme					
2nd semest er	Specialization and General programme					
1st semest er	HECON41 00 Fundament als of health economics	HMAN410 0 Fundament als of managemen t	HMET4100 Fundament als of statistics1	HGOV410 0 Fundament als of health care systems	HLAW410 0 Fundament als of health law	HMED410 0 Fundament als of medicine
Credits	5 credits	5 credits	5 credits	5 credits	5 credits	5 credits

Specialization or General program

Students can either choose to follow the General program, or specialize within one of the following fields: Health Economics, Health Management or Economic Evaluation.

General program

Students who choose the General programme, can freely choose between courses offered in the three specializations in the second and third semester. However, there are two mandatory courses in methods they need to take:

- HMET4210 Research Design
- HMET 5120 Qualitative methods, or HMET 5130 Linear regression analyses

Elective courses

The student may take up to 20 credits of elective courses offered by the Department, or relevant courses offered by other Departments at the University of Oslo. Note that some of these courses are not offered every semester.

- HMAN4230 Internship
- HEVAL5200 Topics in economic evaluation
- HGOV5200 Topics in Health Policy: Leadership challenges, dilemmas and ethical pactice
- <u>HMAN5200 Topics in Health Management</u>, summer course in Italy (this course is predominantly offered to Eu-HEM students)
 - HMET5140 Non-parametric methods
- <u>INTHE4119 Evidence Informed Health Policy</u> (in cooperation with the Department of Community Medicine)
 - Relevant courses at other Departments

Specialization

In order to specialize the students must take eight courses within one of the three fields below (to a total of 40 credits). They must also write their thesis within the field that they choose (30 credits). There are mandatory courses in each field, which they must take in order to gain a specialization.

Health economics

2nd semester	3rd semester
HECON4210 Demand for health and health insurance (mandatory)	HEVAL5140 Methods for effectiveness evaluations in health care (mandatory)
HECON4220 Payment systems for health care providers (mandatory)	HMET4210 Research Design (mandatory)
HMET5130 Linear regression analyses (mandatory)	HEVAL5150 Risk and uncertainty in health and health care
HECON4230 Optimal regulation (mandatory)	HEVAL5110 Valuing health
HECON4250 Efficiency analyses in health care (mandatory)	

Health Management

2nd semester	3rd semester
HMAN4210 Leadership and management (mandatory)	HMET4210 Research Design (mandatory)
HMAN4220 Health organization development and design (mandatory)	HMAN5140 Topics in priority setting
HFIN4220 Investments (mandatory)	HMAN5160 Integrated care models
HFIN4230 Cost accounting (mandatory)	HLAW5110 Labour market regulation (this course will not be offered in autumn 2014)
HMET 5120 Qualitative methods or HMET 5130 Linear regression analyses (mandatory)	
HFIN4210 Finance	
HFIN4240 Budgeting	

Economic evaluation

2nd semester	3rd semester
HEVAL4200 Fundamentals of economic evaluation in health care (mandatory)	HEVAL5110 Valuing health (mandatory)
HEVAL5120 Modeling in economic evaluation (mandatory)	HEVAL5130 Modeling in economic evaluation II (mandatory)
HMET5130 Linear regression analyses (mandatory)	HMET4210 Research Design (mandatory)
HECON4210 Demand for health and health insurance	HEVAL5140 Methods for effectiveness evaluations in health care
HECON4220 Payment systems for health care providers	HEVAL5150 Risk and uncertainty in health and health care
	HEVAL5200 Topics in economic evaluation

Additional choices for specializations

Students who specialize may choose four elective courses (20 credits) from other specializations or relevant courses from other Departments at the University of Oslo.

They may also choose the following elective courses offered by the Department of Health Management and Health Economics:

- HMAN4230 Internship
- HMET5120 Qualitative methods
- HEVAL5200 Topics in economic evaluation
- HGOV5200 Topics in Health Policy: Leadership challenges, dilemmas and ethical practice
- <u>HMAN5200 Topics in Health Management</u>, summer course in Italy (this course is predominantly offered to Eu-HEM students)
 - HMET5140 Non-parametric methods
- <u>INTHE4119 Evidence Informed Health Policy</u> (in cooperation with the Department of Community Medicine)

Evaluation

The new programme structure offers students to specialize in a more thorough way than earlier. The programme still is multidisciplinary, however, once a student has decided on a specialization, the programme makes sure s/he gets the knowledge required to be called a specialist. The courses are building upon each other and the head of each specialization ensures, in cooperation with the lecturers, that the content of the courses are in line with the specializations' aims regarding knowledge, skills and competencies. Even though we have put emphasis on structuring the courses in each specialization, there is still room for improvements, such as the mix of mandatory and elective courses and how many courses in quantitative and qualitative courses that should be mandatory in each specialization. Further, the amount of elective courses has decreased from 40-50 credits to 20 credits, as recommended by the 2009 external committee.

The programme aim - as described in the programme plan

The programme as described in the programme plan says:

"The Master's Degree Programme in Health Economics, Policy, and Management (HEPAM) is a multidisciplinary programme that gives the students the opportunity to specialize in three highly relevant fields for the national and international health care sector: Health economics, Health management and Economic evaluation."

Dependent on the specialization the candidate chooses, s/he will get the following knowledge, skills and competencies:

Health management

Students will gain knowledge of:

- the management tools and techniques used to design and manage successful organizations
- core financial accounting and control principles
- the work of management accounting, incorporating budget preparation and budget appraisal
- ethical principles and principles of priorities

Students will learn how to:

- analyse and evaluate complex policy and organizational challenges at both the micro level and at higher levels within health care systems
- differentiate between the functions, roles and responsibilities of healthcare managers
- make successful negotiations
- define and apply key quality concepts in health care organizations
- manage organizational processes, including redesigning organizations
- effectively and efficiently foster innovation within care settings
- demonstrate personal and professional ethical responsibility in all managerial and organizational decision making

Students will attain competences:

- of organizational analysis
- of communication
- of medical ethics
- to meet challenges on a multitude of levels within health care systems

Health economics

Students will gain knowledge of:

- the key analytical reasoning and tools of health economics and their normative foundations and ethical implications
- basic economic theories and models of regulation applied to health care providers as GPs, hospitals and long-term care organizations
- the health-related behavioural determinants and an overview of some recent policies aimed at improving the populations' lifestyles

Students will learn how to:

- use economic models to understand behaviours of actors in the health care sector
- do analyses of needs for health care services
- make analyses of efficiency and quality of health care organizations
- find and utilize relevant data sources describing
- use relevant econometric models for the analysis of the economic agents' behaviour

Students will attain:

- competence to apply economic concepts and models to the fields of demand for health, demand for health services, demand for health insurance, provision of health insurance and provision of health care.
- competence to describe, analyse and critically address economic aspects of health care organizations

Economic evaluation

Students will gain knowledge of:

- economic theories and models of health programme evaluations
- basic theories of decision making under uncertainty

Students will learn how to:

- develop decision tree models and Markov models for economic evaluation of pharmaceuticals and health technology and evaluate uncertainty in such models
- develop and perform simple health technology assessment studies

Students will attain:

- competence in distinguishing different decision-making frameworks, like informed decision making, situated judgment, political decision making
- experience in different methods to estimate the effects of a treatment or a policy intervention

Internship

On the second and third semester the students have the opportunity to take an internship course (elective course). This course enables the students to observe leadership and organization, administration, and economic evaluation in actual institutions within the health care sector in Norway or abroad. This course is practical, very popular and many of the students use their observations from the actual institutions as empirical data when writing their master's thesis. Further this course enables the students to make contacts for their future career. Some of the students have also been recruited to projects upon which they base their master's thesis.

Evaluation

It is in our opinion that we in the HEPMA programme are able to educate candidates with relevant qualifications for the job market. With the introduction of specializations in Health Economics, Health Management and Economic Evaluation, the candidates qualifications are

improved in their selected area, including the master thesis, which signals more clearly the candidate's skills. The program's international approach to healthcare and healthcare systems makes the candidates competitive also on the international job market. The internship is a good way for students to prepare for the working situation, and to make a professional network both nationally and internationally.

Learning outcomes relatively to the needs of society and the needs of students

Dependent upon the specialization a candidate chooses, the candidate will gain knowledge, skills and competencies preparing him/her to the national and international job market. The master candidate survey of 2014 confirms that the society needs the qualification of Health Economics, Policy and Management candidates.

A master candidate of Health Economics, Policy and Management will be attractive to the following employer's in Norway and for similar institutions abroad:

- The Ministry of Health and Care Services
- The Norwegian Directorate of Health
- The Norwegian Medicines Agency
- The Norwegian Knowledge Centre for the Health Services
- The Norwegian Institute of Public Health
- Hospitals
- Municipalities
- Ph.d studies at University of Oslo, Department of Health Management and Health Economics
- Industry

Knowledge of managing healthcare sectors is needed in countries all over the world. Graduating from a multidisciplinary master's programme in Health Economics, Policy and Management will give candidates job opportunities abroad and in international organizations such as:

- World Health Organization, WHO
- United Nations (UN)
- The Organisation for Economic Co-operation and Development (OECD)

Evaluation:

The candidate survey of 2014 shows the society's need for master candidates in Health Economics, Policy and Management. Also it shows that the candidates apply their educational knowledge, competencies and skills in their current job. With the general program our candidates would struggle, with a few exceptions, in being competitive with regard being qualified to a PhD. With the specializations it is in our opinion that more students will be able to compete and the best candidates have the potential to qualify for a PhD application.

Measures for quality improvements

In the internal evaluation report of 2009 the programme leader was concerned about the elective courses offered because these courses often were dependent upon external lecturers. Since 2009 the Department has increased quite a bit, and it can now cover most of the courses internally. This has made it easier to plan the courses, and also to ensure the courses in each specialization are building upon each other.

Evaluation

After following all the fundamental courses, the students choose specialization at the end of the first semester. In this way they are able to get an overview of the specializations and courses offered before they make this decision. Even though students now have the possibility of selecting a specialization, the programme still faces problems due to its multidisciplinary form. Some students find courses too easy while some students find them too difficult. This is often closely related to the composition in the bachelor. The department has worked to decline these problems by introducing introduction courses and providing more information on the courses and, later, the specialization throughout the years.

Lecture forms and student evaluation forms

Like the internal report stated in 2009, the programme still uses different forms of teaching such as "traditional" formal lecturing, student presentations, group work, computer based teaching, and written assignments.

Evaluation

The internal report in 2009 discussed whether it was a good idea to make sit-ins on lectures compulsory. Since then, patricipation in the group exercices for the course Research Design has become compulsory, and the further plan is to make sit-ins for the whole course compulsory to secure students' matureness when starting their thesis in their third semester. Also the report in 2009 said the programme wanted to encourage the use of written assignments. Due to the structure change, the programme has now introduced home exams and term papers to replace some of the school exams. One of the motivations for term paper is to encourage more continuous work during the course period. As the terms are now split in two sections, all lectures/seminars and mandatory assignments are organized within a short time period, which makes mandatory assignments challenging. Home exams have been suggested to reduce costs and to vary how students are tested. It is in our opinion that home exams cause challenges with regard to cheating, such as replication and independent work. To ensure no replication, the documents are now scanned by the plagarism programme, Ephorus, before graded.

Forms: the evaluation of students

Written assignments, written school exams, written school exams with computers (for modelling), home exams/term papers and oral presentations are the different evaluation forms made use of at HEPMA. Due to the structure change the students now take a double amount of courses. Therefore the Department has decided to decrease the amount of written school

exams, and increase the amount of home exams/term papers. In autumn 2014 there are seven written school exams at the programme (1st and 2nd module) compared to 12 in the autumn semester 2013. All courses within the specialisations except for HMET4210- Research Design and HMAN5140- Topics in Priority Setting make use of the grading scale A-F. HMET4210, HMAN5140 and the elective courses offered, evaluate the students using passed/not passed.

Evaluation

"The various types of evaluation forms have been much debated among staff members over the years. The statistics of grades (see figure 4-9) shows that the master programme makes use of the whole grading scale (from A to F). It has been a concern whether we deviate from the grading practice at Master's levels at other institutions, both nationally and internationally. We know for example that Master programmes in African countries and the U.S tend only to make use of A's and B's". Three external programme supervisors monitor examinations and assessment of the courses offered.

Arrangements for functionally disabled students

The Department of Health Management and Health Economics follows the University of Oslo's rules when it comes to arrangements for functionally disabled students. Through individual arrangements of the students' daily studies and in exam situations the Department makes arrangements in order to offer the same educational opportunities for functionally disabled students. All three study programmes at the Department have a contact person for the functionally disabled students, and this person is also in a dialogue with the central counselling office.

Internationalisation and exchange

Students from all over the world apply for the HEPMA programme. International interest of the programme has increased enormously. In 2009 the programme had 97 international applicants, while in 2014 there were 435 international applicants.

The international students at the master's programme come from Ethiopia, USA, Canada, Indonesia, Bulgaria, Germany, Netherlands, Tanzania, Austria, Italy, Ghana, Great Britain, China, Japan, The Philippines and Uganda

The Department holds five Erasmus+ agreements which make it possible for our programme students to study one semester abroad:

- Oxford Brookes University
- Technische Universität Berlin
- Erasmus University Rotterdam
- University of Bologna
- Management Center Innsbruck
- University of Copenhagen (only incoming students)

The Erasmus University Rotterdam, University of Bologna and Management Center Innsbruck are partner Universities of the EU-HEM programme and therefore also offer high standard and relevant courses in the field of health economics and health management. In the future though, the EU-HEM partner Universities will only be an offer for the EU-HEM students, and the Department is therefore looking for new exchange partners for HEPMA. Technische Universität Berlin offers courses on "Management im Gesundheitwesen" and has been an exchange option for the HEPMA students from the start. This option however has its limitation because the University only offers a few courses in English.

From 2009-spring 2014 we had the following number of incoming Erasmus students from the Department's exchange partners:

• University of Copenhagen: 10¹

• University of Rotterdam: 23

• Technische Universität Berlin: 4

• University of Innsbruck: 8

• University of Bologna: 2

In the same period (2009-2014) only 9 of our HEPMA students have exchanged to the following universities:

• University of Rotterdam: 1

• Technische Universität Berlin: 3

• University of Innsbruck: 3

• Oxford University:1

• Simon Frasier University²

I addition students from the eu-HEM-programme have exchanged to Rotterdam, Bologna and Innsbruck.

Evaluation

Along with the language problem in Berlin, both the international environment at the master programme and the popular Internship course offered in the second and third semester at the Department may explain the low interest in the exchange programmes. Further, those who wish to study abroad typically choose the eu-HEM-master which requires that students spend a minimum of one semester abroad. For the future we need to optimize the composition of mandatory and elective course in such a way that encourages internationalization. Further we need to expand the exchange options as the exchange to Rotterdam, Innsbruck and Bologna, might be exclusive for the EU-hem students.

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¹ The agreement with University of Copenhagen allows bachelor students at the Department to go to Copenhagen and master students from Copenhagen to take courses at HEPMA.

² Agreement at the University of Oslo

Learning environment and the students' attachment to the programme

All teaching, except for the computer teaching, takes place either in Harald Schjeldrups Hus, or in Kristin Nygaards Hus. Since most of the lectures are held in Harald Scheldrups Hus, both the coffee bar on the ground floor, and the Departments facilities on the 2nd floor become important for the students social and scientific milieu. The Department offers a reading room and a computer room for the master students. Further, the red sofas in the hallway are a popular gathering point for discussions. The fact that the students' facilities are placed on the same floor as the administration and many of the lecturers' offices makes cooperation and discussion between students and staff easy to arrange.

The student union (for students at the Department) is very active. The arrange quiz every Thursday in addition to other gatherings such as Christmas Party, Barbeque party, Cabin trips etc.

Two times the bachelor and the master students, together with lecturers and student advisers have been to Copenhagen on a study trip where they have visited WHO and Copenhagen University. These trips have been funded by the Department, and are very valuable for the social milieu as well as for the learning environment. Further, the Department believes that this has also recruited more of the bachelor students to the master programme.

There is established an Alumni organisation, Norsk forum for helseledelse, that involves former students and lecturers from the Department. The aim of the alumni is to gather former students and lecturers to professional and social events. The alumni have an annual conference usually held in January.

Evaluation

Both the learning environment and the social milieu have developed in a very positive direction the last four years. If we should pinpoint one thing: We need more reading- and computer places for our students due to the increased number of students (EU-HEM students use the same facilities).

Digital learning facilities and the use of Fronter

All courses make use of Fronter where lecturers upload lecture notes and extra recourses for the students, term papers and home exams. Further, the students submit term papers and home exams there. Some lecturers podcast their lectures, and also publish additional lectures on YouTube. These videos are short versions of the lectures and intended as an aid for students when reviewing the topics. The students have indicated that it was very useful when preparing for exams. In the longer term we intend to create videos which can be used to prepare for lectures and to include more interactive activities during the lecture time itself (so called "flipped classrooms" teaching).

The programme also make use of Skype frequently to keep in touch with partner Universitiesand also to facilitate oral exams when external censors do not have the ability to go to Oslo for the exam. The University of Oslo has an online software solution, (http://kiosk.uio.no) that enable students to access relevant programs for the study, such as SPSS and STATA without paying for an individual license.

Evaluation:

It is in our opinion that the use of digital facilities could be a useful tool in ensuring equal and universal access to our studies. It is in our opinion that we could develop this further in our teaching. Today Fronter is used to publish lecture notes and exercises, but audiofiles and other digital format should be exploited in the future. However, at present the use of digital facilities is in some situations very time consuming for the administration, and for lecturers. In many situation these tools also saves the environment. In order to offer high quality teaching in our specializations, computer based exercises are required. We arrange some of the seminars in a University based PC-lab, which is practical in several settings. Still, as most students have their own lap-top, there is an option to be more flexible with regard to where the seminars are carried out (at home, in classes outside the PC-lab). But there are some challenges of coordinating private lap-tops, such as PC versus Mac issues related to software, default language on computers (such as for excel) and the capacity.

Indicators measuring programme quality

Since the programme was first established, it has focused significantly on the students' own evaluation of the programme. Because of the diversity within this programme, the students' feedback has been of great value in developing the programme further.

The students' evaluation of the master programme

Due to low feedback on end evaluations (nettskjema), the mid-term evaluations have been the most valuable evaluation of the courses. The mid-term evaluations are held each semester and are supposed to correct ongoing courses when possible. Due to the new structure where each semester is divided in two modules the programme now encourages students and student representatives to correct ongoing courses by communicating with the lecturer or contacting the student adviser and programme leader who then talk to the lecturer. The programme's mid-term evaluation is now used to correct courses next year- and also to grasp general problems in the programme. Below is a summary of the student representatives' feedback during the last years- and corrections done in relation to these feedbacks.

The general feedback from student representatives in the period from 2009-2013:

- Request an opportunity to plan their studies two years ahead. They asked the Department to announce the elective courses earlier so that they are able to plan the two year study programme from the start.
- Students find it problematic that the class differ when it comes to skills/knowledge in statistics/economics.
- Lack of red thread when more than one teacher is involved in the same course.
- Students have reported that some courses do overlap.
- International students reported they needed an introduction course to the Norwegian Health Care system ahead of the study start (class 2010).

Solutions:

- The Department work to announce elective courses sooner than what has been done earlier. It lacks internal lecturers and needs to get external lecturers which make it difficult to make a long term plan for elective courses.
- The Department tried to solve the statistics/economics problem by introducing "elevator courses" for students lacking a background in statistics and economics. These "elevator courses" is held together with the 2nd and 3rd year students at the bachelor programme.
- The Department tries to only involve one or at the most two lecturer in each course. It also tries to only make internal lecturer have the main responsibility for courses.
- From the autumn semester 2011 an introduction course on the Norwegian Health Care System has been offered to new master students.

Student evaluations after the new structure (2013-2014):

- As the teaching is intensive and the courses short the students find it very important to have a detailed teaching plan on Fronter or on email prior to the course starting. In that way they can more easily structure their reading schedule and be prepared prior to the lectures. They also find the curriculum to be vast in all courses. They do not feel that the curriculum reflects that the courses are only 5 credits. This also makes it difficult to prepare for the exams as they do not always know what they should focus on. Ways to improve this would be to make part of the curriculum optional reading, or that the lecturers clearly state in class where the focus should be.
- The students also find that it would be useful to have more seminars and more project-based lectures, when appropriate. They would like to see more practical examples/cases to understand the theory better.
- The students very much like excursions and would find them useful when thinking about their future careers.
- The fundamental courses have challenges due to the fact that students are from various backgrounds.

Solutions:

After the evaluation by the students, the feedback was discussed at a meeting among
the teachers. We agreed on more common standards for the amount of reading for
each course. We also reduced the workload for some course, for instance the
Internship, but this was done by reducing workload associated with internal meetings
and the report, not by significantly reducing the time spend with the employer since
the feedback was that this was the most valuable time.

Evaluation

The mid-term evaluations were the student representatives meet with the programme leader and the student adviser have been of great importance to further develop the programme both as concerns administrative matters and teaching matters.

Challenges with extensive changes in the structure during the last years making the working load for teachers challenging with regard to teaching plans. This will improve the next years as the structure is more settled.

Recruiting of students

Admission requirements (special requirements)

Admission to the Master's Degree Programme in Health Economics, Policy, and Management requires a Bachelor's Degree in Health Management and Health Economics, Social Sciences, Economics, Public Administration or Health Sciences. Norwegian students with a cand. mag.-degree may also be admitted, provided they fulfil the general admission requirements.

Applicants with a Bachelor's Degree in Health Sciences must have at least 60 ECTS credits within Social Sciences or Economics.

The figure 1 below illustrates the lowest GPA candidates accepted each year. Figure two illustrate educational background for class 2014

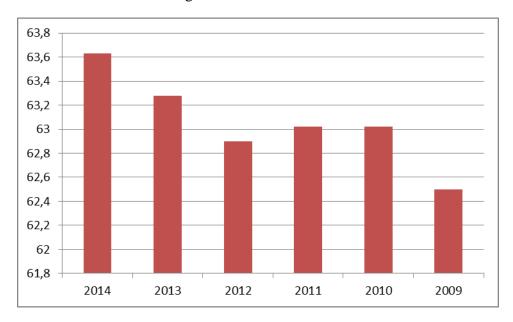


Figure 1: Lowest GPA for each intake. 65=A, 64=B, 63=C, 62=D, 61=E.

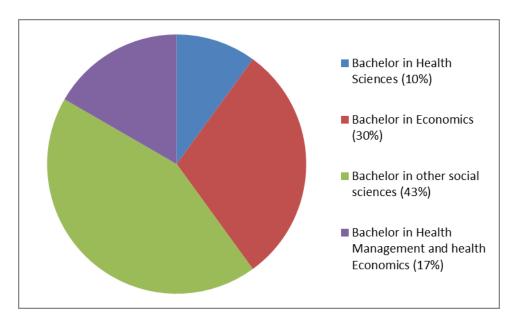


Figure 2: Educational background of class 2014

The number of applicants has increased substantially during the last couple of years. As mentioned above, the number of international applicants increased from 97 in 2009 to 435 in

2014. Likewise the number of Nordic and EU-country applicants (includes Norwegian applicants) has increased every year since the programme started, in 2009 (114) and in 2014 (286), see Figure 3. The grade point average has thus also increased simultaneously with the increase of applicants (see figure above).

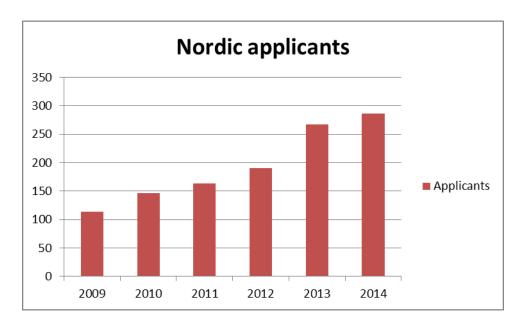


Figure 3: Nordic applicants according to years

Evaluation

The department is definitely satisfied with the number of applicants. To attract the applicants with the right background, the Department in particular addresses bachelor programmes in economics, political science and other social sciences. Optimally we would like to attract highly qualified candidates with good grades.

Achieved results

Average grades among students completing the master's degree have varied between 2.4 to 2.57, indicating an average between B and C. The fact that the grades are between B and C, and not higher could be explained by the use of the grading system where C in the long run should define the average, but could also stem from the fact that the students take part in a general master program, but might have expertise and interest in specific parts of the program. With the opportunity of specialization, it will be interesting to see whether this has a positive effect on average grades.

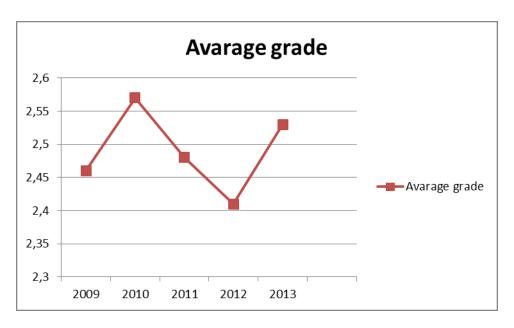


Figure 4.: Average grades according to classes 2009-2013 (1=A, 2=B, 3=C, 4=D, 5=E):

The first class with the opportunity to choose a specialization, started in 2013. The first term, as shown in the study plan contains of several fundamental courses. Grades given to students in class 2013, 1st semester courses are reported in Figure 5) to 10):

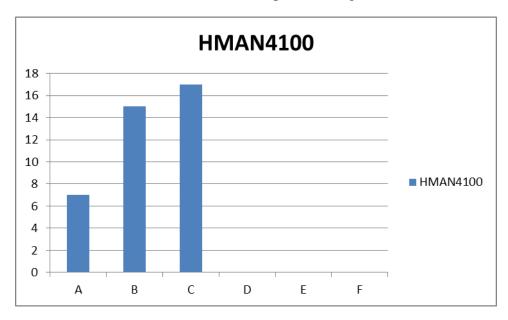


Figure 5: Average grades for Fundamentals in Health Management, grades for 2013

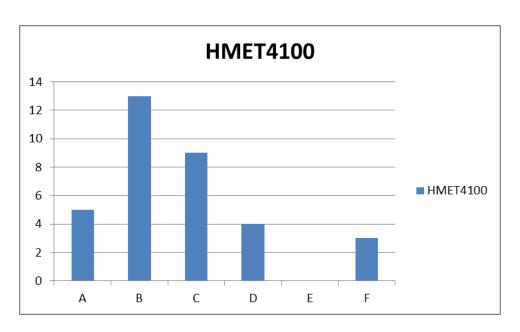


Figure 6: Average grades for Fundamentals in Methods, grades for 2013

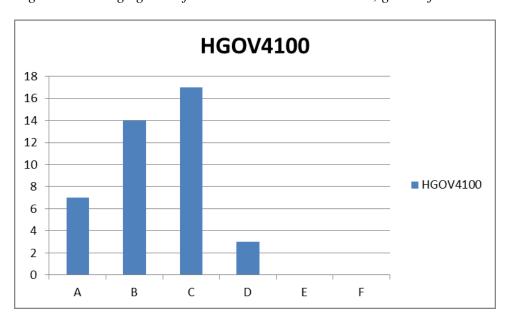


Figure 7: Average grades for Fundamentals in Health Government, grades for 2013

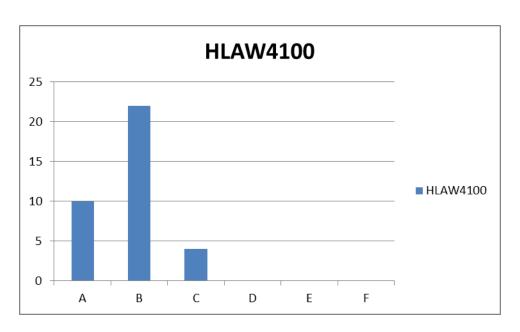


Figure 8: Average grades for Fundamentals in Health Law, grades for 2013

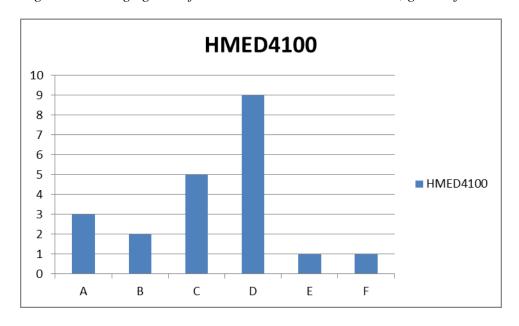


Figure 9: Average grades for Fundamentals in Medicine, grades for 2013

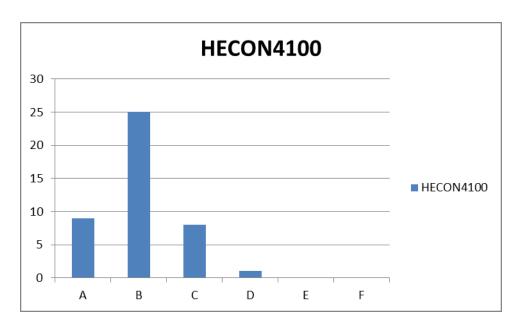


Figure 10: Average grades for Fundamentals in Health Economics, grades for 2013

All of the students in HMAN, HLAW and HECON are graded with A to C, with the median on B. For HGOV some students were graded with D, while the grades in HMED and HMET had a wider spread. The quite high scores for several fundamental courses could be explained by the importance of passing these courses as the student cannot start with other courses before passing the necessary fundamental courses.

Evaluation

Based on the reported average grades from the last years and the grades from the fundamental courses last year, it is in our opinion two factors that are important to monitor in order to achieve higher grades; higher qualifications among applicants and whether introduction of specializations have a positive effect on average grades.

Average grade (GPA)/number of students who have submitted master thesis 2011-2014:

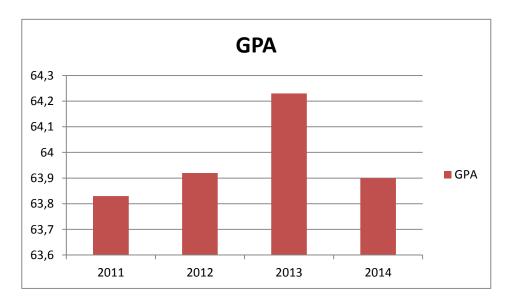


Figure 11a: Grade point average for submitted master's theses. 65=A, 64=B, 63=C, 62=D, 61=E.

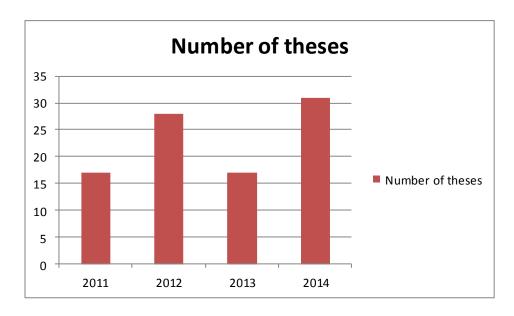


Figure 11b: The number of submitted master's theses per year has varied from 17 to 31 the last years.

Evaluation

The Department has in the last year made an increased effort to encourage student to submit their thesis. Also the Department has given students who have spent more than 3 years at the master programme an absolute deadline to submit. This has probably had a positive effect on the number of submissions in spring 2014.

Programme revisions in the period 2009-2014

2010:

- The course HMM4104- Research Design and Qualitative Methods was split into two courses: HMM4104A- Research Design and HMM4104B- Qualitative Methods. The reason why the programme leadership wanted to split this was to make the lectures clearer and to make cooperation on methodology courses at the Institute of Health and Society possible.
- The bachelor course HSTAT1101 became an "elevator course": HMM4100-Introduction to statistics for students who did not have equivalent of a 10 credits statistics course from their bachelor degree.
- The bachelor course HØKON2201 became an elective "elevator course": HME4308-Health Economics and Market failures for master students who needed an introduction course to take other elective courses in health economics.

2013:

• Structure change: All 10-credit courses were split in two 5 credits courses, and new courses were established to provide solid specialisation in Health Economics, Health Management and Economic Evaluation (please see the introduction chapter for more information on the structure change).

Evaluation:

The changes done throughout the years have mostly been done to ensure the background knowledge of the students, and to improve the level of the multidisciplinary programme. The changes done in 2010 regarding the "elevator courses" in economics and statistics were done to make an offer for students lacking a background in economics and statistics, and to make sure statistics courses and economics courses on higher level did not have to give an introduction to students lacking this knowledge.

HEPMA and future challenges

The important future challenge is to ensure a sufficient high interest among HEPMA stakeholders. The fulfilment of such an objective will ensure a high number of talented applicants to our programme being a precondition for future successes. Such a development cannot be assured through active marketing and the use of networks within the Norwegian health care sector, alone. More important is probably the supply of a sufficiently wide range of relevant courses – each with a content being close to the "research frontier" within each of specialization (Health Economics, Economic Evaluation and Management). Even though the structure has improved in a positive direction, it is important to ensure that the development of courses, both the existing and new courses are in line with changes in the health care services. Further there are some additional challenges that need to be addressed, each commented on below.

Exchange partners

It is important for the Department of Health Economics and Health Management to offer good exchange opportunities for our students, including the HEPMA students. A future challenge may be that the EU-HEM partners (Rotterdam, Bologna and Innsbruck) will not offer exchange opportunities for non-EU-HEM students (such as our HEPMA students). In order to offer our students' high quality exchanged programs, there is a need to find new exchange partners. At the moment we are working with several options, but it is important to establish collaboration with institutions offering similar programs.

Resources

The teacher to student-ratio has been very small at our department, but has been improving during the last years as more full time teachers have been appointed. However, the teaching burden for the staff is still much higher than at comparable departments both at The Medical Faculty and elsewhere at the University of Oslo. The new EU-HEM do not constrain resources with regard to teaching capacity, but it increases the amount of supervision, as all EU-HEM students should have two supervisors. This requires resources from the teachers. There is a need to further expand the number of staff at the department and work on structures that could reduce the work load, such as more efficient supervision (groups).

Student through-put

From 2007-2014 145 students have graduated. On average that is 18.13 candidates per year but with an increasing amount over time (cf. figure 11). The programme has a frame of 30 students per year. We aim to increase the through-put, and believe the new tight programme structure will help the students finishing on time.

Diversity of students

One challenge is the diversity of the background of the students. This creates challenges when teaching because in each of the different subjects some students are more familiar with the topics and the tools than other students. To reduce this problem, we will make more use of pre-course preparations (crash courses) and advisory reading lists for students with weak backgrounds in one subject.

The rationale for a continuation of HEPMA

Past and current changes in the health care sector have increased the demand for people with knowledge in health economics, evaluation and health management. Norway has introduced new organizations for the evaluation of health technology in the regional health authorities and many of these positions are filled by HEPMA students. The field also grows because the cost and pace of technological changes and new regulation make economic evaluation even more important. Similarly, organizational change and experiments with different payment system, like quality based payment, have created a demand for knowledge and leadership. The students from HEPMA have been employed to help administer and evaluate these reforms in directorates, ministries, research institutions and private consulting companies. The expected future trends underlying the challenges in the health care sector point to a continually high and increasing demand for students with knowledge in this area.

Attachment: Master's theses titles 2009-2014

2009

Health Economics/Economic evaluation:

- Cost effectiveness analysis of olanzapine and risperidone
- Most frequently prescribed antipsychotics for schizophrenia in Norway
- Price and competition in the market for TNF-α inhibitors in Norway
- Clinical and Cost Effectiveness of VentrAssist®LVAD as a "Bridge" to Transplantation for People with an End -Stage Heart Failure
- Evaluation of the reform in the reimbursement system for TNF-inhibitors. *An analysis of consumption and use of TNF-inhibitors*
- Health Related Quality of Life: Tailored Internet Support for Cancer Patient
- Evaluation of the reform in the reimbursement system for Tumor Necrosis Factor alpha (TNF-α)- inhibitors. *How are the national guidelines for TNF-inhibitors implemented at department level in hospitals?*
- Survival Curve Convergences and Crossings: How frequent are they in medical research? A study of five medical journals.
- Is hemiarthroplasty a cost effective treatment? A cost utility analysis comparing hemiarthroplasty and internal fixation in displaced femoral neck fractures
- An Informal Care Leave Arrangement- An Economic Evaluation

Health Management/Policy

- The implementation of New Public Management in the Health Care Sector of Norway and Germany. A comparison via a literature and reform review.
- A Case Study of the Health Information System in Gaborone. Information Flow and Managers' Information Use
- The educational gradient in health: a matter of discounting?
- LABOUR SUPPLY AMONG HOSPITAL PHYSICIANS. Time allocation among public hospital physicians after the hospital reform of 2002
- The Influence of Access on the Use of Specialists Health Care in Norway

- Individual Plan- Has it lived up to the expectations? A qualitative study on the use of Individual Plans for physically and mentally disabled children.
- Do place and socio economic status matter?
- Analysis of inequalities in the probability of PCI for AMI in Norway 1999-2007 with respect to geographical location, socio economic status and demography
- Lifetime perspective on adults with congenital heart disease.
- The management of health care services provided to adults with congenital heart disease (ACHD) in Norway

Health Economics, Economic evaluation:

- HPV mRNA tests for the detection of cervical intraepithelial neoplasia:
- A systematic review
- Predictors of pelvic girdle pain in pregnancy results from a health survey
- Cost-Effectiveness of replacing culture test by Xpert MRSA screening test for patients at high risk of MRSA
- Adverse lifestyle effects of colorectal cancer screening. Does the incidence of selected lifestyle-related comorbidities change dependent upon a screening outcome?
- Evaluation of Quality in Somatic Healthcare Service in Norway
- Economics of Mammography in Norway. A Descriptive study of costs of Mammography Screening from societal perspective

Health Management/Policy:

- The Coordination Reform: Potential for substitution between primary- and specialist health care in Norway.
- Event Reporting and the International Health Regulations. A Qualitative Study of Public Health Event Reporting
- THE IMPACT OF RISK ADJUSTMENT MECHANISMS WITHIN THE SOCIAL HEALTH INSURANCE COUNTRIES IN EUROPE: A CASE STUDY OF THE GERMAN HEALTH INSURANCE SYSTEM.

- Geographic variation in consumption of biopharmaceuticals among juvenile patients in Norway
- Effects of Physician Payment Methods A Descriptive Study of the Situation in Norway, UK and Ghana
- Widening a Bottleneck: Towards a Better Patient Flow in Health Services.
- An analysis of utilization of specialized health services for diagnose-groups at the municipality level
- Studied period from years 1999 to 2007
- DOES GOVERNMENT HEALTH SPENDING INCREASE WHEN WOMEN DECIDE?
- USING SPEECH RECOGNITION TECHNOLOGY AS A TOOL AT AKERSHUS UNIVERSITY
- HOSPITAL
- Lifetime perspective on adults with congenital heart disease.
- The management of health care services provided to adults with congenital heart disease (ACHD) in Norway
- A panel study of the nursing home sector in the City of Oslo: Do operating structures have an effect on cost per bed and measured quality?
- Which variables influence having private health insurance and to which extend PHI is attractive compare to other fringe benefits offered on the employment market

Economic evaluation/Health Economics:

- The Development of a New Procedure in a Hospital: A case study of how cardiologists and cardiac surgeons respond to the introduction of the new transcatheter aortic valve implantation (TAVI) procedure.
- Health Care Expenditure: The Synergy of Demand and Supply
- Sealing techniques for pituitary tumour surgery does it influence resource use and complications?
- Finding a balance. Health economics and social determinants of health
- Cost and efficiency in the Hospital Sector

- Health Management/Policy:
- EVALUATION OF THE PROJECT "FASTER BACK REDUCED SICK LEAVE IN OSLO
- A Process of Restructuration of Oslo University Hospital. A qualitative study of the merger of the University Hospitals of Oslo and gradual changes of the organizational model discussed and implemented by the Hospital.
- Gatekeeping in primary care: Consequences for population's health
- Corporate Governance of Norwegian Health Trusts with Sector Political Goals
- Multiple sclerosis and the labor market. Labor market participation, sickness, absence, rehabilitation and disability pension in Norway
- Is every changing process a learning process? A case study of middle manager's experience under a changing process with a hospital closure and their leadership role.
- Determinants of Health Care Expenditure. The case of Ethiopia
- Examining utilization of specialized outpatient care in Norway.
- An analysis of the factors explaining total consumption, public provision, private provision and the possibility for substitution in a public-private mix provision of specialized outpatient care.
- The effect of abolition of user fees on equity and the quality of healthcare services. The case of Uganda's healthcare sector.
- Municipal unemployment and municipal typologies as predictors of disability pension in Norway. *Analytical framework and results of a multilevel analysis*.
- Reservation notes against generic substitution- solely medical considerations? An analysis of factors influencing the level of doctors' reservations against generic substitution for selected pharmaceuticals in Norwegian settings, 2006-2010.

Health Economics/Economic evaluation:

- Does the Reform in Norwegian Hospital Ownership
- Improve Cost Efficiency? A Comparative Study of Nordic Countries

- Beliefs about the Effect of using Blood Donation Payments: Survey Results from Norway
- A cost analysis of treating hip fracture patients with a bottom-up perspective
- Measuring the level of severity in pharmacoeconomic analyse
- Cost utility analysis of HIV/AIDS treatment: A case study of antiretroviral treatment and herbal treatment in Ghana
- Examining the Relationship Between Alcohol and Mortality Through the Use of Propensity Scores.
- Validity of the patient safety climate items from the RN4CAST Survey compared with the SAQ. Internal consistency, concurrent validity and inter-rater reliability.
- Cost efficiency in Nordic University Hospitals. A stochastic Frontier Approach Using Panel Data
- From cars to care. A literature study of the diffusion of Lean from Toyota to the Norwegian hospital setting.
- Norwegian medical students that studied in Poland. How Norwegian medical students adapt to the working life upon their return from Poland and how they value the study programme.
- An Analysis of a Questionaire Survey on Healthcare Workers's knowledge on Methicillin-resistant Staphylococcus Aureus (MRSA) Prevention gudielines at oslo University Hospital (OUS)
- Childhood Diabetes and Ethnicity in Norway.
- Ethnic Differences in incidence of TIDM in Norway from 2002-2009
- The Ethical Issue Behind Health Care Rationing with Special Concern for Menthal Health.
- Does the Reform in Norwegian Hospital Ownership Improve Cost Efficiency? A Comparative Study of Nordic Countries
- Economic Evaluation Analyses of Reducing Surgical Site Infection after Cesaerean Section in a Norwegian Hospital
- Rare diseases and priority- setting in the Norwegian health care sector: A qualitative study using focus groups
- What Characterizes Patients Who Switch General Practitioners

- The Impact of Alcohol Consumption On Hospital
- Treatment Cost and length of Stay for Non- alcohol -related Diseases
- Municipal midwifery services in Norway. The realization of policy guidelines within municipal midwifery services in the light of the Coordination Reform
- The implementation of the Norwegian Coordination Reform. A single-case study of the negotiation process of a contract between municipalities and a hospital
- The Effects of Merger on Ratio of Elective versus Acute Specialized Somatic Care in Norway
- High Body Mass Index: predjudice, stereotypes, discrimination and its consequences in Norway
- Going Lean in a hospital unit Explaining the outcome of a Lean process at the Clinical Cancer Research Unit from 2008-2010
- Equitable long term care for the elderly immigrants
- Retired Physicians in Norway. A unique population? A quantitative and qualitative survey study of the over 75 age group of physicians in Norway
- Would lowering the price of healthy food increase demand/ consumption? A
 prospective qualitative and quantitative study to gain insight into consumer interest in
 the case of healthy food, and the recent links to the increase in Overweight and
 Obesity to poor diet
- How to cope with addiction? The effects on work supply, sick leave status and quality of life after participating in a course on life-style coping
- Public health challenges among immigrants in Norway. A content analysis of health policy documents
- Independence of Institutional Review Board in Mainland China: An Evaluation
- Old age dependence on family support : the effect of health insurance intervention

Health Economics/Economic evaluation:

- An Evaluation of the Socioeconomic Viability of a Dental Health Care Reform in Norway.
- Exploration of the effect of smoking ban in catering places on the wholesale sales for cigarettes, rolled tobacco and cigars in Norway
- Cost-effectiveness of early rehabilitation after Traumatic brain injury
- Generic competition in pharmaceutical industry How long does it take for generic drugs to enter the market after having applied for Market Authorization in Norway?
- HeaLTH Management/Policy:
- An Analysis of Hospital Resource Use Among Elderly Norwegian Decedents
- Price regulation of pharmaceuticals with generic competition. A single case study of the auction price model and the stepped price model.
- From sheltered home to special units in nursing homes.
- From a clinic to a hospital. More than we bargained for: Public health nurses' report of day-to-day-work conditions after an upgrade
- Outsourcing to private for-profit Hospitals
- Multicultural competency in substance abuse treatment. The differences that make a difference
- Understanding and interpreting the process behind compulsory admissions: *A qualitative study*
- Regional variation in prescription of psychotropic drugs and the factors behind in Norway
- The emergence of an organizational idea
- Health Status and health Behavior in Adolescents. A descriptive comparative study between immigrants from Pakistan, Somalia and Vietnam and ethnic Norwegians.
- Bed Blocking and the City
- The effect of exemption from co-payment on adolescent utilisation of primary health care. The case of Norway.

Health Economics/Economic evaluation:

- The cost of hospital care and pharmaceuticals 2009-2012 for patients with rheumatoid arthritis in Norway
- Screening immigrants for latent tuberculosis: A cost-effectiveness analysis in a Norwegian setting
- Is introduction of universal hepatitis B vaccination in the Norwegian immunization program recommendable?
- Costs and outcomes of five surgical treatments for great saphenous varicose veins;
 High Ligation and Stripping, Laser Ablation, Radiofrequency Ablation, Steam Vein Sclerosis and Cyanoacrylate Glue
- Identifying High Cost Patients. Characteristics of Patients with the Highest Hospital Costs
- Cost-effectiveness of alitretinoin (Toctino®) for severe chronic hand eczema in adults
- A review of Volume, Costs, Patient- Visits and Reimbursements. The Case of INRtesting in Norway 2009-2011
- What are physicians' opinions about sick leave and sick leave policies compared to the general population?
- Human Papilloma Virus Awareness, Knowledge and Vaccine Acceptance among Norwegian Adolescents
- Trade-offs in cervical cancer screening: What is the optimal combination of benefits, harms and resource use?
- Social Determinants of Health The Association between Self-rated Global and Mental Health & Socioeconomic Status in Breast Cancer Survivors
- Economic Evaluation of Cervical Cancer Screening: Are Costs Outside Health Care Included?

Health Management/Policy:

- Samhandlingsreformen: kommunalt tilbud til utskrivningsklare pasienter
- Kommunal medfinansiering; gode intensjoner, svake insentiver?

- En kvantitativ undersøkelse av effekter av kommunalt tilbud på liggetid for utskrivningsklare pasienter
- Legerollen i Endring
- Relationship between Healthcare Expenditure and GDP in Norway: Analysis of Cointegration and Income Elasticity
- Exploring inhibiting conditions for continual improvement in hospitals: *A qualitative interview study?*
- Kommunal medfinansiering; gode intensjoner, svake insentiver?
- SAMHANDLINGSREFORMEN OG LOKALPOLITIKK
- Norske kommuners forbruk av somatisk spesialisthelsetjeneste før og etter innføringen av Samhandlingsreformen har politisk ledelse hatt noe å si?
- Implementation of the Municipal Emergency Day Care Unit in Oslo
- Reorganization of a hospital department at Oslo University Hospital. *Efficiency improvement and increasing the proportion of day surgery and day assessment.*
- Digital radiology at Norwegian hospitals
- A single-case study of the influence that the incorporation of digital management of radiological examination has provided in the working day of doctors
- The National Council for Priority Setting: A transparent decision-making?
- På bekostning av hjemmeboende? En kvantitativ studie av samhandlingsreformens innvirkning på institusjonstilbudet til brukere fra hjemmetjenesten
- Public health crisis? Analysis of equity of access and utilization of health services in Uganda
- Medical Brain Drain and its Effects on Health Service Delivery in Southern and Central Africa: A Literature Review
- Patient mix in specialised short-term wards for the elderly a place between hospital and home
- Priority Setting in Health Care for adolescent
- Patient Satisfaction in General Medical Practice And The Association With Patient Shortage

- Drømmen om den døgnåpne kommunen
- En analyse av de kommunale akutte døgnenhetenes foreløpige effekt på antall sykehusinnleggelser
- Improving the Quality of Medical Interpreting in Norway
- A qualitative study with perspectives from qualified interpreters