

Department of Public Health
and Caring Sciences

ANNUAL RESEARCH
REPORT 2007

Introduction

During 2007 there were nine research groups at the Department of Public Health and Caring Sciences : Bioethics, Caring Sciences, Clinical Nutrition and Metabolism, Disability Research, Family Medicine and Clinical Epidemiology, Geriatric Research, Health Service Research, , Psycho Social Oncology, and Social Medicine.

In all, 176 persons had positions at the department. There were 9 professors, 2 adj.professors, 13 senior lecturers, 4 adj. senior lecturers, 4 assistant professors, 31 researchers, 16 research assistants, 25 teachers, 30 administrators and 7 nutritionists, dietitians and laboratory assistants. There were also 63 doctoral students, of whom 38 had appointments at the department.

One hundred and eighty articles were published in international journals and 14 of the doctoral students defended successfully their dissertations. The external funding was about 25 million Swedish crowns.

At the undergraduate level, 547 full time students (= HST) were educated at the department. The students belonged to different programs and courses, 342 were educated within the Nursing programs, 77 within the Physician program, 30 within the MSc-program in Public Health and 98 in other short courses.

Below follows a short presentation of the different research groups.

Bioethics

The evaluation of ethical issues related to research and development in the life sciences and in health care is the base of the research in the bioethics research group. This includes ethical and philosophical aspects of biobank related research and informed consent, neurobiological explanations of human consciousness clinical care and animal welfare.

Caring Sciences

The research group in Caring Sciences is a multi-professional group where researchers with educational background in nursing, midwifery, nutrition, occupational therapy, physiotherapy, and psychology meet and collaborate. The research could be categorised in different themes like eating and nutrition, quality of life and coping in patients with chronic illness, reproductive health, cultural diversity issues, behaviour medicine, genetics, quality issues and nursing management.

Clinical Nutrition and Metabolism

The research at Clinical Nutrition and Metabolism (CNM) focuses on dietary intake and metabolism during health and disease. It covers aspects of preventive public health nutrition, clinical disease- and age-related nutrition, child and adult obesity, circadian metabolism and physical activity.

Disability Research

Individual functioning as an interactive person-environmental process forms the bases of present activities in disability research. Current studies focus living conditions and everyday life as well as assessment and measurement.

Family Medicine and Clinical Epidemiology

In Family Medicine the research areas could be described as cardioovascular disease, musculoskeletal disease social insurance outcome, sicklisting, disability pension, asthma and allergy, pharmacoepidemiology, and B12-folic acid insufficiency

Geriatric Research

The research group in Geriatric research is mostly involved in two areas of research, molecular studies of dementia and clinical and epidemiological research in those disorders. The major aim for the dementia research group in the future is to establish immunotherapeutic strategies to treat dementia

Health Service Research

Health service research is interdisciplinary, as the research theories and methods used have their origins in many different scientific disciplines. One approach is to study the health care system from the view of the individuals involved, for example, doctors, medical care personnel, students and patients. Another approach is the study of political, administrative and medical decision making process.

Psycho Social Oncology

The researchers in the Psycho Social Oncology research group study cancer during adolescence, psychosocial and health economic consequences and posttraumatic stress disorder among parents of children with cancer. Other areas are procedural pain in children with cancer and health-related quality of life, needs of care and support among adult Tanzanians with cancer

Social Medicine

There are two groups within the research group of Social Medicine. The focus of one group is stress, especially the bio-psycho-social mechanisms contributing to health disparities, stress factors and psychophysiological consequences of the modern lifestyle, and modern health care with implications for patients, employees, health care organizations and society. The study area of the other group covers social epidemiology, prevention research and health services research.

The year 2007 has been full of work and challenges for the staff and students of the department and a lot of good achievements have been performed.

Uppsala 2008-03-12

Marianne Carlsson

Head of Department

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Centres

The Department of Public Health and Care Science was the host of the three Centres:

Center for Bioethics

The Department of Public Health and Caring Sciences was the host of the Centre for Bioethics at Karolinska Institutet and Uppsala University (CBE) between 2004 and 2007. A new organisation was introduced in January 2008, the Centre for Research Ethics and Bioethics (www.crb.uu.se).

Center for Disability Research

The Center was created in 1988 to coordinate research in Disability issues in various subject areas at the faculties at Uppsala Universities and to interact with society in issues related to disability Research. The aim is to disseminate information about research and to stimulate long-term acquisition of knowledge about issues involving disability by enhancing the flow of information among teachers, researchers and doctoral students as well as interested parties outside the university.

Nordic Centre for Classification in Health Care

The Nordic Centre is responsible for the coordination of classifications used within the health care systems in the Nordic countries. As a WHO Collaborating Centre for the Family of International Classifications (WHO-FIC), the Centre represents the Nordic countries in the international coordination of health related classifications.

Scientific Reports

Bioethics

Bioethics deals with norms and value conflicts in health care and the biosciences. Priorities in health care, informed consent, neurobiological explanations of human consciousness, animal welfare and the use of biotechnology raise ethical questions. It also deals with the philosophical, theological, legal and social scientific aspects of medicine and biology. Research in bioethics at Uppsala University was, from 2004-2007, conducted under the auspices of the Centre for Bioethics at Karolinska Institutet & Uppsala University (CBE), now (1 January 2008) the Centre for Research Ethics & Bioethics.

Bioethics (from 1 januari 2008 Centre for Research Ethics & Bioethics)

Group leader: Mats G. Hansson, professor of biomedical ethics

The multi-disciplinary bioethics research conducted under the auspices of the Centre for Bioethics (now Centre for Research Ethics & Bioethics) focuses on seven main fields: Neuroethics, Animal and Environmental Ethics, Clinical Ethics, Research Ethics, Biobank Ethics, Medical Law. We also have a gender theoretical perspective.

Neuroethics

Neuroethics deals with our consciousness and sense of self: an interface between the empirical brain sciences, philosophy of mind, ethics and the social sciences. It is the study of the questions that arise when scientific findings about the brain are carried into medical practice, legal interpretations health and social policy. This is a relatively new field and the first research symposium in Scandinavia was arranged by Bioethics in June 2005 (Imagining the Work of the Brain – Neuroethics). Associate professor Kathinka Evers has developed collaboration with researchers at Collège de France (CdF) and Institut Pasteur, Paris, France, that has led to an invitation to be guest professor at CdF 2006-2007.

Animal and Environmental Ethics

Associate Professor Pär Segerdahl has developed collaboration with researchers at the Great Ape Trust of Iowa, USA, that, among other things, resulted in the book *Kanzi's Primal Language: The Cultural Initiation of Primates into Language* (Palgrave Macmillan, 2005). He is also involved in an investigation of forgiveness in great apes (http://www.iowagreatapes.org/media/releases/2005/nr_09a05.php). Since 2004 Segerdahl collaborates with the Swedish University for Agricultural Sciences concerning a research project entitled "What is natural behaviour in a domestic animal? Philosophical analysis of a central concept in organic agriculture," funded by the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning.

Clinical Ethics

CBE collaborates closely with the county councils in Stockholm and Uppsala, providing teaching in clinical ethics and forum for ethical discussion through various seminars for

doctors, nurses and administrators. CBE has developed a format for these discussions called “ethical rounds”. Currently, a R&D project on patient empowerment in outpatient care of hip fractures, funded by the Stockholm County Council is ongoing in collaboration between Bioethics researchers and Professor Leif Ryd at the Karolinska University Hospital, Huddinge. Associate Professor Anna T. Höglund has also worked extensively on moral stress in clinical settings and priorities in health care.

Research Ethics

The website www.codex.vr.se was developed by Dr. Stefan Eriksson, currently editor, at Bioethics and is now being run in collaboration with the Swedish Research Council. In 2003, Associate Professor Kathinka Evers conducted a study that resulted in the European Commission community research report “Codes of conduct – Standards for ethics in research”, providing a systematic information facility of ethical issues in science. The Riksbankens Jubileumsfond funded project “Are codes and guidelines the right way to go? On ethical competence in medical practice” is led by Associate Professor Anna T. Höglund and involves two other CBE researchers.

Biobank ethics

Bioethics has three ongoing funded research collaborations: 1) Cancer control using population based registries and biobanks: EU network of excellence (www.cancerbiobank.org), co-ordinated by Professor Joakim Dillner, Lund University. 2) AutoCure – Curing autoimmune rheumatic diseases, and EU funded research project within the sixth framework (www.autocure.org), co-ordinated by Professor Lars Klareskoug at Karolinska Institutet. 3) Ethical aspects of longitudinal studies involving children using the ABIS (All Babies in South-East Sweden, www.liu.se/hu/ihtm/abis/) study of predictive screening for type 1 diabetes. This is a collaboration between CBE and the Department of Molecular and Clinical Medicine at Linköping University (Professor Johnny Ludvigsson).

Medical Law

The field of Medical Law is associated to the Centre through a collaboration with the Department of Law at Uppsala University. It deals with legal aspects of emerging scientific developments, concerning for example stem cell research, genetic diagnosis, reproduction technology or new e-health applications. Currently, an LLD project on quality assurance in Swedish health care – responsibility and regulation is carried out by Ewa Axelsson, LL.M. Elisabeth Rynning, Professor of Medical Law, also supervises an LLD Project at Umeå University on genetic testing and privacy. Elisabeth Rynning is also the president of the Network for Nordic Research in Biomedical Law, founded in 2006.

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Publications 2005-2007

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Agencies that support the work/Funding

Formas: What is natural behaviour in a domestic animal? Philosophical analysis of a central concept in organic agriculture

European Union: AutoCure – Curing autoimmune rheumatic diseases. Including PhD project “Autonomy and trust in biobank research”

European Union: Cancer control using population based registries and biobanks (CCPRB Network of Excellence)

Swedish Research Council (Vetenskapsrådet) and the Swedish Council for Working Life and Social Research (FAS): Ethical aspects of longitudinal studies involving children

Riksbankens Jubileumsfond (Bank of Sweden Tercentenary Foundation): Are codes and guidelines the right way to go? On ethical competence in medical practice

The Vårdal Foundation (Vårdalstiftelsen) and Uppsala County Council (Landstinget i Uppsala län): How do patients prioritize in situations of limited resources?

Stockholm County Council: Empower the patient: Hip fracture as outpatient care

Pfizer: Return of information to individuals – an ethical problem in biobank research

Swedish Research Council (Vetenskapsrådet): CODEX

Research projects

What is natural behaviour in a domestic animal? Philosophical analysis of a central concept in organic agriculture

Participants

Pär Segerdahl, Associate Professor of Philosophy (Principal Investigator)

Linda Keeling, Professor, Animal Welfare Unit, Swedish University of Agricultural Sciences

Anne Larsen, Technician, Animal Welfare Unit, Swedish University of Agricultural Sciences

Network

Bo Algers, Professor, Department of Animal Hygiene, Swedish University of Agricultural Sciences

Kerstin Olsson, Professor, Department of Anatomy and Physiology, Swedish University of Agricultural Sciences

Mats G. Hansson, Professor of Biomedical Ethics

Bengt Meyerson, Professor, Department of Neurosciences, Pharmacology, Uppsala University

Key words

Natural behaviour, animal welfare, organic agriculture

Time table

The project was initiated in July 2004 and will be completed in June 2007.

Financial support

The project is funded by a grant from the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, Formas (Forskningsrådet för miljö, areella näringar och samhällsbyggande) (www.formas.se).

More information

In field studies of animal behaviour, ethologists often hide in order not to disturb the animals' natural behaviour. Should ecological farmers who want to support natural behaviour minimize the contacts with their animals? In fact, when farmers change to ecological production they tend to intensify interaction with their animals. Does that imply that ecological animal husbandry is unnatural?

The aim of this project is to formulate a new view on natural behaviour that enables ecological farmers to see their caretaking routines as part of domestic animals' natural behaviour. Since ecological farmers often associate welfare with natural behaviour, this new outlook makes it possible to connect animal welfare in ecological production to the caretaker's presence rather than to his absence.

Three ideas from the project:

1. In domestic animals, interaction with the caretaker is a hub in their adaptation to the environment: When piglets learn to suckle they are guided by hearing the sow's grunts. The caretaker's relation to the animals on the farm often resembles the sow's relation to her piglets! The caretaker helps the cow adapt to the milking equipment by speaking reassuringly, by patting and encouraging her: a 'grunting' that supports the cow's behaviour on the farm.
2. Do not overcompensate for industrial animal husbandry: Humans are responsible when animals live unnaturally in industrial production systems. What is 'unnatural' is not human presence as such, however, but rather production conditions under which the caretaker lacks opportunities to support the animals' adaptation. To minimize contacts with the animals would be to overcompensate for this mistake. When ecological farmers instead develop their caretaking routines, they make animal husbandry truly natural for domestic animals.
3. Domestic animals' unique behaviours belong to the agricultural landscape: Domestic animals' behaviour in agricultural environments is to some extent shaped via interplay with humans. When ecological farmers develop this interplay, they maintain an often neglected aspect of the agricultural landscape: domestic animals' unique forms of interplay with humans.

Conclusion:

By intensifying the care of their animals, eco-logical farmers make animal husbandry more natural for domestic animals.

AutoCure - Curing autoimmune rheumatic diseases**Participants**

Mats G. Hansson, Professor of Biomedical Ethics
Linus Johnsson, PhD student
Lars Klareskoug, Karolinska Institutet (Co-ordinator)

Format

Research project

Funding

European Union

Aims

AutoCure is an EU funded research project within the sixth framework programme. Involved in the project are 26 different partners, of which 6 are industrial partners and 20 are from the academia, from all over Europe. The project duration is 60 months from March 1st 2006 and the total budget is 11 m€.

The objective is to transform knowledge obtained from molecular research particularly within genomics, into a cure in an increasing number of patients suffering from inflammatory rheumatic diseases. Rheumatoid arthritis (RA) is used as a prototype since this disease offers unique opportunities to define and evaluate new therapies. Professor Lars Klareskoug at Karolinska Institutet is co-ordinator of AutoCure.

In addition to providing an ethics management structure, we will actively work through a specific work-package in order to offer possible solutions to urgent problems estimated to arise in association with the research. A doctoral student, Linus Johnsson (MD), at the Centre for Research Ethics and Bioethics will work with a project comparing the attitudes to genetic and biobank research as it is revealed in public surveys and in actual decisions made by research subjects. He will examine and analyse the frequency of withdrawals to biobank sampling made by sample providers and elaborate the concept of risk related to this kind of research including a critical examination of what constitutes "dignitary harms". His theoretical framework will be developed through a philosophical analysis of the concepts autonomy and trust. More information about AutoCure is available at <http://www.autocure.org/>.

PhD Project: Autonomy and trust in biobank research

Participants

Linus Johnsson, MD, PhD Student
Mats G. Hansson, Professor of Biomedical Ethics (Supervisor)
Gert Helgesson, PhD (Supervisor)
Stefan Eriksson, ThD (Supervisor)

Format

PhD project

Time table

2006-2012

Aims

People are often willing to participate in biobank research in spite of concerns raised in media about potential risks to personal integrity. Moreover, information about the research is often disregarded by participants. This suggests a connection between autonomy and trust; however, neither the nature of this connection nor the relative importance of these concepts is clear. In this project, these questions will be investigated. Factual inclination to participate in biobank research will be determined and contrasted with estimations made through contemporary attitude surveys. The concepts of autonomy and trust will be analyzed, their role in informed consent procedures elucidated, and their ethical value discussed.

Cancer control using population based registries and biobanks (CCPRB)

Participants

Mats G. Hansson, Professor of Biomedical Ethics
Joakim Dillner, Professor, Lund University (Co-ordinator)

Format

EU network of excellence

Aims

The CCPRB network has joined large biobanks with up to 30 years of follow-up and >60.000 prospectively occurring cancer cases and cancer registries with >40 years of population-based registration in order to provide the study base for uniquely large population-based prospective studies on cancer and define and implement a European Quality Standard for Biobanking. The aim is also to enable large-scale, population-based research on evaluation of cancer treatment and design optimal strategies for cancer prevention and its evaluation. Professor Joakim Dillner at Lund University is coordinator of the CCPRB network.

In CCPRB collaboration between large national and international biobank studies is aimed at validating the biological significance of previous research and detecting previously unknown causes of cancer. In order to achieve this goal discrepancy in national policies and regulation regarding information and consent procedures must be overcome. During the first period a comparative analysis of national and international ethical and legal frameworks has been made and on this basis a common ethical framework for all partners have been formulated, and also decided by the assembly of CCPRB. The ethical framework is consistent with general European guidelines, e.g. The Convention on Biomedicine and Human Rights by the European Council. Solutions to specific problems regarding international biobank collaboration are based on sound ethical research and results are published or submitted to international peer review journals in order to gain academic credibility and international recognition. More information about CCPRB is available at: <http://www.cancerbiobank.org/>.

Ethical aspects of longitudinal studies involving children

Participants

Mats G. Hansson, Professor of Biomedical Ethics
Johnny Ludvigsson, Professor, Department of Molecular and Clinical Medicine, Linköping University, Linköping University
Gert Helgesson, PhD, Karolinska Institutet (until September part of the Bioethics group at Uppsala University)
Stefan Eriksson, ThD
Ulrika Gustafsson Stolt, PhD, Department of Molecular and Clinical Medicine, Linköping University, Linköping University

Funding

The Swedish Research Council ([Vetenskapsrådet](#)) and Swedish Council for Working Life and Social Research ([FAS](#)).

Aims

The ABIS study (All Babies in South-East Sweden) is a longitudinal predictive screening for type 1 diabetes (T1DM) that has followed a large birth cohort since 1997 (n=17, 055). ABIS I followed children 0-7 years of age. Clinical data have been collected through diary, extensive questionnaires (at birth, 1 year, 2,5-3 years, and 5-6 years), and biological samples (cord-and capillary blood, hair, stool, saliva, urine). ABIS II will follow the same children at ages 9-14. Tied to the ABIS biomedical research is a multi-disciplinary project aiming to analyse and suggest criteria for information, consent, and disclosure issues in Swedish longitudinal medical research involving children. This is a co-operation between the ABIS group and the Centre for Bioethics. A number of publications stemming from this co-operation are under production.

More information about ABIS is available at: <http://www.abis-studien.se>.

Return of information to individuals – an ethical problem in biobank research

Participants

Joanna Stjernschantz Forsberg, MD, PhD student
Stefan Eriksson, ThD (Supervisor)
Mats G. Hansson, Professor of Biomedical Ethics (Supervisor)
Gert Helgesson, PhD (Supervisor)

Format

PhD project

Time table

2007-

Aims

Biobank research generates results and other types of information that may be of clinical relevance to the individual patient or donor, and also to groups of people (e.g. families). The information can for instance concern hereditary disposition or environmental risk factors. It can also be an incidental finding that has nothing to do with the research project and is therefore unforeseeable. How such information should be handled has not been clarified and completely different recommendations have been issued by authorities and other interested parties. The aims of this project are to ethically analyze in which way the different interests regarding return of information should be balanced, and having done this, to propose a manner in which to handle possible return of information to individuals that is both practically doable and ethically acceptable.

The dual use nature of biomedical research - security consciousness in bioethics

Participants

Frida Kuhlau, MSc, PhD Student

Stefan Eriksson, ThD (Supervisor)

Kathinka Evers, Associate Professor of Philosophy (Supervisor)

Anna T. Höglund, Associate Professor of Ethics (Supervisor)

Format

PhD Project

Time table

February 2007 – 2011

Aims

This project will examine the responsibility of biomedical researchers in preventing proliferation of biological material, technology and knowledge to actors with malicious intents. Much of the biomedical research conducted today is of 'dual-use' nature, which means that it can have both peaceful (civil) and military applications. The current perception of a bio-terrorist threat (due to recent terrorist events) and the subsequent security countermeasures, demands the scientific community to take responsibility and assist in protecting biological material and knowledge of concern. Central questions include; if biomedical researchers have a responsibility to develop (ethical) guidelines and practices to minimize the risk of proliferation, how ethical security consciousness can be strengthened and if increased security risk resulting in potential conflict with research interest e.g. by compromising the ideal of free research?

Are codes and guidelines the right way to go? On ethical competence in medical practice

Participants

Anna T. Höglund, Associate Professor of Ethics, Project leader

Stefan Eriksson, ThD

Gert Helgesson, PhD, Department of Learning, Management and Ethics (LIME), Karolinska Institutet

Format

Research project

Funding

Riksbankens Jubileumsfond (Bank of Sweden Tercentenary Foundation) www.rj.se

Time table

2006-01-01-2008-12-31

Description

The numbers of professional guidelines, research ethics codes and legal regulations have increased tremendously in the last few years. In bioethics there is a strong focus upon such codes and guidelines. However, the fact that ethical concerns increasingly take on a legal form might create a situation where a procedure of legal interpretations replaces ethical reflection.

In this project, the concept of “ethical competence” within the field of medical practice and research is investigated. Further, the importance of ethical guidelines in the development of such competence is studied. In a philosophical study a number of ethical guidelines are analyzed. In an empirical investigation doctors and nurses involved in medical practice and research are interviewed about how they make ethical decisions and whether or not they are familiar with any ethical guidelines for their work.

Finally, the results from these investigations are analyzed through a critical philosophical method where the contemporary attitude to ethical regulations is related to models of virtue ethics and communicative theory. The analysis is also made from a gender perspective. The project aims to reach a reasonable model of ethical regulation, given the goal of developing responsible researchers and health care givers in order to protect patients and research persons.

Retrospective DNA technologies and integrity for historical persons

Participants

Malin Masterton, BSc, PhD Student
Mats G. Hansson, Professor of Biomedical Ethics (Supervisor)
Anna T. Höglund, Associate Professor of Ethics (Supervisor)
Gert Helgesson, PhD (Supervisor)

Format

PhD project

Time table

September 2004 - 2009

Aims

The project investigates the question whether or not dead people in general, and historical persons in particular, can be harmed. With the substantial successes of DNA technology it is now possible to acquire genetic information from very old DNA. DNA-analysis could help to answer questions regarding historical persons, for example whether or not Queen Christina of Sweden was a pseudo-hermaphrodite. Should the dead be respected in these situations or are we free to satisfy our curiosity? What duties (if any) do we have vis-à-vis the dead and what would be the basis of these duties?

Genetic Testing and Privacy

Participants

Ulrika Sandén, LLD Student, Umeå University
Elisbeth Rynning, Professor of Medical Law (Supervisor)

Format

LLD project

Aims

When genetic testing for an inherited disease is performed, there is always more than one person involved as a test result reveals genetic information about both the individual and the individual's genetic relatives. An individual who has consented to a genetic test, the index-patient, may have an interest in knowing the test result and keeping it secret or private. Genetic relatives, present and future, can have an interest both in knowing and not knowing the test results from an index-patient. The aim of this thesis is to describe, analyse and discuss different legal questions related to genetic testing and the index-patients' and the genetic relatives' right to privacy. The focus is placed on questions arising after a genetic test for an inherited disease is performed.

Quality assurance in Swedish health care. Responsibility and regulation

Participants

Ewa Axelsson, LLD Student
Elisbeth Rynning, Professor of Medical Law (Supervisor)

Format

LLD project

Time table

2004-2008

Aims

Quality assurance is a vital part of good health care, not least for the avoidance of adverse events and safe-guarding a high level of patient safety. The Swedish Health and Medical Services Act thus explicitly stipulates that the quality of health care shall be guaranteed and systematically and continuously developed (section 31). In order to comply with this requirement, health care providers use a variety of tools. Additionally, there are also several external public agencies providing supervision and different types of legal sanctions in the area of health care.

An ongoing PhD project in Medical Law maps and critically investigates the division of responsibilities in Swedish quality assurance of health care. How do the different parts of the regulatory system interact and is the system as a whole well adapted to its purpose?

In the European context, quality assurance in health care needs to be looked at from a broader perspective. Patients and health care personnel migrate between different member states of the European Union, and health care providers co-operate across borders. How is quality and patient safety guaranteed when patients receive medical treatment abroad, at the expense of their home

country? To what extent do present EU regulations offer appropriate protection against substandard performance of migrating health care personnel?

The interaction between EU law and different domestic systems for quality assurance is becoming increasingly important.

Monitoring and improving ethical and medical praxis in perinatal medicine

Participants

Mats G. Hansson, Professor of Biomedical Ethics

Alina Rodriguez, PhD, Senior Researcher

Elisabeth Rynning, Professor of Medical Law

Gustaf Arrhenius, PhD, Department of Philosophy, Stockholm University

Uwe Ewald, Associate Professor, Pediatrics, Uppsala University Hospital

Ulrik Kihlbom, PhD, Örebro University

Leif Olsen, Associate Professor, Surgery, Uppsala University Hospital

Torsten Tuvemo, Professor, Pediatrics, Uppsala University Hospital

Format:

Research project, yet to be completed

We examined ethical praxis related to medical care of children. The first segment of this project consisted of parental attitudes and behavioural intentions among expectant parents which yielded several studies. We examined parents willingness to allow their children and children in general to participate in clinical research. Children's participation in research is limited. However, their participation is essential for the understanding of various disorders in children and for the development of safe and age-appropriate treatments. Participation in research takes time and in the case of clinical research, involves certain risks to children that must be outweighed by the possible benefit. It is this balance between risk – benefit that is ethically important. Our desire to shield children from unnecessary harm has turned into systematic exclusion of children from the benefits of research! We found that parents were open to research and were willing to allow their children to participate. Two other studies concerning expectant parents are in preparation. We examine the interplay between medical risk status and willingness to receive information concerning risk factors. We also look at parents' role in decision-making in the treatment of their child.

The second segment of this project is anchored in clinical praxis. We examine objective verbal and non-verbal behaviours in relation to components of ethical praxis during real-life medical consultations concerning inguinal hernia in paediatric patients. Consultations were digitally recorded and the presence of objective behaviours was scored. These behaviours were related to subjective global ratings of important aspects of the ethical praxis such as respect for integrity and components of informed consent (provision of information, patients'/parents' understanding of information, patients'/parents' participation in decision-making). Our results point to important situational factors such as child's age and the duration of the consultation. Positive non-verbal behaviours, e.g. related to showing interest to the patient, were related to good ethical praxis.

How do patients prioritize in situations of limited resources?

Participants

Mats G. Hansson, Professor of Biomedical Ethics
Lilianne Nyberg, PhD, Senior Researcher
Li Tsai, MD, Associate Professor, Orthopaedic Surgery, Karolinska University Hospital, Huddinge
Kjell Keisu, MD, Orthopaedic Surgery, Karolinska University Hospital, Huddinge

Format

Research project

Key words

Prioritization, patients, ethics, cataract surgery, major joint replacement

Financial support

The project is made possible by a grant from The Vardal Foundation For Health Care Sciences and Allergy Research ([Vårdalstiftelsen](#)) and the Uppsala County Council (Landstinget i Uppsala län).

Objectives

In times of limited resources within the health care sector, a pertinent issue for both health care administrators and politicians is that of making priorities between patients in need of treatment. An interesting aspect is that neither the public, nor the patients themselves, have been involved in discussion on prioritizations. This research project aims to investigate how patients would make priorities among other patients on a waiting-list for major joint (hip- or knee) replacement, when resources are strained and it isn't possible to provide treatment for all patients. A spectrum of motivations guiding patient priorities will be identified and documented. The prioritizations made by an orthopaedic patient group will be compared to priorities suggested by orthopaedic surgeons, general practitioners, and a representative sample of the general population.

Thirty patients on the waiting list for major joint replacement at the Karolinska University Hospital in Huddinge were invited to participate in the first phase of the study, and experienced orthopaedic surgeons assessed these patients' relative priority for surgery using a validated clinical scoring instrument. Patients were also asked to complete questionnaires including psychosocial aspects of their health, such as quality of life. From these assessments, 10 patient vignettes, including clinical as well as psychosocial aspects, have been constructed and included in a questionnaire. In the second phase of the study, this questionnaire will be sent to a new group of orthopaedic patients on the waiting list at the Karolinska University Hospital, to a representative sample of the public, and to orthopaedic surgeons and general practitioners.

Empower the patient: Hip fracture as outpatient care

Participants

Leif Ryd (Principal Investigator), Karolinska University Hospital, Huddinge
Mats G. Hansson, Professor of Biomedical Ethics
Lilianne Nyberg, PhD, Senior Researcher

Format

R&D project

Funding

Stockholm County Council

Time table

2005-

Aims

Within the health-care system, patients are often seen as helpless and in need of caretaking by healthcare professionals. This view may many times be disabling for the health-care process, extending rehabilitation, resulting in great costs both to the patient and to the health-care sector. It would clearly be beneficial if the health-care process could be made more efficient, with more expedient care, a shorter rehabilitation process involving more outpatient care and at the same time could be tailored more specifically to the individual patient's needs and resources. Empowering patients to take charge of their own health and rehabilitation process is an important step in actualizing the overall goal of a more efficient health-care process.

Hip fracture patients constitute a large and resource-consuming group which could benefit from an increasing extent of outpatient care. A research project has been started, aimed at providing a new treatment framework by combining vertebroplasty, as an effective operative technique for hip fractures, with the patients' personal involvement and control of the rehabilitation process.

Addressing and changing the views and attitudes commonly held within the health-care system was determined to be essential in order for patient empowerment to be feasible. The first phase of the project, which is currently underway, therefore involves an evidence-based program, focused on educating health-care providers in a different way of interacting with patients, highlighting individual patient strengths and resources. After completion of this program, the subsequent phase of the project, involving the development of an individualized treatment and care process, will ensue. This process is designed to be sensitive to the multiplicity of personal values at stake and with self-control of the patient as the fundamental aim. The process starts from the moment of emergency admission of the patient to the clinic and ends when the end point in terms of quality of life during the post-operative rehabilitation phase has been attained.

This is a R&D project funded by the Stockholm County Council that started in 2005. The project is a collaboration between Professor Leif Ryd (Principal Investigator) at the Karolinska University Hospital, Huddinge, and researchers at the Centre for Bioethics.

Undergraduate Teaching

Vårdetik och biomedicinsk etik (7,5 hsp), [*Health Care Ethics and Biomedical Ethics*] Electable for students in medicine and also available for other students. The course was given Spring 2006.

Vårdfilosofi och etik samt teorier och modeller inom omvårdnad (7,5 hsp) [*Health Care Philosophy & Ethics, Theories and Models in Nursing*] given every autumn. This course is part of OLVO A and Caring Sciences B.

In educational programmes

Master of Genetic Counselling:

Etik [Ethics] (7,5 hsp)

Part of the master programme in genetic counselling, the course is given once a year (Autumn)

”New” medical doctor programme (start autumn 06)

Medicinsk etik och medicinsk rätt [Medical ethics/Law] (3 hsp)

”Old” medical doctor programme

Medicinsk etik [Medical Ethics] (1,5 hsp), part of the old medical doctor’s programme, term 7.

Registered nurse programme (7,5 ECTS)

Term 1: Two introductory lectures and two seminars in groups (3 ECTS)

Term 2: Lecture on gender and health

Term 3: Lectures on prioritizations and ethics at the end of life, seminars in groups (3 ECTS)

Term 4: Lectures and seminars on ethics at the beginning of life (0,5 ECTS)

Term 5: Lecture on research ethics

Term 6: Lecture on ethics in geriatric care (1 ECTS)

Midwife programme (4,5 ECTS)

Lectures and seminars (4,5 ECTS)

Radiology nursing programme

Term 1: Teaching in the Omvårdnad course [*Caring*]

Term 6: Teaching in the Omvårdnad vid röntgenundersökningar course [*Caring in radiology examinations*]

Specialist nursing programmes

Lectures on demand in Onkologisk vård [*Oncology*] - Lectures in palliative ethics

District/Public Health Care nursing programme

Lectures in the Primary care course (Autumn term)

Lectures in Children’s health course (Autumn term)

Anaesthetics and Intensive Care

Centre for Bioethics

Research in bioethics at Uppsala University was, from 2004-2007, conducted under the auspices of the Centre for Bioethics at Karolinska Institutet & Uppsala University (CBE), now (1 January 2008) the Centre for Research Ethics & Bioethics. From January 1, 2008, collaboration in this field between Uppsala University and Karolinska Institutet now includes the Swedish University of Agricultural Sciences and is conducted within the framework of a Network for Research Ethics & Bioethics (NRB, www.nrb.uu.se).

Caring Sciences

Caring Sciences consist of several researchers, each having the responsibility for several other researchers and PhD students. The following researchers belong to Caring Sciences:

Marianne Carlsson

Birgitta Edlund

Claudia Lampic

Per Lindberg

Pranee Lundberg

Karin Nordin

Tanja Tydén

Quality of life and coping in everyday life in patients with chronic diseases

Group leader: Marianne Carlsson

Quality of life and coping of patients with cancer and other long term diseases, especially with a psychometric approach is one focus of the research. Other foci are the evaluation of quality of care regarding wound infections and pressure ulcers and organizational structures of health care.

Members of the group during 2005- 2007

Marianne Carlsson, professor

Maria Engström, doctoral student, RN, RNT

Marja-Leena Kristofferzon, doctoral student, RN, RNT

Lennart Rudberg, RN, RNT

Gerd Røndahl, doctoral student, RN

Christine Leo Swenne, doctoral student RN

Brenice Skytt, doctoral student, RN

External

Jan Borowiec, MD, PhD

Sune Innala, PhD

Christina Lindholm, RN, Professor

Ragny Lindqvist, RN, PhD, senior lecturer

Birgitta Ljunggren, RN, PhD, senior lecturer
Rurik Löfmark, MD, PhD, Associate professor
Annika Ekbohm Schnell, MD, PhD

Publications 2005 - 2007

1. Hedlund M, Stålenheim G, Ekselius L, Carlsson M. Diagnostic agreement for psychiatric disorders between a doctor and a nurse: A pilot study. *Nordic Journal of Psychiatry*, 2005; 59 (5): 339-342.
2. Kristofferzon ML, Löfmark R, Carlsson M. Perceived coping, social support and quality of life 1 month after myocardial infarction. *HEART & LUNG: The Journal of Acute and Critical Care* 2005, 34, no1, 39- 50.
3. Rudberg L, Nilsson S, Wikblad K, Carlsson M. Barriers identified by Swedish School Nurses in giving information about Testicular Cancer and Testicular Self-examination to Adolescent males. *Journal of School Nursing*, 2005; 21(1): 17- 22.
4. Kristofferzon ML, Löfmark R, Carlsson M. Coping, social support and quality of life in Swedish women and men over time after myocardial infarction. *Journal of Advanced Nursing* , 2005; 52(2):113-124.
5. Funkquist EL, Carlsson M, Hedberg Nyqvist K. Consulting on feeding and sleeping problems in child health care: What is at the bottom of advice to parents? *Journal of Child Health Care* 2005; 9(2): 137-152.
6. Carlsson M, Arman M, Backman M, Hamrin E. Coping in women with breast cancer in complementary and conventional care over five years measured by the Mental Adjustment to Cancer scale. *Journal of Alternative and Complementary Medicine*, 2005, JACM, 11 (3): 441-447.
7. Engström M, Ljunggren B, Lindqvist R, Carlsson M. Staff perception of job satisfaction and life satisfaction before and 6 and 12 months after increased IT support in dementia care. *Journal of TeleMedicine and TeleCare JTT* 2005; 11: 304-309.
8. Swenne CL, Lindholm C, Borowiec J, Schnell A, Carlsson M. Perioperative glucose control and development of surgical wound infections in patients undergoing Coronary Artery By-pass Graft procedure. *Journal of hospital Infection*. 2005; 61: 201-212.
9. Rudberg L, Nilsson S, Wikblad K, Carlsson M. Testicular cancer and testicular self-examination: Knowledge and attitudes of adolescent Swedish men. *Cancer Nursing* 2005; 28(4): 256-262.
10. Muntlin Å, Gunningberg L, Carlsson M. Patients' perceptions of quality of care at an emergency department and identification of areas for quality improvement. *Journal of Clinical Nursing*, 2006; 15: 1045-1056.
11. Arman M, Backman M, Carlsson M, Hamrin E. Women's perceptions and beliefs about the genesis of their breast cancer. *Cancer Nursing* 2006; 29(2): 142-148.
12. Swenne CL, Borowiec J, Carlsson M, Lindholm C. Prediction of and risk factors for surgical wound infection in the saphenous vein harvesting leg in patients undergoing artery by-pass. *The Thoracic and Cardiovascular Surgeon*. 2006; 54: 300-306
13. Engström M, Ljunggren B, Lindqvist R, Carlsson M. Staffs' satisfaction with work, perceived quality of care and stress in elderly care. Psychometric assessments and associations. *Journal of Nursing Management*. 2006; 14: 318-328.
14. Röndahl G, Innala S, Carlsson M. Verbal and non-verbal heterosexual assumptions in nursing. *Journal of Advanced Nursing* 2006; 56(4): 373-381.
15. Carlsson M, Arman M, Backman M, Flatters U, Hatschek T, Hamrin E. A five-year follow-up of the quality of life in women with breast cancer in anthroposophic and conventional care. *eCAM* 2006; 3 (4): 523-531.

16. Engström M, Lindqvist R, Ljunggren B, Carlsson M. Relatives' opinions of IT-support, perceptions of irritations and life satisfaction in dementia care. *Journal of Telemedicine and Telecare*, 2006; 12: 246-250.
17. Røndahl G, Innala S, Carlsson M. To hide or not to hide, that is the question! Lesbians and gay men describe experiences from nursing work environment. *Journal of Homosexuality* 2007; 52(3/4) 211- 233.
18. Kristofferzon ML, Löfmark R, Carlsson M. Striving for balance in daily life: experiences of Swedish women and men shortly after a myocardial infarction. *Journal of Clinical Nursing* 2007; 16: 391-401
19. Skytt B, Ljunggren B, Carlsson M. Reasons to leave: The motives of first-line nursemanagers' for leaving their posts". *Journal of Nursing Management* 2007; 15: 294-302.
20. Mårtensson G, Carlsson M & Lampic C. Do nurses and cancer patients agree on cancer patient's coping resources, emotional distress and quality of life? *European Journal of Cancer Care*, 2007 (DOI: 10, 1111/j.1365-2354.2007.00866.x).

Dissertations 2005-2007

1. Gerd Røndahl. Heteronormativity in a nursing context. Attitudes toward homosexuality and experiences of lesbians and gay men. 2005
2. Marja-Leena Kristofferzon. Life after Myocardial infarction in Swedish Women and men. Coping, Social Support an Quality of Life over the First Year, 2006
3. Maria Engström . A caregiver perspective on incorporating IT support into dementia care 2006
4. Christine Leo Swenne Wound Infection Following Coronary Artery Bypass Graft Surgery, 2006
5. Bernice Skytt. First-line Nurse Manager's Preconditions for Practice. The important interplay between Person and Organization. 2007

Reviews 2005-2007

1. Lennart Rudberg. Testicular cancer in Swedish adolescent men. Quality of life, knowledge, practice of self-examination and the role of school nurses. Posthumous paper and seminar 2006

Agencies that support the work/Funding

All projects have and have had external funding, but no individual grant has exceeded 100 000 kr

Research Projects

Heteronormativity in a nursing context. Attitudes toward homosexuality and experiences of lesbians and gay men

Participants: Gerd Røndahl, Sune Innala and Marianne Carlsson

The general aim of the project was to describe the situation of lesbians and gay men in a nursing environment by studying the attitudes of nursing staff and students. The experiences of gay nursing

staff in their work environment and gay patients and partners in their encounter with nursing were also studied. The results showed that most patients and partners described situations where heteronormative assumptions were communicated by the nursing staff. The gay personnel reported fear and concern about heterosexuals' reactions and were constantly assessing the risk of being open about their sexual orientation to their workmates.

Life after Myocardial infarction in Swedish Women and men

Participants: Marja-Leena Kristofferzon, Rurik Löfmark, and Marianne Carlsson,

In this project, the situation of women and men during the first year after a myocardial infarction was studied and compared over time regarding problems in everyday life, coping with those problems, available social support and quality of life. Physical symptoms and emotional distress were the most commonly described problems in both women and men and many of them had not a stable health condition after six months. Women rated lower quality of life, used more evasive coping and had more difficulties interpreting their heart symptoms than men.

A caregiver perspective on incorporating IT support into dementia care

Participants: Maria Engström, Ragny Lindqvist, Birgitta Ljunggren and Marianne Carlsson

IT-support in dementia care from the perspective of staff and relatives was described and evaluated. A quasi-experimental design with one experiment and one control group was used. The results showed that staff job satisfaction and perceived quality of care increased in the experimental group. The relatives were generally positive about the IT-support, and the staff in the experimental group "moved from fear of losing control to perceived increase in control and security" but they were "constantly struggling with insufficient/deficient data systems."

Wound Infection Following Coronary Artery Bypass Graft Surgery

Participants: Christine Leo Swenne, Jan Borowiec, Christina Lindholm, Annika Ekbohm Schnell, and Marianne Carlsson

The incidence of surgical wound infections in sternotomy and leg incisions and potential risk factors for surgical wound infections following coronary artery by-pass graft procedures were registered and followed over time. The patients' perspective of surgical wound infections and the subsequent treatment were also considered. Patients with mediastinitis had higher BMI and had more often received erythrocyte transfusions than those without infections. The patients' experiences were influenced by the staff's medical knowledge, how the care was given and how well the information was provided.

First-line Nurse Manager's Preconditions for Practice

Participants: Bernice Skytt, Maria Engström, Ragny Lindqvist, Birgitta Ljunggren och Marianne Carlsson

Personal and organizational conditions for first-line nurse managers were studied. Skills and abilities important for leadership and management were identified and assessed. An assessment tool called the Leadership and Management inventory was developed and psychometrically tested. The results showed that the first-line nurse managers' individual experiences, skills, abilities and ambitions are important, but so are also the conditions in which she/he practices her/his leadership and management.

Attitudes to food, eating, life style behaviours and body image among children and adolescents

Group leader: Birgitta Edlund

The research is mainly focusing on two areas.

1. Mapping risk and protective factors related to the development of eating disorders

The purpose of the studies is to identify patterns of eating behaviours, life style and family related factors, psychological factors and BMI among children and adolescents related to eating disorders. Some of the studies have a longitudinal prospective design which give the possibility to study changes over time and to identify the factors as either risk or protective factors for the develop of eating disorders as anorexia nervosa or bulimia nervosa.

2. Mapping risk and protective factors to overweight among children

The purpose of the done and planned studies is to investigate if and to which amount children with or without overweight differ regarding attitudes to body and weight, weight reduction behaviour, self esteem and eating patterns. A further aim is to investigate parent related factors associated to the develop of overweight among young children and their changes over time.

Members of research group:

(1)

Josefine Westerberg, doctoral student, Department of Public Health and Caring Sciences, Uppsala University, Uppsala (BE supervisor, Ata Ghaderi co-supervisor)

Sanna Aiala, doctoral student, Department of Clinical Medicine, Örebro University and Psychiatric Research Centre (Claes Norring supervisor, BE och Lars Kjellin co-supervisors)

Ata Ghaderi, associate professor, Department of Psychology, Uppsala University, Uppsala

Claes Norring, associate professor, research leader, Stockholms centrum för ätstörningar, Stockholm

Lars Kjellin, PhD, research leader, Department of Clinical Medicine and Psychiatric Research Centre, Örebro University, Örebro.

(2)

Christina Ohlsson PhD (earlier Lundstedt), Department of Neuroscience, Uppsala University, Anna-Lena Hulting, professor, Karolinska Institute, Stockholm

Björn Wettergren, Department of Women´s and Childrens Health

Anna Sarkadi, Department of Women´s and Childrens Health

Christina Stenhammar, Master Medical Science, School Nurse.

Publications

1. Skårderud,F., Nygren, P., & **Edlund, B.** (2005).”Bad boys” bodies. The embodiment of troubled lives. Body image and disordered eating among adolescents in residential childcare instituitons. *Clinical Child Psychology and Psychiatry*, 10, 395–411.

2. Lundstedt, G., **Edlund, B.**, Thurffjell, B., Engström, I., & Marcus, C. (2006). Eating disorders inventory for children (EDI-C) in obese and eating disordered Swedish children. *Eating and Weight Disorders*, 11, 45–50
3. Askelöf, M., Halldin Stenlid, M., & **Edlund, B.** (2007). Eating behaviour and body image in overweight adolescent girls with or without hyperandrogenicity. *Eating and Weight Disorders*, 12, 41–47.
4. Stenhammar, C., Sarkadi, A., & **Edlund, B.** (2007). The role of parents' educational background in healthy lifestyle practices and attitudes of their 6-year old children. *Public Health Nutrition*, 10 (11),1305-1313.
5. Knutsson-Medin, L., **Edlund, B.**, & Ramqvist, M.(2007) Experiences in a group of grown-up children of mentally ill parents. *Journal of Psychiatric and Mental Health Nursing*, 14,744-752

Other publications

1. **Edlund, B.** Kroppsideal, bantning och ätstörningar, *Jordemodern*, mars 2005
2. **Edlund, B** & Thurffjell, B. Eating disorders and dieting behaviors in adolescent girls from a longitudinal perspective - a review. In C.Magnusson & A.- K. Andershed (eds), (Prel. Title): Troubled girls and girls' troubles. Accepted.

Psychosocial aspects of disease and treatment

Group leader: Claudia Lampic

I'm conducting research within two main areas: psychosocial oncology and reproductive health.

(1) Within the research area psychosocial oncology, patient and health care staff's perspectives of patients' situation are investigated, as well as their importance for clinical care. In addition, quality of life and other aspects are investigated among patients who have been treated for cancer in fertile ages, and among patients with specific cancer diagnoses.

(2) Within the research area reproductive health, attitudes/knowledge concerning fertility and family building are studied, as well as psychosocial aspects of infertility treatment with donated oocytes/sperm.

The research projects are being conducted in collaboration with researchers at Uppsala University, Karolinska Institute, Linköping University, and the University of Gävle.

Members of the group during 2007

Gunilla Mårtensson, PhD student, Public Health and Caring Sciences Uppsala universitet

Publications 2005-2007

1. Siösteen A, Kreuter M, **Lampic C** Persson LO (2005). Patient-staff agreement in the perception of spinal cord lesioned patients' problems, emotional well-being, and coping pattern. *Spinal Cord*, 43, 179-186.
2. **Lampic C**, Skoog Svanberg A, Karlström PO, Tydén T (2006). Fertility awareness, intentions concerning childbearing and attitudes towards parenthood among female and male academics. *Human Reproduction*, 21(2): 558-564.

3. Skoog Svanberg A, **Lampic C**, Karlström PO, Tydén T (2006). Attitudes toward parenthood and awareness of fertility among postgraduate students in Sweden. *Gender Medicine*, 3: 187-195.
4. Tydén T, Skoog Svanberg A, Karlström PO, Lihoff L, **Lampic C**. (2006). Female university students' attitudes to future motherhood. *European Journal of Contraception and Reproductive Health Care*, 11(3): 181-189.
5. Fröjd C, Larsson G, **Lampic C**, von Essen, L (2007). Health related quality of life and psychosocial function among patients with carcinoid tumours. A longitudinal, prospective and comparative study. *Health and Quality of Life Outcomes*, 5:18.
6. Sydsjö G, **Lampic C**, Sunnerud S, Skoog Svanberg A (2007). Nurses promote openness regarding the genetic origins after gamete donation. *Acta Paediatrica*, 96: 1500-1504.
7. Fröjd C, **Lampic C**, Larsson G, Birgegård G, von Essen, L (2007). Patient attitudes, behaviours and other factors considered by doctors when estimating cancer patients' anxiety and desire for information. *Scandinavian Journal of Caring Sciences*, 21:523-529.
8. **Lampic C**. Livskvalitet och Response shift (2007). In *Psykosocial cancervård* (Ed. M Carlsson). Studentlitteratur.

Dissertations 2007

1. Joint supervisor for Camilla Fröjd, who defended her dissertation "Cancer patients' satisfaction with doctors' care. Consequences and contributing conditions" at the Faculty of Medicine, Uppsala University, 2007-11-09.

External research grants (≥ 100 000 SEK) received as chief applicant in 2007

1. "Reproductive concerns and health-related quality of life among young cancer survivors and healthy controls", the Swedish Cancer Foundation: 1.000.000 SEK, 2007.
2. "Psychosocial consequences of treatment with oocyte- and sperm donation in Sweden. A prospective long-term follow-up", the Regional Research Council in the Uppsala/Örebro region: 100.000 SEK, 2007.

External research grants (≥ 100 000 SEK) received as joint applicant in 2007

3. "Medical and caring aspects of treatment with oocyte and sperm donation in Sweden" (chief applicant Dr MedSc Skoog Svanberg), the Regional Research Council in the Uppsala/Örebro region: 200.000 SEK, 2007
4. "Quality of life and satisfaction with care among women with breast cancer in the Uppsala/Örebro region – a prospective long-term follow up" (chief applicant Med Dr Ahlberg), the Regional Research Council in the Uppsala/Örebro region: 100.000 SEK, 2007.
5. "Quality of life and satisfaction with care among women with breast cancer in the Uppsala/Örebro region – a prospective long-term follow up" (chief applicant Med Dr Bergkvist), Swedish Society of Oncology: 135.000 SEK, 2007.

Behavioural Medicine Research group

Group leader: Per Lindberg

Since 1995 research in the field of health and self-management have been conducted by our group at the Department of Public Health and Caring Sciences. Multi-professional collaboration with researchers and units in the same area of interest has been, and is presently being further prioritized. The starting point is a bio-psychosocial and behavioural medicine perspective. By application of such, a deeper and more pronounced understanding is gained. In particular the influence of psychological factors is being highlighted. This basis for understanding also involves an empirically and behaviourally grounded interplay between different professionals. Thus, various backgrounds in theoretical education and research training are systematically exploited for mutual benefit.

Functional behaviour analyses are another common feature of the group. The perspective of individual adaptation of general treatment strategies is usually present in our clinical applications. Another important strategy involves implementation in clinical work. We strive to develop treatment method in close collaboration with relevant units in the regular health care system. We also aim at a close multi-professional teamwork when possible.

Developing clinically applicable methods for the diagnostic work and management of musculoskeletal pain is one target area. In a recent project involving patient sub-groups in primary care settings, individually tailored methods are tried. The basis of any therapeutic decisions is judgements of both the individual's physical and psychological prejudices. A more general end point for this work is implementation of modern, behaviourally derived methods in health care settings, both organisationally and clinically.

One project includes the study of vulnerable professional groups in health care being offered cognitive behaviourally oriented methods to manage work related problems. Another involves individualized, IT-based self-help strategies for patients with whiplash-associated disorders. We also conduct prospective studies where occurrence and learning history of pain related disability is assessed. The goal here is to use behavioural medicine framework to enhance counselling and preventive activities.

In another line of work, similar behaviour medicine principles as above are included in renal medicine, specialist dental care and ambulatory psychiatric care. A common feature is to promote the individual patients' ability to exercise self-management of distress and annoyance related to the medical condition, i.e. dialysis, periodontitis, and seasonal depressive mood. The strong connection to clinical work is pronounced.

Recently research interest in our group is being directed towards health promotion. For instance, risks for developing chronic disabling states are analyzed in relation to complementary, buffering and potentially guarding factors. These may be both general personality characteristics, but also more specific ones for unique situations. The aim here is to gain better understanding of the processes involved in either of primary, secondary or tertiary prevention, but also taken together from an overall, care perspective. We stress our ambition to try and validate any proposed relationship in clinical and controlled trials.

To implement the work of our group more generally, we also take part in formal curriculums and other educational settings. One such instance is the three-year training of physiotherapists at Mälardalen University, Västerås that have an explicit, behavioural medicine profile. Similar items have recently been introduced at Uppsala University. More such course work will be done for professionals in the areas of renal nursing and health care information, as well as in the formal training of dental care personnel.

This group focus on problems related to health and self-care within a bio-psycho-social and behavioural medicine theory framework. The study areas of clinical applications and implementation are;

- (1) behaviour and cognition of patients, healthy individuals, significant others and care providers,
- (2) empirically defined patient groups in the health care system,
- (3) education and health care settings and,
- (4) theoretical development in this area.

Organization

During 2007 the group consists of four senior researchers; Eva Denison, associate prof, RPT, Per Lindberg associate prof Clin Psych. Anne Söderlund associate prof, RPT and Pernilla Åsenlöf PhD in Med Sci, RPT and eight doctoral students; Annika Bring MSc, RPT, Ingrid Demmelmaier MSc, RPT, Catharina Gustavsson MSc, RPT, Birgitta Jönsson MSc, RDH, Magnus Lindberg MSc, RN, Annika Nilsson MSc, RN, Cecilia Rastad BaSci, RPT and Maria Sandborg MSc, RPT.

Members of the group during 2007

- Eva Denison, associate prof, RPT Dept Caring and Public Health Sciences, Mälardalen University
- Per Lindberg associate prof Clin Psych. Dept of Public Health and Caring Sciences, Uppsala univ.
- Anne Söderlund associate prof, RPT Physiotherapy, Dept Neuroscience, Uppsala University
- Pernilla Åsenlöf PhD in Med Sci, RPT, Physiotherapy, Dept Neuroscience, Uppsala University
- Annika Bring MSc, RPT, Physiotherapy, Dept Neuroscience, Uppsala University
- Ingrid Demmelmaier MSc, RPT, Dept of Public Health and Caring Sciences, Uppsala univ.
- Catharina Gustavsson MSc, RPT, CKF, Dalarna County Council
- Birgitta Jönsson MSc, RDH Uppsala County Council, Odontology
- Magnus Lindberg MSc, RN CFUG, County Council of Gävleborg
- Annika Nilsson MSc, RN Dept Care and Social Work, University of Gävle
- Cecilia Rastad BaSci, RPT CKF, Dalarna County Council
- Maria Sandborg MSc, RPT, Dept of Public Health and Caring Sciences, Uppsala univ.

Publications 2005-2007

1. Åsenlöf, P., Denison, E., & Lindberg, P. 2005. Individually tailored treatment targeting activity, motor behavior, cognitions and disability. Two experimental single case studies of patients with recurrent and persistent musculoskeletal pain in primary health care. *Physical Therapy*, 85 (10), 1061-1077.
2. Åsenlöf, P., Denison, E., & Lindberg, P. 2005. Individually tailored treatment targeting activity, motor behavior, cognitions reduces pain-related disability: a randomized controlled trial in patients with musculoskeletal pain. *The Journal of Pain*, 6 (9), 588-603.
3. Rastad, C., P.O. Sjöden, and J. Ulfberg, 2005. High prevalence of self-reported winter depression in a Swedish county. *Psychiatry Clin Neurosci*. 59(6): p. 666-75.
4. Rastad, C., J. Ulfberg, and P.O. Sjöden, 2006 High prevalence of self-reported depressive mood during the winter season among Swedish senior high school students. *J Am Acad Child Adolesc Psychiatry*, 45(2): p. 231-8.

5. Åsenlöf, P., Denison, E., & Lindberg, P. 2006. Idiographic outcome analyses of the clinical significance of two interventions for patients with musculoskeletal pain. *Behavior Research and Therapy*, 44, 947-965.
6. Jönsson, B, Lindberg, P, Oscarson, N & Öhrn, K 2006. Improved compliance and self-care in patients with periodontitis – a randomized control trial. *International Journal of Dental Hygiene*, 4, 77-83.
7. Denison, E, Åsenlöf, P, Sandborgh, M & Lindberg, P. 2007. Musculoskeletal pain in primary health care: subgroups based on self-efficacy, fear-avoidance variables, pain and disability. *The Journal of Pain*, 8(1), 67-74.
8. Sandborgh, M. Lindberg, P. & Denison, E. 2007. The Pain Belief Screening Instrument – Development and preliminary validation of a screening instrument for disabling, persistent pain. *Journal of Rehabilitation Medicine*, 39, 461-466.
9. Lindberg, M., Lindberg, P. & Wikström, B. 2007. Medication discrepancy: a concordance problem between dialysis patients and caregivers. *Scandinavian Journal of Urology and Nephrology*, 41(6), 546-552.
10. Lindberg, M., Wikström, B & Lindberg, P.. 2007. Fluid Intake Appraisal Inventory (FAI): Development and psychometric evaluation of a situation specific measure for haemodialysis patients' self-efficacy to low fluid-intake. *Journal of Psychosomatic Research*, 63(2), 167-173
11. Söderlund, A. & Lindberg P. 2007. Cognitive behavioural components in physiotherapy management of chronic Whiplash Associated Disorder (WAD) – A randomised group study. *Giornale Italiano di Medicina del Lavoro ed Ergonomia*, 29, (Supplemento A, Psicologia 2007), A5-A11.
12. Sandborgh, M. Lindberg, P. & Denison, E. 2007. The Pain Belief Screening Instrument (PBSI) – Predictive validity for disability status in persistent musculoskeletal pain. *Disability and Rehabilitation*, (in press)
13. Rastad, C., Ulfberg, J & Lindberg, P. 2007. Light room therapy effective in mild forms of SAD. - A randomised controlled study. *Journal of Affective Disorders*, (in press)

Cultural nursing, Prevention, Ergonomics

Group leader: Pranee Lundberg

Publications 2005-2007:

1. Lundberg, P.C. and Rattanasuwan, O. (2007). Experiences of fatigue and self-management of Thai Buddhist cancer patients undergoing radiation therapy. *Cancer Nursing*, 30(2), 139-145. This article was a result of collaboration between the Department of Public Health and Caring Sciences, Uppsala University and the Department of Radiation Therapy, Mahidol University.
2. Lundberg, P.C. and Gereziher, A. (2007). Experiences from pregnancy and childbirth related to female genital mutilation among Eritrean immigrant women in Sweden. *Midwifery*, In Press, available on line 21 February 2007.
3. Lundberg, P.C. (2007). Chapter 5: Use of traditional herbal remedies by Thai immigrant women in Sweden. In Pieroni, A. and Vandebroek, I. (eds.), *Travelling Cultures and Plants: The Ethnobiology and Ethnopharmacy of Migrations*. Berghahn Books, Oxford, pp 104-121.

4. Thrakul, S., Lundberg, P., Chaladthanyagid, K. & Unsanit, P. (2007). Traditional postpartum practices and food consuming among women in Rural Thailand. *Journal of Public Health*, September-December, 37(3), 178-190
5. Lundberg PC, Bäckström J, Widén S. Caregiving to patients who are culturally diverse by Swedish last-year nursing students. *J Transcult Nurs*. 2005 Jul;16(3):255-62.

Other activities:

Submission of a scientific article: Lundberg, P.C. and Kerdonfag, P. (2007). Spiritual care as perceived by Thai nurses at intensive care units. Submitted to *Journal of Holistic Nursing*.

Preparation of a scientific article: I am working on a scientific article about “Ergonomics information for prevention of musculoskeletal disorders to immigrants in Swedish multicultural society: An evaluation of learning.” which I plan to submit to an international conference or journal.

Work with data collection and data analysis: In-depth interview 29 Muslim women with diabetes type 2 were collected by supporting of Linnaeus-Palme Exchange Programme and together a Thai researcher in the research project, “Self-care management of Muslim Thai women with diabetes type 2 in a community of Bangkok”. This work is going on for data analysis.

Psycho Social Genetics

Group leader: Karin Nordin

Towards Individualized Genetic Counselling in Hereditary Cancer. What knowledge does the counselee seek? When should relatives be informed? How to manage optimal follow-up?

This project is an extended continuation of ongoing interdisciplinary and interprofessional projects within medical genetics and caring sciences. Data are collected in collaboration between the oncogenetic clinics at the Uppsala University Hospital, the Lund University Hospital, Sweden, and the Centre for Medical Genetics and Molecular Medicine, Haukeland University Hospital, Bergen, Norway. Annually, 1400 individuals seek genetic counselling for potential hereditary cancers at these centres, which allows an unprecedented and unique amount of data. Because of the study size it has a strong potential to generate knowledge that can be generalized and generate subgroup data. Hence, the sizes of these materials, in combination with 10 years experiences from genetic counselling in hereditary cancer, together with medical and psychosocial research, constitute the basis for this application. Specific goals of the project: The suggested study will provide the following new knowledge: (part 1-2 includes data collection in Sweden and Norway and part 3 is based on Swedish data): 1. What knowledge does the counselee seek? Given the opportunities for genetic counselling, what are the counselee’s expectations? What information does the counselee seek with regards to hereditary cancer? What information does the physician/counsellor intend to convey? What information is indeed presented for the counselee during the consultation? If discrepancies are found, how do they influence the counselee’s emotional health, well-being and compliance in preventive activities? 2. When should relatives be informed? Under what circumstances would the physician/counsellor consider violating patient confidentiality without the consent of the counselee in order to inform relatives about increased risks for cancer? 3. How to

manage optimal follow-up? How can optimal follow-up after genetic counselling be provided? The study will examine the attitudes and knowledge in hereditary cancer of physicians (cancer specialists and surgeons) who refer individuals to genetic counselling as well as attitudes and knowledge of specialists who have an ever-increasing amount of follow-up procedures to conduct after genetic counselling.

Members of the group in Sweden during 2007

Karin Nordin, associated professor, senior lecture

Richard Rosenquist, professor

Jeanette Winterling, PhD student,

Elisabet Wasteson, PhD student

Kjerstin Larsson, PhD student

Afsane Roshanai, PhD student,

Charlotta Ingvoldstad, PhD, research assistant

Publications 2005-2007

1. Strömshvik, N., **Nordin, K.**, Berglund, G., Engebretsen, L., Hansson, M., Gjemgedal, E.,. (2007) Living with MEN 1. Decent care - insufficient medical and genetic information. *Journal of Genetic Counselling* 16, 105-117.
2. Berglund, G., Peterson, L-M., Eriksson, K., Wallenius, I., Roshanai, A., **Nordin, K.**, Sjöden, PO, and Häggman, M. (2007) "Between men" – a psychosocial rehabilitation programme for men with prostate cancer. *Acta Oncologica*, 46, 83-89.
3. Wolff, K., Brun, W., Kvale, G., **Nordin, K.** (2007) Confidentiality versus Duty to Inform – An empirical Study on Attitudes towards the Handling of Genetic Information. *American Journal of Medical Genetics*, 143A, 142-148.
4. Winterling, J., Glimelius, B., **Nordin, K.** (2007) The importance of expectation for the recovery period after cancer treatment. *Psycho Oncology*, in press
5. Larsson, K., Löf, L., Rönblom, A., **Nordin, K.** (2007) Quality of life for patients with exacerbation in inflammatory bowel disease and how they cope with disease activity. *Journal of Psychosomatic Research*. In Press.
6. Larsson, K., Löf, L., **Nordin, K.** (2007) Experiences of stress and coping, and need of support for patients with inflammatory bowel disease: A qualitative interview study. Submitted
7. Roshanai, A., Rosenqvist, R., **Nordin, K.** (2007) Emotional status, lifestyle changes and Adherence in Onco-genetic clinic counselees 3-7 years after initial counselling. Submitted
8. Winterling, J., Sidenvall, B., Glimelius, B., **Nordin, K.** (2007) Expectation for the recovery period after cancer treatment – a qualitative study. *European Journal of Cancer care*. In press.
9. Roshanai, A., Rosenqvist, R., **Nordin, K.** (2007) Does enhanced information at genetic counselling improve the knowledge, risk perception and negotiation of information to relatives? – a randomised study. Submitted
10. Wasteson, E., Glimelius, B., **Nordin, K.** (2007) Completion of curative cancer treatment: Stressful events, adaptation and prediction of well-being at follow-up. Submitted

Dissertations 2007

1. Winterling Jeanette. Hope and Despaire. Philosophy of life, expectations and optimism in cancer patients and their spouses
2. Wasteson Elisabet. Living and Coping with Cancer. Specific Challanges and Adaptation
3. Larsson Kjerstin. Quality of life and Coping with Ulcerative colitis and Chron's disease

Agencies that support the work/Funding

Swedish Cancer Society. 675 000 skr during 2007.

Sexual and reproductive health (SRH)

Group leader: Tanja Tydén

Sexual and reproductive health (SRH) is a broad concept in which social, psychological and somatic aspects of sexuality and childbirth are interwoven. We are investigating knowledge, attitudes and behaviour about fertility issues among teenagers and young adults with focus on unwanted pregnancies, caring of abortion applicants, contraception and attitudes to parenthood. Human Papillomavirus (HPV) and attitudes to HPV-vaccination is a new research area. We have used different kind of methodology; randomised clinical trials, population based investigations, focus group discussions and in depth interviews.

Members of the research group:

Margareta Larsson, assoc. prof, senior lecturer, Department of Womens's and Children's Health

Elisabeth Darj, assoc. prof, Department of Womens's and Children's Health

Agneta Skoog Svanberg, PhD, senior lecturer, Department of Womens's and Children's Health

Anna Höglund, assoc. prof, senior lecturer, Department of Public Health and Caring Sciences.

Elisabet Häggström Nordin, PhD, senior lecturer, Mälardalens Högskola

Ulf Hanson, assoc. prof, MD, Uppsala University Hospital

Sven-Eric Olsson, assoc. prof, MD, Danderyd University Hospital

Inga Ragnar, lecturer, Mälardalen University

Lars Holmberg, MD, PhD, County Council of Dalarna

Maria Ekstrand, PhD student, Department of Womens's and Children's Health, Department of Public Health and Caring Sciences

Agencies that support the work/Funding 2007

Cancerfoundation, Swedish Research Council, Uppsala County Council, Family Planning Foundation at Uppsala University, Regional Research Council of Uppsala-Örebro, Organon Foundation,

Award

Best poster presentation in Istanbul. 9th congress of the European Society of Contraception.

Preventing pregnancy- a girls issue. 17-year old Swedish boys' perceptions on abortion, reproduction and the use of contraception

Maria Ekstrand, Tanja Tydén, Elisabeth Darj, Margareta Larsson

Publications 2005-2007

1. Häggström-Nordin E, Hanson U, **Tydén T**. Associations between pornography consumption and sexual practices among adolescents - a cross-sectional survey among high school students in a medium-sized city in Sweden. *Int. J STD AIDS* 2005;16:102-107.
2. Ekstrand M, Larsson M, von Essen L, **Tydén T**. Swedish teenager perceptions of teenage pregnancy, abortion, sexual behavior, and contraceptive habits--a focus group study among 17-year-old female high-school students. *Acta Obstet et Gynecol Scand* 2005; 84: 980-86.
3. Lampic C, Skoog Svanberg A, Karlström PO, **Tydén T**. Fertility awareness, intentions concerning childbearing and attitudes towards parenthood among female and male academics. *Human Reproduction* 2006; 21(2): 558-564.
4. Skoog Svanberg A, Lampic C, Karlström PO, **Tydén T**. Attitudes toward parenthood and awareness of fertility among postgraduate students in Sweden. *Gender Medicine* 2006; 3: 187-195.
5. **Tydén T**, Skoog Svanberg A, Karlström PO, Lihoff L, Lampic C. Female university students' attitudes to future motherhood. *European Journal of Contraception and Reproductive Health Care* 2006; 11(3): 181-189.
6. Larsson M, Eurenus K, Westerling R. **Tydén T**. Evaluation of a sexual education intervention among Swedish high school students. *Scand J of Public Health* 2006;42:124-31.
7. Ragnar I, Altman D, **Tydén T**, Olsson S-E. Comparison of the maternal experience and duration of in two upright delivery positions - a randomised controlled trial. *BJOG* 2006;113:165-70.
8. Larsson M, Aneblom G, Eurenus K, Westerling R, **Tydén T**. The adoption of emergency contraceptive pills in Sweden - a repeated cross-sectional study among abortion applicants. *Acta Obstet Gynecol Scand* 2006;85:1142-3.
9. Larsson M, **Tydén T**. Increased sexual risk taking behavior among Swedish female university students: repeated cross-sectional surveys. *Acta Obstet Gynecol Scand* 2006;85:966-70.
10. Häggström-Nordin H, Sandström J, Hanson U, **Tydén T**. 'It's everywhere!' young Swedish people's thoughts and reflections about pornography. *Scand J Caring Sci* 2006;20:386-93.
11. Altman D, Ragnar I, Ekström Å, **Tydén T**, Olsson SE. Anal sphincter lacerations and upright delivery postures – a risk analyses from a randomized controlled trial. *Int Urogynecol J Pelvic Floor Dysfunct* 2007;18:141-6.
12. Larsson M, **Tydén T**, Hanson U, Häggström-Nordin E. Contraceptive use and associated factors among Swedish high school students. *Eur J Contracept Reprod Health Care* 2007; 12:119-24.
13. Ekstrand M, **Tydén T**, Darj E, Larsson M. Male perception on abortion, adolescent fatherhood, sexual behaviour and use of contraception among 17-year old Swedish boys. *Eur J of Contracept Reprod Health Care* 2007;12:111-8.
14. **Tydén T**. Can we afford both HPV- vaccination and counselling? *Dagens Medicin Debate article* 2007;01-24

15. Larsson M, **Tydén T**, Hanson U, Häggström-Nordin E. Preventive work is required for sexual health promotion among adolescents *Läkartidningen* 2007;10;104 (26-27):1992-5

Undergraduate Teaching

Registered Nurse programme 140 hp
Nurse Radiographer Programme 45 hp
Specialist Nurse Programme 75hp

Clinical Nutrition and Metabolism

Research group leader: Tommy Cederholm, MD, PhD, Professor

The research at Clinical Nutrition and Metabolism (CNM) focus on dietary intake and metabolism during health and disease. It covers aspects of preventive public health nutrition, clinical disease- and age-related nutrition, child and adult obesity, circadian metabolism and physical activity. Research activities and methodology circles around fatty acid (FA) and carbohydrate metabolism, oxidative stress, inflammation, dietary interventions, dietary assessment, energy metabolism and body composition measurements. CNM runs two laboratories focusing analyses of FA profiles in various tissues by gas-chromatography and isoprostanes and prostaglandins by unique RIA techniques, as well as measurements of body composition by air-displacement and bioelectrical impedance and energy expenditure. In epidemiological studies nutritional, metabolic and dietary factors, e.g. dietary fatty acid composition and dietary anti-oxidants, are related to long-term clinical outcomes, e.g. diabetes type 2, metabolic syndrome, cardiovascular disease in middle-aged populations, and functional limitation, cognitive dysfunction, morbidity and mortality in elderly populations.

Members of the group during 2007

	Academic title	Professional title
Tommy Cederholm	Professor	MD
Samar Basu	Associate professor	Researcher
Wulf Becker	Adjoint professor	Chief nutritionist
Brita Karlström	Associate professor	Dietitian
Margareta Öhrvall	Associate professor	MD
Bengt Vessby	Professor emeritus	MD
Ulf Riserus	Post-doc	Researcher
Ulf Holmbäck	Postdoc	Researcher
Agneta Andersson	Postdoc	Dietitian
Per Sjögren	Postdoc	Researcher
Annika Smedman	Postdoc	Researcher
Johanna Helmersson	Postdoc	MD
Arvo Hänni	Postdoc	MD
Anja Saletti	PhD student - Postdoc	Dietitian
Eva Warensjö	PhD student - Postdoc	Datamanager
Elisabet Rytter	PhD student	
Roger Olsson	PhD student	
Tamanna Ferdous	PhD student	
Helena Petersson	PhD student (Under registration)	
Johanna Törmä		Dietitian

Siv Tengblad	Laboratory technician
Eva Sejby	Laboratory technician
Barbro Simu	Laboratory technician
Eva Lena Andersson	Tutor
Linda Bratteby-Tollerz	Physiotherapist
Erika Olsson	Dietitian

Partly affiliated to CNM:

Stefan Branth	Postdoc	MD
Anders Forslund	Postdoc	MD
Torbjörn Åkerfeldt	PhD student	MD
Achraf Daryani	Postdoc	Dietitian
Marie von Post Skagegård		Dietitian
Susanne Eriksson		Dietitian

Publications 2005-2007

1. **Andersson A**, Tengblad S, **Karlström B**, Kamal-Eldin A, Landberg R, **Basu S**, Åman P, **Vessby B**. Whole-grain foods do not affect insulin sensitivity or markers of lipid peroxidation and inflammation in healthy, moderately overweight subjects. *J Nutr* 2007;137(6):1401-7.
2. **Basu, S.**, I. Meisert, E. Eggenspergert, E. Kriegert and C. G. Krenn. Time course and attenuation of ischemia-reperfusion induced oxidative injury by propofol in human renal transplantation. *Redox Report* 2007;12:195-202.
3. **Becker W**, Bruce A, Mattisson I, Sohlström A. Kostråden är desamma trots olika utgångspunkter [Dietary guidelines are the same in spite of different basis] *Läkartidningen*. 2007;104:3786-7.
4. Bräsen, J.H., O. Leppänen, T. Heikura, M. Levin, M. Inkala, F. Arhens, J. Rutanen, H. Pietsch, E. Malle, D. Bergqvist, A.-L. Levonon, **S. Basu**, M.O. Laukanen and S. Ylä-Herttua. Catheter-mediated local intramural gene transfer of rabbits extra-cellular superoxide dismutase (EC-SOD) inhibits experimental in-stent restenosis in atherosclerotic WHHL rabbit aorta. *J Am Coll Cardiol* 2007; .
5. Casadesus, G., M.A. Smith, **S. Basu**, J. Hua, D.E. Capobianco, S.L.Siedlak, X. Zhu, G. Perry. Increased isoprostane and prostaglandin are prominent in neurons in Alzheimer disease. *Molecular Neurodegeneration*, Published online Jan. 22, 2007.
6. **Cederholm T**, Persson M, Andersson P, Vedin I, R Grimble, Palmblad J. Polymorphisms in cytokine genes influence long-term survival differently in elderly male and female patients. *J Intern Med* 2007;262:215-23.
7. **Daryani A**, **Basu S**, **Becker W**, Larsson A, **Riserus U**. Antioxidant intake, oxidative stress and inflammation among immigrant women from the Middle East living in Sweden: Associations with cardiovascular risk factors. *Nutr Metab Cardiovasc Dis*. 2007;17:748-56.
8. Elkan AC, Engvall IL, Tengstrand B, **Cederholm T**, Hafstrom I. Malnutrition in women with rheumatoid arthritis is not revealed by clinical anthropometrical measurements or nutritional evaluation tools. *Eur J Clin Nutr* 2007;e-pub

9. Florvall, G., **S. Basu**, J. Helmersson, A. Larsson. Microalbuminuria measured by three different methods, blood pressure and cardiovascular risk factors in elderly Swedish Males. *Analytical Chemistry Insite* (In press).
10. Freund-Levi Y, Basun H, **Cederholm T**, Faxén-Irving G, Garlind A, Grut M, Vedin I, Palmblad J, Wahlund LO, Eriksdotter-Jönhagen M. Omega-3 supplementation in mild to moderate Alzheimer's disease: effects on neuropsychiatric symptoms. *Int J Geriatr Psychiatry*, 2007;e-pub.
11. Glynn A, Aune M, Darnerud PO, Cnattingius S, Bjerselius R, **Becker W**, Lignell S. Determinants of serum concentrations of organochlorine compounds in Swedish pregnant women: a cross-sectional study. *Environ Health*. 2007;6:2.
12. Hammar N, Hakala P, Jørgensen L, **Becker W**, Hedlund E, Rönnemaa T, Koskenvuo M, Kaprio J. Migration and differences in dietary habits—a cross sectional study of Finnish twins in Sweden. *Eur J Clin Nutr*. 2007 Oct 17.
13. **Holmbäck U**, Fridman J, Gustafsson J, Proos L, Sundelin C, Forslund A. Overweight more prevalent among children than among adolescents. *Acta Paediatr* 2007;96(4):577-81.
14. Ingelsson, E., J. Sundström, L. Lind, A. Larsson, **S. Basu** and Ärnlov, J., Low-grade albuminuria and the incident of heart failure in a community-based cohort of elderly men. *Eur Heart J* 2007;28:1739-1745.
15. Jong, A.D., J. Plat, A. Bast, R.W.L. Godschalk, **S. Basu**, R.P. Mensink. Effects of plant sterol and stanol ester consumption on lipid peroxidation, antioxidant status and markers of oxidative stress, endothelial function and low-grade inflammation in patients on current statin treatment. *Eur J Clin Nutr* Published online May 9, 2007.
16. Katan MB, Boekschoten MV, Connor WE, Mensink RP, Seidell J, **Vessby B**, Willett W. Which are the greatest recent discoveries and the greatest future challenges in nutrition? *Eur J Clin Nutr*. 2007 Oct 10; [Epub ahead of print]
17. Krachler B, Norberg M, Eriksson JW, Hallmans G, Johansson I, **Vessby B**, Weinehall L, Lindahl B. Fatty acid profile of the erythrocyte membrane preceding development of Type 2 diabetes mellitus. *Nutr Metab Cardiovasc Dis*. 2007 Nov 23; [Epub ahead of print]
18. Krenn, C.G., G. Hedenstierna, **S. Basu**, S.L. Marklund and J. Hjoberg. Superoxide-dismutase preserves relaxation and attenuates prostaglandin F_{2α} by nitric oxide in hyperosmotic rabbit airways. *Nitric Oxide: Biology and Chemistry* (In press).
19. Landström E, Koivisto Hursti UK, **Becker W**, Magnusson M. Use of functional foods among Swedish consumers is related to health-consciousness and perceived effect. *Br J Nutr* 2007;98:1058-69.
20. Larsson, A., **J. Helmersson**, L.-O. Hansson, **S. Basu**. Serum cystatin is associated with other cardiovascular risk markers and cardiovascular disease in elderly men *International Journal of Cardiology*, published online Nov 7, 2007.
21. Lindi V, Schwab U, Louheranta A, **Vessby B**, Hermansen K, Tapsell L, Riccardi G, Rivellese AA, Laakso M, Uusitupa MI; KANWU Study Group. The G-250A polymorphism in the hepatic lipase gene promoter is associated with changes in hepatic lipase activity and LDL cholesterol: The KANWU Study. *Nutr Metab Cardiovasc Dis* 2007 Feb 24
22. Micelescu, A., **S. Basu** and L. Wiklund. Cardio-cerebral and metabolic effects of methylene blue in hypertonic sodium lactate during experimental cardiopulmonary resuscitation. *Resuscitation* 2007;75:88-97.
23. Michaëlsson K, Olofsson H, Jensevik K, Larsson S, Mallmin H, Berglund L, **Vessby B**, Melhus H. Leisure physical activity and the risk of fracture in men. *PLoS Med*. 2007;4(6):e199.
24. Møller A, Unwin IA, **Becker W**, Ireland J. EuroFIR's food databank systems for nutrients and bioactives. *Trends in Food Science & Technology* 2007;18:428-33.
25. Persson M, Hytter Å, Brismar K, **Cederholm T**. Effects of dietary advice and nutritional support in geriatric patients at nutritional risk. *Clin Nutr* 2007;26:216-224.

26. **Petersson H, Daryani A, Risérus U.** Sagittal abdominal diameter as a marker of inflammation and insulin resistance among immigrant women from the Middle East and native Swedish women: a cross-sectional study. *Cardiovasc Diabetol.* 2007;6:10.
27. **Petersson, H., S. Basu, T. Cederholm, U. Risérus.** Serum fatty acid composition and indices of stearoyl-CoA desaturase activity are associated with systemic inflammation: longitudinal analyses in middle-aged men. *Br J Nutr* online published 2007 Dec 6.
28. Petkeviciene J, Similä M, **Becker W**, Kriaucioniene V, Valsta LM. Validity and reproducibility of the NORBAGREEN food frequency questionnaire. *Eur J Clin Nutr.* 2007 Sep 5.
29. **Risérus U, Ärnlov J, Berglund L.** Long-term predictors of insulin resistance: role of lifestyle and metabolic factors in middle-aged men. *Diabetes Care* 2007; 30: 1-6.
30. **Risérus U, Ingelsson E.** Alcohol Intake, Insulin Resistance and Abdominal Obesity in Elderly Men. *Obesity* 2007;15(7):1766-73.
31. **Risérus, U., D. Sprecher, T. Johnson, E. Olson, S. Hirschberg, M. Liu, Z. Fang, P. Hegde, D. Richards, L. Sarov-Blat, J. C. Strum, S. Basu, J. Cheeseman, B. A. Fielding, S. M. Humphreys, T. Danoff, N. R. Moore, P. Murgatroyd, S. O'Rahilly, P. Sutton, T. Willson, D. Hassall, K. N. Frayn, F. Karpe.** Activation of PPAR α promotes reversal of multiple metabolic abnormalities, reduces oxidative stress and increases fatty acid oxidation in moderately obese men. *Diabetes*, On-line published Nov. 2007.
32. **Sjögren P, Sierra-Johnson J, Gertow K, Rosell M, Vessby B, de Faire U, Hamsten A, Hellenius ML, Fisher RM.** Fatty acid desaturases in human adipose tissue: relationships between gene expression, desaturation indexes and insulin resistance. *Diabetologia* 2008;51(2):328-35.
33. **Sjögren P, Basta G, de Caterina R, Rosell M, Basu S, Silveira A, de Faire U, Vessby B, Hamsten A, Hellenius ML, Fisher RM.** Markers of endothelial activity are related to components of the metabolic syndrome, but not to circulating concentrations of the advanced glycation end-product N epsilon-carboxymethyl-lysine in healthy Swedish men. *Atherosclerosis.* 2007;195(2):e168-75.
34. Slimani N, Deharveng G, Unwin I, Southgate DA, Vignat J, Skeie G, Salvini S, Parpinel M, Møller A, Ireland J, **Becker W** et al. The EPIC nutrient database project (ENDB): a first attempt to standardize nutrient databases across the 10 European countries participating in the EPIC study. *Eur J Clin Nutr* 2007;61:1037-56.
35. Tengstrand B, **Cederholm T, Söderquist A, Tidermark J.** The effects of protein supplementation and anabolic steroids on bone tissue after hip fracture. *Clin Nutr* 2007;26:460-5.
36. Turpeinen A.M., N., Ylönen, E.von Willebrand, **S. Basu, A. Aro.** Immunological and metabolic effects of cis-9, trans-11 CLA in subjects with birch pollen allergy. *Br. J. Nutr.* (In press).
37. Giacco R, Cuomo V, **Vessby B, Uusitupa M, Hermansen K, Meyer BJ, Riccardi G, Rivellese AA; KANWU Study Group.** Fish oil, insulin sensitivity, insulin secretion and glucose tolerance in healthy people: is there any effect of fish oil supplementation in relation to the type of background diet and habitual dietary intake of n-6 and n-3 fatty acids? *Nutr Metab Cardiovasc Dis.* 2007;17:572-80.
38. Vaclavik Bräuner, E., P. Møller, L. Forchhammer, L. Barregård, L. Gunnarsen, A. Afshari, P. Wåhlin, M. Glasius, L. O. Dragstedt, **S. Basu, O. Raaschou-Nielsen and S. Loft.** Indoor particles affect endothelial function in the elderly: An air filtration-based intervention study. *American. J. Resp. Crit. Care Med.* On-line published Oct. 11, 2007.
39. Van Cauter E, **Holmbäck U, Knutson K, Leproult R, Miller A, Nedeltcheva A, Pannain S, Penev P, Tasali E, Spiegel K.** Impact of sleep and sleep loss on neuroendocrine and metabolic function. *Horm Res.* 2007;67 Suppl 1:2-9.
40. **Warensjö E, Ingelsson E, Lundmark P, Lannfelt L, Syvänen AC, Vessby B, Risérus U.** Polymorphisms in the SCD gene: associations with body fat distribution and insulin sensitivity. *Obesity (Silver Spring).* 2007;15(7):1732-40.

41. Wennberg M, Bergdahl IA, Stegmayr B, Hallmans G, Lundh T, Skerfving S, Strömberg U, **Vessby B**, Jansson JH. Fish intake, mercury, long-chain n-3 polyunsaturated fatty acids and risk of stroke in northern Sweden. *Br J Nutr.* 2007;98(5):1038-45.
42. Wohlin, J., J. Sundström, L. Lannfelt, T. Axelsson, A.C. Syvänen, B. Andren, **S. Basu** and L. Lind. Apolipoprotein E epsilon4 genotype is independently associated with increased intima-media thickness in a recessive pattern. *Lipids*, published on line April 11, 2007.
43. Wohlin M., J. **Helmerson, J.** Sundström, J. Årnlöv, **B. Vessby**, A. Larsson, B. Andrén, L. Lind and **S. Basu**. Prostaglandin F_{2α} and C-reactive protein are independently associated with carotid intima-media thickness. A potential link between different inflammatory pathways and atherosclerosis. *Cytokine*, 2007, 38, 130-136.
44. Åsgård, R., **E. Rytter, S. Basu**, L. Abrahamsson-Zetterberg, L. Möller and B. Vessby. A high intake of fruit and vegetable is related to low oxidative stress and inflammation in a group of diabetes type II patients. *Scand J Food Nutr* (In press).
45. Zethelius, B., L. Berglund, J. Sundström, E. Ingelsson, **S. Basu**, A. Larsson, P. Venge, J. Årnlöv. The Use of Multiple Contemporary Biomarkers to Improve the Prediction of Cardiovascular and All-Cause Mortality in the Community-Based Setting. *N Engl J Med* (In press)
46. Ödlund Olin A, Koochek A, **Cederholm T**, Ljungqvist O. Evening meals for frail elderly service flat residents – an explorative study. *J Nutr Health Aging*, in press.
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48. Aro A, **Becker W**, Pedersen JI. Trans fatty acids in the Nordic countries. *Scand Journal of Food and Nutrition* 2006; 50:151-54.
49. Barregård, L., G. Sällsten, **S. Basu**, L. Stigedal, L. Andersson and P. Gustafsson. Experimental exposure to wood smoke particles in healthy humans: effects on blood coagulation and lipid peroxidation. *Inhalation Toxicology* 2006;18:845-85
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51. **Basu S**. Novel cyclooxygenase-catalysed bioactive prostaglandin F_{2α} from physiology to new principles in inflammation. *Medicinal Research Reviews* 2006, On-line published Dec. 26.
52. Branth S, **Sjödin A, Forslund A**, Hambraeus L, **Holmbäck U**. Minor changes in blood lipids after six weeks of high volume low intensity physical activity with strict energy balance control. *Eur J Appl Physiol*, 2006;96(3):315-21.
53. Branth S, Ronqvist G, Stridsberg M, Hambraeus L, Kindgren E, **Olsson R**, Carlander D, Arnetz B. Development of abdominal fat and incipient metabolic syndrome in young healthy men exposed to long-term stress. *Nutrition Metabolism Cardiovasc Dis*(2006)
54. Berg, K., Haaverstad, R. Astudillo, M. Björngaard, S. Skarra, R. Wiseth, **S. Basu** and P. Jynge. Oxidative stress during coronary artery bypass operation is multifactorial. *Scandinavian Cardiovascular Journal*, 2006, 40, 291-297.
55. **Daryani Achraf, Samar Basu, Wulf Becker**, Anders Larsson, **Ulf Risérus**. Antioxidant intake, oxidative stress and inflammation among immigrant women from the Middle East living in Sweden: associations with cardiovascular risk factors. *Nutr Metab Cardiovasc Dis* 2006 Dec 1.
56. **Daryani Achraf**, Tahire Kocturk, Åsa Andersson, **Brita Karlström, Bengt Vessby, Wulf Becker**. Reported macronutrient intake and metabolic risk factors: immigrant women from Iran and Turkey compared with native Swedish women. *Scand J Nutr* 2006;4:166-173
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Reviews 2005-2007

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12. **Cederholm T & Hedström M**. Nutritional treatment of bone fracture. *Curr Opin Clin Nutr Metabol* 2005;8:377-81.

Dissertations 2005-2007

1. **Eva Warensjö**. Fatty Acid Desaturase Activities in Metabolic Syndrome and Cardiovascular Disease-Special reference to Stearoyl-CoA-Desaturase and Biomarkers of Dietary Fat. Uppsala University 2007.
2. **Anja Saletti**. Nutritional status and mealtime experiences in elderly care recipients. Karolinska Institutet 2007.

3. **Stefan Branth.** Energy Metabolic Stress Syndrome: Impact of Physical Activity of Different Intensity and Duration. Department of Medical Sciences, Uppsala University 2006.
4. **Achraf Daryani.** Diet and Metabolic Risk Factors in Immigrant Women from the Middle East and Swedish-Born Women: A Cross-Sectional Study of Women from Iran, Turkey and Sweden. Uppsala University 2006.
5. **Cecilia Nälsén.** Measurement and Evaluation of Antioxidant Status and Relation to Oxidative Stress in Humans. Uppsala University 2006.
6. **Annika Smedman.** Milk Fat Intake and Conjugated Linoleic Acid (CLA) Supplementation. Dietary Markers and Associations to Clinical and Biochemical Characteristics. Uppsala University 2005.
7. **Johanna Helmersson.** Prostaglandins and Isoprostanes in Relation to Risk Factors for Atherosclerosis. Role of Inflammation and Oxidative Stress. Uppsala University 2005.

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Research Projects

Nutrition and ageing

Participants: Tommy Cederholm, Brita Karlström, Anja Saletti, Johanna Törmä, Tamanna Ferdous

Age, dependency and appetite

Collaborators: Anja Saletti, Tommy Cederholm, Azita Emami

The aim of this study was to describe how old people, dependent on help and care, experience and express appetite in relation to food and meals in every day life. The study of qualitative interviews was undertaken during 2005 and 2006 as smaller part of an intervention study. There were four different accommodations involved and they differed between around-the-clock care (ATC) and service flats (SF). Fourteen elderly persons who lived in different accommodations was interviewed about their meals, food and appetite.

Dietary intake/dietary habits in relation to nutritional status, body composition, psychological status, health and disease in 82 year old men (ULSAM cohort).

Collaborators: Erika Olsson, Brita Karlström, Tommy Cederholm, Karl Michaëlsson

Aim: To evaluate dietary intake and dietary habits in the ULSAM population at the age of 82 (energy and nutrient intake, meal pattern, and frequency of meals/food items). Moreover, to relate dietary intake/dietary habits to nutritional status and body composition (DEXA), risk of malnutrition (MNA), vitamin B12, folate, ADL, psychosocial situation, medical-, psychological and sociological factors, physical activity level, and parameters for health/diseases (coronary heart disease and diabetes).

Methods: Dietary intake at the fifth follow-up of ULSAM - Uppsala Longitudinal Study of Adult Men, when the participants were 82 years old was assessed with a pre-coded 7-d record book and with a food frequency questionnaire (FFQ) and questions were asked about their food habits (who does the shopping and cooking, whether they eat alone or with someone).

Dietary intake and risk of cognitive disorders: A 12-year follow-up study.

Collaborators: Erika Olsson, Brita Karlström, Tommy Cederholm, Lena Kilander

Aim: To study the impact of dietary intake at the age of 70 in the ULSAM population and the risk of incident Alzheimer's disease, all-type dementia and mild cognitive impairment, respectively, in late life.

Methods: The study will be based on the third and fifth follow up of the ULSAM study. Data from the first dietary survey will be used and will be related to incidence of Alzheimer's disease, all-type dementia and mild cognitive impairment, respectively. All participants in the first investigation of the ULSAM study were invited to a third follow up for a new investigation at the age of 70 years old. The food record used was a precoded menu-book with an optically readable form (OMR).

An investigation of the joint influence of dietary vitamin D, vitamin A and calcium intake on bone mineral density, bone size and fractures with effect modification by polymorphisms of the vitamin D, vitamin A and calcium receptors.

Collaborators: Erika Olsson, Brita Karlström, Tommy Cederholm, Karl Michaëlsson

Aim: To examine if dietary vitamin D, vitamin A and calcium intake is associated with bone mineral density, bone area and fracture outcome in 82 year old men in the ULSAM study and if these possible dietary influences on bone health might be modified by the genetic constitution of the vitamin D, vitamin A and calcium receptor polymorphisms.

Methods: The study will be based on the third and fifth follow up of the ULSAM study. Data from the dietary surveys at the age of 70 and 82 years old will be used and will be related to body composition, BMD and bone area of the total body, the proximal femur and of the lumbar spine measured by DXA (Lunar Prodigy, Lunar corp., Madison, WI, USA) at the fifth follow-up.

Determinants of nutritional status and functional capacity in elderly rural subjects in Bangladesh

Collaborators: Tamanna Ferdous, Tommy Cederholm, Åke Wahlin, Zarina Kabir

The overall aim of this research project is to analyze the magnitude and significance of malnutrition that prevails among elderly population in rural Bangladesh, in order to inform government and non-government policy-makers and planners at national and international organisations and specifically to investigate the aetiology of malnutrition, impact of nutritional status on functional and cognitive ability. The study group comprises a cohort of 500 subjects >60 years old living in a rural area of Bangladesh.

Omega-3 fatty acid supplementation to patients with Alzheimer's disease - The OmegAD Study

Collaborators: Tommy Cederholm, Samar Basu, Hans Basun, Yvonne Freund-Levi, Gerd Faxén Irving, Inger Vedin, Maria Jönhagen Eriksdottir, Lars-Olof Wahlund, Marianne Schultzberg, Jan Palmblad.

Epidemiological evidence indicate that high intake of fish oils rich in omega-3 fatty acids may protect against incident Alzheimer's disease. In a collaborative study close to 200 patients with AD were given omega-3 fatty acids, mainly docosahexaenoic acid, in a randomized protocol for 6 and in an open protocol for another 6 months. Effects on cognition, behavior, nutrition, oxidation, and inflammation and gene expression are studied.

Protein supplementation and bisphosphonates in elderly lean patients with hip fracture.

Collaborators: Tommy Cederholm, Margareta Hedström, Amer Al Ani, Nils Dalen, Paul Ackerman. In the frame work of the Stockholm Hip Fracture Group, a research joint action between the University hospitals in Stockholm, the effects on muscle and skeleton by the combined treatment with protein supplementation and bisphosphonates are studied. Lean elderly patients with hip fracture are randomized to active treatment or placebo for 6 months. Function, muscle mass and bone mineral density are the main outcome variables.

Inflammation and nutritional status in patients with rheumatoid arthritis

Collaborators: Tommy Cederholm, Lotta Elkan, Inga-Lill Engvall, Birgitta Tengstrand, Ingiöld Hafström

Together with the Dept. of Rheumatology, Karolinska University Hospital, the importance of inflammation driven catabolism and nutrition is studied in patients with chronic rheumatoid arthritis. In various populations nutritional status, muscle mass integrity and function in relation to inflammatory markers are studied.

Fat and carbohydrates in the diet and the body

Participants: Agneta Andersson, Ulf Risérus, Brita Karlström, Bengt Vessby.

Effects on appetite and cognitive performance of meals with different glycaemic load

Collaborators: Agneta Andersson, Anders Sjödin och Bengt Vessby, Louise Dye and John Blundell. In within-subjects repeated-measures design the effect on appetite, cognitive performance and subjective state during the post-lunch period of composite meals with different carbohydrates sources is investigated. A computerised cognitive test battery is used to evaluate the cognitive performance before and after lunch. Simultaneous appetite and subjective mood is rated and analyses of blood glucose and insulin is performed. An ad libitum meal is finally used to assess effect on food intake later during the day. In these way possible relationships between glucose and insulin levels in blood, cognitive performance and appetite are evaluated. The project is performed in collaboration with the Biopsychology Group, Leeds University, UK and financial supported by VINNOVA.

Possible mechanism explaining positive health effects of whole grain foods.

Collaborators: Agneta Andersson, Siv Tengblad, Brita Karlström, Afaf Kamal-Eldin, Rikard Landberg, Samar Basu, Per Åman and Bengt Vessby.

High intakes of whole grain foods are inversely related to the incidence of coronary heart diseases and type 2 diabetes in epidemiological studies. The aim of this study is to evaluate the effects on insulin sensitivity and markers of lipid peroxidation and inflammation of a diet rich in whole grain when compared with a diet containing the same amount of refined grain foods. This hypothesis is tested in a randomized cross-over study on healthy moderate overweight men and women. The study is part of a large research project in collaboration with Department of Food Science, the Swedish

University of Agriculture Sciences (SLU) and Umeå University. The project is supported by grants from the Swedish Governmental Agency for Innovation Systems (VINNOVA), the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS), the Swedish Research Council and the Swedish Diabetes Association. Food products are supported by Lantmännen Food R&D AB, Wasa Bröd AB and ICA AB.

Lipgene. Diet, genomics and the metabolic syndrome: an integrated nutrition, agro-food, social and economic analysis.

Collaborators: Bengt Vessby, Brita Karlström, Agneta Nilsson, Barbro Simu, Ulf Risérus and researchers from 25 other universities and colleges across Europe.

Lipgene is a EU-project within the 6th frame work and the aim is to elucidate in the role of dietary fat in development of the metabolic syndrome. Genetic variability, production technology and consumer acceptance are taken into account. Uppsala University is taking part in a dietary intervention study that includes 8 other European universities and their participants.

Fatty acid composition in serum lipids and desaturases in relation to metabolic disease

Collaborators: Annika Smedman, Bengt Vessby, Ulf Risérus, Eva Warensjö

It is well known that the fatty acid composition in serum lipids and estimated desaturase activities, as a marker of fat quality, is linked to obesity, insulin resistance, cardiovascular disease and diabetes. Associations between fatty acid composition, estimated desaturase activities and clinical variables, metabolic disease and dietary intakes are studied.

Fatty acid composition in serum lipid esters and desaturases in relation to metabolic disease - Dietary and genetic aspects.

Collaborators: Eva Warensjö, Bengt Vessby, Tommy Cederholm och Ulf Risérus

The aim of our studies is to learn more about the FA-composition and estimated desaturase activities in relation to the metabolic syndrome. We will also study how the FA composition and estimated desaturase ratios change after a diet rich in either saturated fat or unsaturated fat. In addition, genetic differences (SNPs) in the SCD-gene will be studied in relation to obesity, insulin sensitivity and FA-ratios. Several of these studies will be carried out in the ULSAM-cohort. These studies might influence future dietary recommendations since FA composition and desaturase activities are modifiable by diet.

Dietary habits and effects of diet

Participants: Wulf Becker, Brita Karlström, Bengt Vessby, Annika Smedman

Effects of increased intake of fruit and vegetables on dietary composition, body weight and metabolic control

Collaborators: Anette Järvi, Brita Karlström, Wulf Becker, Bengt Vessby

Project description: Sixty-four overweight adult men and women were randomised to either an intervention group that during 4 months received 500 g/d fruit and vegetables or a control group that received general dietary advice. The effects on dietary habits, anthropometry, blood lipids, blood glucose, antioxidant status, etc., were investigated.

Do milk products have positive effects on health?

Collaborators: Annika Smedman, Siv Tengblad, Bengt Vessby samt forskare i Norge och Finland

Project description: In a six-month controlled intervention study, run parallel in Uppsala, Oslo and Helsinki, the effects of supplementation with milk products on

abdominal obesity, markers for the metabolic syndrome and dietary habits are investigated. In a total 120 participants, 40 in each country are included.

Validation of an optical readable food record

Collaborators: Wulf Becker, Margareta Nydal

The study comprised 73 free-living, healthy 70-year-old men from ULSAM cohort. Dietary data were collected during 7 consecutive days using either an Optical Readable Food Record (ORFR) or a weighed record (WR). The results with respect to food and nutrient intake are compared and also validated against protein intake calculated from 24-h urinary nitrogen excretion.

Inflammation, oxidative stress and effects of antioxidants

Participants: Samar Basu and Johanna Helmersson

COX-1 gene polymorphisms, prostaglandin F2a and cardiovascular disease

Collaborators: Johanna Helmersson, Johan Ärnlöv, Tomas Axelsson, Samar Basu

Study design: SNPs (single nucleotide polymorphisms) in the COX-1 gene are studied in relation to prostaglandin F formation and risk of cardiovascular diseases in the ULSAM-cohort. The project is performed in collaboration with the section of Molecular Medicine and is financially supported by Wallenberg Consortium North.

Formation of prostaglandin F in healthy humans

Collaborators: Johanna Helmersson, Samar Basu

Study design: Daily variation of inflammatory prostaglandin F formation in healthy humans is studied by quantification of 15-keto-dihydro-prostaglandin F in urine during the day

Vitamin C, vitamin A and vitamin E in the diet and relation to inflammation and free radicals in man

Collaborators: Johanna Helmersson, Johan Ärnlöv, Anders Larsson, Brita Karlström/Bengt Vessby, Samar Basu

Study design: Vitamin C, vitamin A and vitamin E in the diet in 700 men in the age of 70 years is estimated by food-diaries. Intake of vitamins is studied in relation to measurements of inflammation and oxidative stress. Participants from the ULSAM-cohort.

Ambulatory (24-hour) bloodpressure, inflammation and free radicals

Collaborators: Johanna Helmersson, Kristina Björklund Bodegård, Samar Basu

Study design: A cross-sectional study of ambulatory bloodpressure during 24 hours and prostaglandins and isoprostanes in elderly men from the ULSAM-cohort.

Atherosclerosis, inflammation and free radicals.

Collaborators: Martin Wohlin, Johanna Helmersson, Johan Sundström, Lars Lind, Samar Basu

Study design: Estimated amount of atherosclerosis by ultrasound of the intima media artery in 75-year old men in relation to prostaglandin F2a, C-reactive protein and isoprostanes.

Betacarotene, tocopherol and the development of diabetes

Collaborators: Johan Ärnlöv, Björn Zethelius, Christian Berne, Bengt Vessby, Samar Basu, Johanna Helmersson

Study design: Betacarotene and tocopherols in blood and diet in 50 year-old non-diabetics in relations to the risk of diabetes development during a 27-year follow-up.

Selenium and cardiovascular risk

Collaborators: Johanna Helmersson, Johan Sundström

Study design: Selenium in blood in men at 50-years of age is related to cardiovascular morbidity and mortality in 30 years of follow-up.

Magnesium intake and diabetes development

Collaborators: Arvo Hänni, Brita Karlström/Bengt Vessby, Johanna Helmersson

Study design: Estimated intake of diet magnesium in relation to the risk of diabetes development in the ULSAM-cohort.

Isoprostane formation and demography

Collaborators: Samar Basu, Johanna Helmersson, Lars Barregård

Study design: Cross-sectional study of isoprostanes in different populations and the significance of age, gender and smoking. In collaboration with miljömedicin, Göteborgs universitet.

Polymorphisms in the PLA2, COX-2, PG endoperoxide reductase, 15-PGDH, 13-reduktase, interleukin-6, CRP, SAA, cystatin C gene and cardiovascular risk

Collaborators: Johanna Helmersson, Anders Larsson, Samar Basu

Study design: The project is performed in collaboration with the section of Molecular Medicine and is financially supported by Wallenberg Consortium North.

Polymorphisms in the NF and TTPA gene, oxidative stress and cardiovascular risk

Collaborators: Johanna Helmersson, Samar Basu

Study design: The project is performed in collaboration with the section of Molecular Medicine and is financially supported by Wallenberg Consortium North.

Polymorphisms in the prostaglandin-, thromboxane- and prostacyclin- synthase and receptor genes, inflammation and risk for cardiovascular diseases

Collaborators: Lisa Kurland, Johanna Helmersson and Samar Basu

The project is performed in collaboration with Molecular Medicine, Uppsala University and is financed by Wallenberg Consortium North.

Polymorphisms in the 5-LO, 15-LO, FLAP, LTB4-R and LTC-4 synthase genes and inflammation and risk for cardiovascular diseases

Collaborators: Lisa Kurland, Johanna Helmersson and Samar Basu

The project is performed in collaboration with Molecular Medicine, Uppsala University and is financed by Wallenberg Consortium North.

Oxidative stress, inflammation and angiogenesis during normal and complicated pregnancy and under normal menstrual cycle

Collaborators: Maria Palm, Ove Axelsson, Anders Larsson and Samar Basu

The project is performed in collaboration with the Department of Women's Health and Clinical Chemistry, Uppsala University.

Oxidative stress among pregnant women exposed by iron, arsenic and cadmium

Collaborators: Eva-Charlotte Ekström, Marie Vahter and Samar Basu

The project is performed in collaboration with the International Maternal and Child Health, Uppsala University, MINIMAT (Bangladesh) and Karolinska institutet and financed by The Swedish Research Council.

Oxidativ stress, inflammation and kidney function among 82-years ULSAM men and cardiovascular risk

Collaborators: Johanna Helmersson, Anders Larsson and Samar Basu

The project is a performed in collaboration with the Clinical Chemistry, Uppsala University.

Acute inflammation and oxidative stress in septic shock

Collaborators: Mats Eriksson and Samar Basu

The project is a performed in collaboration with the Department of Surgery and Anesthesiology, Uppsala University and financed by various sources.

Effect of vitamin A on low-grade endotoxemia and inflammation

Collaborators: Christine Stabell Benn, Christian Erikstrup och Samar Basu

Study design: The project is a performed in collaboration with the University in Copenhagen, Denmark and Uppsala University.

Oxidative stress and neuroprotection following cardiac arrest by different therapy

Collaborators: Samar Basu, Sten Rubertsson och Lars Wiklund

The project is a performed in collaboration with the Department of Surgery and Anaesthesiology, Uppsala University.

Antibody and assay development on resolvins

Collaborators: Samar Basu, Charles Serhan

The project is a performed in collaboration Brigham and Women's Hospital, Harvard Medical School, Boston, USA and Uppsala University.

Ischemia, free radicals, inflammation and EC-SOD gene transfer

Collaborators: Olli Leppänen with colleauges, Samar Basu

i Kuopio. The project is a performed in collaboration with Kuopio university, Finland.

Oxidative stress during kidney and liver transplantation and antioxidant therapy

Collaborators: Claus Krenn, Samar Basu

The project is a performed in collaboration with University of Vienna, Austria

Free radicals, inflammation during heart surgery

Collaborators: Mika Lahtinen, Samar Basu

The project is a performed in collaboration with Clinical Chemistry, Uppsala Akademiska Hospital.

Association between diet, obesity, oxidative stress and inflammation

Participants: Samar Basu, Bengt Vessby, Alan Sinaiko

The project is a performed in collaboration with University of Minnesota Medical School, USA.

Association of oxidative stress and inflammation in coronary revascularisation and NSAID

Collaborators: Samar Basu, Kirsti Berg, Per Jynge

The project is a performed in collaboration with Norwegian University of Science and Technology, Trondheim, Norway.

Dietary supplementation and lipid oxidation

Collaborators: Anu Turpeinen, Maria Mutanen, Samar Basu

The project is a performed in collaboration with University of Helsinki, Finland.

F -isoprostane metabolism and detection

Collaborators: Denis Calleweart, Jason Morrow, Samar Basu

The project is performed in collaboration with University of Oakland (MI) and Vanderbilt University, USA.

Multi-laboratory study on biomarkers of oxidative stress (BOSS-study)

Collaborators: Maria Kadiiska with international colleagues, Ron Mason, Samar Basu

The project is performed in collaboration with NIEHS, National Institute of Health (NIH), USA and other institutions from several countries and is financed by NIEHS (NIH)

Isoprostanes as biomarker of oxidative stress

Collaborators: Samar Basu

Prostaglandins as biomarker of vasoconstriction and inflammation.

Collaborators: Samar Basu

In situ localisation of oxidative stress and inflammation injured tissues in the brain

Collaborators: S. Basu, M. Smith with colleagues

The project is performed in collaboration with Case Western Reserve University, Ohio, USA

Effects of antioxidants on oxidative stress, inflammation and metabolic control in humans.

Collaborators: Elisabet Rytter, Rikard Åsgård, Samar Basu, Lennart Möller, Anders Sjödin, Lilianne Abramson-Zetterberg, Bengt Vessby

The aim of the studies is to investigate if supplementation with a large number of antioxidants (found in fruits, vegetables and berries and in amounts corresponding, to a healthy diet rich in fruits and vegetables) could influence oxidative stress, inflammation and metabolic control.

The studies are performed on subjects with metabolic syndrome characteristics and on subjects with type 2 diabetes. The hypothesis is to study if antioxidant supplementation in this way can increase the levels of antioxidants, improve the metabolic control and decrease the tendency of inflammation and the influence of oxidative stress. The project represents Elisabet Rytters dissertation.

Obesity and overweight in children and adults

Participants: Tommy Cederholm, Anders Forslund, Ulf Riserus, Ulf Holmbäck

What physiological and psychological variables are changed in severe childhood obesity and how will these variables change during treatment?

Collaborators: Anders Forslund, Ulf Holmbäck, Jan Gustafsson

During spring 2008 the children's obesity clinic will open in Uppsala. A multidisciplinary approach with the aim of individualizing the treatment, both in terms of cognitive treatment but also dietary approaches, and by that keep patient satisfaction high and attrition low.

Physiological and Psychological changes after weight loss surgery.

Collaborators: Ulf Holmbäck, Tommy Cederholm, Anders Karlsson, Arvo Hänni, Björn Zethelius, Magnus Sundbom, Ulf Riserus

Project: Morbid obesity is treated with various techniques, such as diet and behavioral modification, surgery and pharmacological treatment. We know a fair amount about the various therapies long term results regarding weight reduction, but less about the effect on body composition, biochemistry and gene expression. During a five-year study in obese adults, we will assess body composition,

energy expenditure, psychometric variables, expression of lipogenic genes, appetite regulation, inflammation and oxidative stress, and markers for fat, protein and muscle turnover.

Clinical measures of abdominal obesity and the link to insulin resistance, metabolic disorders and cardiovascular risk

Collaborator: Ulf Risérus

It is known that abdominal, rather than generalized obesity is particularly health hazardous. For example, in many cases, waist girth is a better risk marker than the body mass index (BMI). Abdominal (visceral) fat distribution is closely associated with the metabolic syndrome and is a strong risk factor for type 2 diabetes, stroke and cardiovascular disease. In various populations we have compared different anthropometric measures that could be easily used in the clinic or in diabetes and cardiovascular research. In particular, we have reported in several studies that the "sagittal abdominal diameter", i.e. the "abdominal height" measured with the patient in lying position on a bench, seem an even better risk marker than waist girth and waist-to-hip ratio. Especially, the abdominal height predicts metabolic disorders related to insulin resistance. In collaboration with prof Mai-Lis Hellénus and prof Ulf de Faire at Karolinska Institute, we are now performing a large study comparing different anthropometric measures with regard to metabolic and cardiovascular risk. The aim is to identify the best anthropometric measure with regard to identifying those individuals at highest risk, and therefore require lifestyle and drug treatment.

Circadian Metabolism

Participants: Ulf Holmbäck, Maria Lennernäs, Torbjörn Åkerfeldt

Metabolic, endocrine and mental performance effects of nocturnal eating

Participants: Ulf Holmbäck, Anders Forslund, Torbjörn Åkerfeldt, Mats Stridsberg, Maria Lennernäs (Högskolan i Kristianstad), Arne Lowden (KI), Torbjörn Åkerstedt (KI)

Project: The aim is to increase the knowledge about the metabolic effects of shift work. Subjects are given meals at regular intervals during a 24-h period, the size and composition of the meals varies. During these 24-h, data are collected from blood samples, questionnaires, indirect calorimetry and computer tests.

Metabolic, endocrine and mental performance effects of sleep restriction with and without sleep misalignment

Participants: Ulf Holmbäck, Rachel Leproult (University of Chicago), Eve Van Cauter (University of Chicago)

Project: Subjects are tested before and after sleeping 5 h per night, with or without sleep restriction. Among others, the following variables are studied: glucose metabolism, energy intake, mental performance, hormones and cardiovascular function.

Undergraduate Teaching

Laboratory technician programme

Medical Doctor Programme

Agricultural Sciences (Food Science) at the Swedish Agricultural University.

Biomedicine programme

Registered Nurse Programme

Registered Dietitian Programme

Centres and Facilities

ICTUS/ULSAM - ULSAM is a unique, ongoing, longitudinal, epidemiologic study based on all available men, born between 1920 and 1924, in Uppsala County, Sweden. The men were investigated at the ages of 50, 60, 70, 77 and 82 years. Interdisciplinary Collaboration Team on Uppsala longitudinal Studies (ICTUS) is a centre for several researchers from various institutions in Uppsala.

Diabetes Nutrition Study Group – DNSG is a part of the European Association for the Study of Diabetes (EASD) and comprise of researchers mainly involved in the development of nutritional guidelines for the treatment of diabetes. National Food Administration – Expert group – The group is comprised of stakeholders in nutrition research that regularly issue dietary recommendations for public health purposes.

ESPEN Special Interest Group - Geriatric nutrition – The SIG GN works on a European level to coordinate research efforts and recommendations for nutrition in the elderly.

Uppsala Centre for Food and Nutrition (Uppsala Livsmedelscentrum, ULC) – ULC is a network of research groups in Uppsala that work with issues related to food and nutrition.

Obesity Centre (Obesitascentrum OC) – OC is instituted as a collaboration between Uppsala County Council and Uppsala University in order to facilitate and promote research activities in the field of obesity.

Nutrition Council (Nutritionsrådet) Akademiska Sjukhuset – NC comprise representatives from all divisions of Uppsala University hospital in order to improve clinical nutrition routines at the hospital.

Network: Epidemiology & Nutrition (NEON) – NEON consists of nutritional epidemiologists. The aim of the network is to support and improve competence in nutritional epidemiology in Sweden

Research in Disability and Habilitation

Group leader: Karin Sonnander

Research in disability is interdisciplinary and multi-professional with a fundamental perspective focussing the interface between individuals and environment. A joint conceptual tool is found in WHO's classification ICF (International Classification of Functioning, Disability and Health), that extends beyond the medical perspective in that it includes a societal and environmental perspective. Habilitation, services to persons with disabilities, constitutes planned formal multi-professional interventions provided to individuals with permanent disabilities and their networks in order to promote an optimal level of function and well-being. Current research activities focus studies of living conditions including physical and mental health, gender, everyday perspectives and experiences, quality of life, measurement and evaluation in implementation, prevention and intervention.

Members of the group during 2007

Monica Blom Johansson, BA, research assistant
Johan Glad, BA, PhD student
Carina Gustafsson, PhD Faculty of Medicine, associated researcher
Gerth Hedov, PhD Faculty of Medicine, associated researcher
Helena Lindstedt, PhD Faculty of Medicine, senior lecturer
Karin Sonnander, PhD, professor
Lydia Springer, MA, research assistant
Öie Umb-Carlsson, PhD Faculty of Medicine senior researcher

External partners

Marianne Carlsson, PhD, professor, Department of Public Health and Caring Sciences, Uppsala University
Ann-Britt Ivarsson, PhD, Örebro University
Lennart Jansson, PhD Faculty of Medicine, National Board of Health and Welfare
Ulla Jergeby, PhD, National Board of Health and Welfare
Ming Li, Dr, Department of Paediatrics, First Hospital Beijing University
Frits-Axel Wiesel, MD, professor, Department of Neuroscience, Uppsala University
Zhixiang Zhang, MD, professor, Department of Paediatrics, First Hospital, Beijing University

Publications 2005-2007

1. Gustafsson, C. & Sonnander, K. (2005) A psychometric evaluation of a Swedish version of a Swedish version of the psychopathology inventory for mentally retarded adults (PIMRA) *Research in Developmental Disabilities* 26, 2, March-April 2005, pp 183 – 201
2. Sonnander, K. (2005) Biological and social aspects of intellectual disability (in A.Gustavsson, J. Sandvin, R.Traustadottir & J Tössebro, Eds.) *Resistance, Reflection and Change. Nordic Disability Research. Studentlitteratur, Lund* pp 193 – 203
3. Gustavson, K-H, Umb-Carlsson, Ö. & Sonnander, K. (2005) A follow-up study of mortality, health conditions and associated disabilities of people with intellectual disabilities in a Swedish county. *Journal of Intellectual Disability Research*, 49, 12, 905-914
4. Umb-Carlsson, Ö. & Sonnander, K. (2005) Comparison of the Living Conditions of Adults with Intellectual Disabilities in a Swedish County and in the General Population. *Journal of Policy and Practice in Intellectual Disabilities*, 2, 3-4, 240-248

5. Gustavson, K-H, Umb-Carlsson, Ö. & Sonnander, K. (2005) Vuxna med svår utvecklingsstörning – en 30-årsuppföljning. *Läkartidningen* Feb. 7-13, 102(6): 388-91
6. Umb-Carlsson, Ö. & Sonnander, K. (2006) Living conditions of adults with intellectual disabilities from a gender perspective. *Journal of Intellectual Disability Research*, 50, 5, 326-334
7. Umb-Carlsson, Ö. & Sonnander, K. (2006) Comparison of Reports by Relatives and Staff on Living conditions of Adults with Intellectual Disabilities. *Mental Retardation*, 44, 2, 120 – 127
8. Hedov G, Wikblad K, Annerén G. (2006) Sickness absence in Swedish parents of children with Down syndrome: Relation to parental self-perceived health, stress. *Journal of Intellectual Disability Research*, 50(7): 546-552.
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10. Eklund M, Bengtsson-Tops A, Lindstedt H. (2007) Construct and discriminant validity and dimensionality of the Interview Schedule for Social Interaction (ISSI) in three psychiatric samples. *Nordic Journal of Psychiatry*, 61(3):182 - 8
11. Umb-Carlsson, Ö. (accepted 2007) Public special services provided to people with intellectual disabilities in Sweden – A life-span perspective. *Journal of Policy and Practice in Intellectual Disabilities*
12. Ericsson, K., Gebre-Medhin, M. & Sonnander, K. (accepted 2007) Sweden-China partnership: areas of ongoing development. *Journal of Policy and Practice in Intellectual Disability*

Reviews 2005-2007

1. Umb-Carlsson, Ö. (2007) Hälsa och levnadsförhållanden hos personer med utvecklingsstörning, Statens folkhälsoinstitut: Stockholm

Dissertations 2005- 2007

1. Umb-Carlsson, Ö. (2005) Living conditions of people with intellectual disabilities: a study of health, housing, work, leisure and social relations in a Swedish county population. (Digital Comprehensive summaries of Uppsala dissertations from the Faculty of Medicine, 1651-6206;89) Uppsala: Department of Neuroscience, Psychiatry, Ulleråker, University Hospital, Uppsala University
- 2.

External agencies that support the work/External Funding 2005-2007

Regional Research Council in Uppsala-Örebro Region: 120 000

Swedish International Development Cooperation Agency (SIDA): 900 000

The Sävstaholm Foundation: 420 000

The Sävstaholm Foundation: 670 000

Uppsala County Council: 128 000

Living with aphasia: communication and communication strategies from the perspective of significant others, speech and language pathologists, and persons with aphasia – a description of experiences, and a trial of intervention

Participants: Monica Blom Johansson, Marianne Carlsson, Karin Sonnander

The aim of this thesis is to obtain more knowledge about how the person with aphasia, the significant other and the speech and language therapist perceive the communicative situation between the significant other and the person with aphasia. A second aim is to develop a model of intervention and carry out a trial of intervention for improving the couple's communication skills.

The HOME Inventory, Home Observation for Measurement of the Environment - A Swedish Adaptation

Participants: Johan Glad, Carina Gustafsson, Ulla Jergeby, Karin Sonnander

The aim of this thesis is to assess the relevance of an international published instrument (HOME) for assessing parental ability to satisfy children's needs and to develop a reliable and valid Swedish version. Psychometric properties and issues pertinent to administration and implementation in a Swedish context will be established based on a national sample (n=150).

A pilot study of a Swedish version of the Parent Assessment Manual (PAM) in a field setting

Participants: Carina Gustafsson, Lydia Springer

PAM (Parent Assessment Manual) is a comprehensive tool for identifying family strengths and weaknesses. Although it can be used with all parents, it is geared towards parents with intellectual disabilities. The aim of this pilot study is to evaluate the clinical relevance of PAM in the Swedish social services context and to evaluate the face validity and the preliminary interrater-reliability of the PAM scoring criteria (n=5).

Support and information to parents of children with Down syndrome

Participant: Gerth Hedov

Down syndrome (DS) is the largest group of children born with a chronic condition. Today the incidence of DS in Sweden is 1/800 new-borns. In contrast to an international outlook there are few Swedish studies focussing this group of parents. The purpose of the project is to formulate evidence-based guidelines (based on empirical studies as well as experienced practice) on how to give initial support and information to parents of children with DS followed by a quasi-experimental intervention study. The project also includes a 10-year follow-up study of 165 Swedish parents (in 86 families) concerning work load, employment and sick-leave rate and parental stress.

People with mental health disorder, implementing individual treatment goals and long-term follow-up in psychiatric rehabilitation and community care

Participants: Helena Lindstedt, Marianne Carlsson, Ann-Britt Ivarsson

The aim is to implement and evaluate a treatment concept with individualized measurable methodology of treatment and structured long-term follow-up (Goal Attainment Scaling, GAS) for people with mental health disorders. Patients (n=80) report subjective occupational performance, daily occupation satisfaction and quality of life. Occupational therapists (n=20) report work satisfaction.

Assistive Technology for adults with ADHA a new program for Cognitive Assistance: an evaluation

Participant: Helena Lindstedt

The purpose of the project is to develop new forms of assistance in daily life settings for people with Attention Deficit Hyperactivity Disorder, ADHD. Evaluated project activities concern the effective use of assistive technology in home, at work and in study settings as well as in terms of target group, professional and proxy experiences (n=49).

Early identification of children with developmental delay in China

Participant: Karin Sonnander

The aim of this sub study, part of a comprehensive Sino-Swedish Cooperation Project, is to estimate the need of habilitation in children with significant developmental delays/intellectual disabilities and to establish and develop practical skills in developmental screening and developmental evaluation in local child health services in selected areas in rural China.

Living conditions of people with intellectual disabilities: a study of health, housing, work, leisure and social relations in a Swedish county population.

Participants: Öie Umb-Carlsson, Frits-Axel Wiesel, Karin Sonnander

The general aim of this thesis was to describe mortality, health and living conditions in an administratively defined county population of people with intellectual disabilities born between 1959 and 1974 (N=213). Information on the living conditions of persons with intellectual disabilities was provided by proxy (relative and staff) questionnaire reports and national welfare statistics conducted by Statistics Sweden (SCB). Moreover, the reports of relatives and staff were compared on the living conditions of people with intellectual disabilities. Medical examination and medical case records were used to obtain data on health and medical services.

Special support and service in retrospect to persons with intellectual disabilities

Participant: Öie Umb-Carlsson

The purpose is to study the reflection of legislative changes on service and care provision and whether interventions are tailored to individual needs. In a retrospective record review (1959 – 2005) public services and health care provided to an administratively defined county sample of persons in Sweden with intellectual disability from early childhood to adulthood (n=83) are described.

Men and women with intellectual disabilities and quality of life

Participant: Öie Umb-Carlsson

The aim is to uncover the essence of the phenomenon quality of life from the perspective of women and men with intellectual disabilities. Women and men with mild and moderate intellectual disability are interviewed concerning their lived experiences of quality of life (n=21).

Support in housing- a comparison between people with psychiatric disability and people with intellectual disability

Participans: Öie Umb-Carlsson, Lennart Jansson

The aim is to compare need and provision of support in housing among people with psychiatric disability (n=397) and people with intellectual disability (n=110) based on questionnaire reports.

Center for Disability Research

The Center was created in 1988 to coordinate research in Disability issues in various subject areas at the faculties at Uppsala Universities and to interact with society in issues related to disability Research. The aim is to disseminate information about research and to stimulate long-term acquisition of knowledge about issues involving disability by enhancing the flow of information among teachers, researchers and doctoral students as well as interested parties outside the university.

The Department of Public Health and Care Science is the host of the Center

Center is directed by a Board

Karin Sonnander, Chair, Professor of Habilitation, specializing in Disability Research, Department of Public Health and Caring Sciences.

Jörgen Borg, Professor of Rehabilitation Medicine, Department of Neuroscience.

Håkan Lanshammar, Professor of Automatic Control and Systems Analysis, Department of Information Technology.

Mårten Söder, Professor of Sociology, specializing in Disability Studies, Department of Sociology.

Denise Malmberg, Assistant Professor at the Center for Gender Research

Annie Åkerstedt Berg, Instructor at the Department of Teacher Training

Jan Gulliksen, Professor of Human Computer Interaction at the Department of Information Technology

Student Representatives

Päivi Adolfsson, PhD student

Martin Karlberg, PhD student

Anna Tenlén, student

Other Members of the Board

Sonja Calais van Stokkom, Assistant Professor, Coordinating Council for Handicap Organizations in Uppsala County

Barbro Collén, Executive Director, Uppsala County Council

Bo Lerman, Project Director, Promotional Coordinating Council, Uppsala County

Staff and financing: Karin Jöreskog, 50%, Päivi Adolfsson, 30%

Activities are financed by a yearly grant from the three academic fields and the faculty of education science. This money covers basic activities and the salaries of a manager and administrative support. For other activities, for instance, the publication of a periodical, special funding has been applied for.

Two Internet-based networks

The Uppsala network

- within and outside the academic world, such as county councils, municipalities and handicap organizations

The National Network on Disability Research

- primarily intended for researchers at various universities and colleges in Sweden

Research periodical "Ongoing Handicap Research"

Presents current research in the disability field.

The periodical appears quarterly and is free of charge.

Disability-Introductory Course (7.5 ECTS)

1. Survey of views on disability.
2. The situation of individuals with disabilities from a societal perspective.
3. Disability elucidated from the points of view of medical and behavioral science.

Research collaboration

National network for disability research

The network works through different work groups and holds two meetings a year. Other communication is via e-mail. Funding for these activities is applied for and administered here.

This network applied for and received money to run a national postgraduate course in disability research last autumn.

The network also has a homepage.

Karin Sonnander is the coordinator of the network. She is also a member of one of the groups, the editorial committee of the journal "Handikappforskning Pågå" (Ongoing Handicap Research).

Nordic Network for Disability Research (NNDR)

The Center for Handicap Research also cooperates with NNDR in various ways.

Family Medicine and Clinical Epidemiology

Group leader: Kurt Svärdsudd, MD, PhD, Professor

Family Medicine is the dominating academic branch in Primary Health Care. Moreover, it is the mother speciality for all other non-surgical physician specialities. The content of Family Medicine is reflecting the fact that primary health care is in the health care front line, i.e. the health care facility that patients are expected to consult in the first place when needed. For this reason Family Medicine research focuses on the most common diseases and illnesses in the population, for instance cardiovascular disease, diabetes, asthma, chronic obstructive lung disease, social insurance medicine (sick-listing and disability retirement), musculo-skeletal disorders, low back pain, tennis elbow, fibromyalgia, pharmaco-epidemiology, and the most common infectious diseases. We teach in the undergraduate curriculum within the medical and nursing programmes. In our research programme we focus on patient centred research using clinical as well as epidemiological techniques. We also cooperate with other clinical and basic research units domestically and abroad.

Members of the group during 2007:

	<u>Academic title</u>	<u>Professional title</u>
Kurt Svärdsudd	Professor	MD
Mari-Ann Wallander	Associate professor	Epidemiologist
Gunnar Johansson	Associate professor	MD
Margaretha Eriksson	Postdoc	Researcher
Håkan Jansson	Programmer	Datamanager

Medical Programme - Professional Development

Annika Bardel	Postdoc, Director of studies	MD
Karin Björkegren	Postdoc, responsible for term 1 and 2	MD
Mats Gulliksson	PhD student, responsible for term 3 and 4	MD

External

Dan Andersson	Associate professor	MD
Johan Bogefeldt	PhD student	MD
Kristina Bröms	PhD student	MD
Anders Carlberg	PhD student	Psychotherapist
Jan Cederholm	Associate professor	MD
Dag Elmfeldt	Associate professor, emeritus	MD
Sevek Engström	PhD student	Dentist
Marie Grunnesjö	PhD student	DN

Mikael Hasselgren	Postdoc	MD
Anna Hofsten	Associate researcher	MD
Sara Holmberg	Postdoc	MD
Stefan Jansson	PhD student	MD
Bo Karlsson	PhD student	MD
Per Kristiansson	Associate professor	MD
Karin Lisspers	PhD student	MD
Sveinn Magnusson	PhD student	MD
Lars Nilsson	PhD student	MD
Gunilla Norrmén	PhD student	MD
Lena Olai	PhD student	RN
Magnus Peterson	PhD student	MD
Nils Rodhe	PhD student	MD
Åke Schwan	Postdoc	MD
Jan Stålhammar	Postdoc	MD
Björn Stållberg	PhD student	MD
Malin Swartling	PhD student	MD
Keld Vaegter	PhD student	MD
Rolf Wahlström	Associate professor	MD
Thorne Wallman	PhD student	MD
Ture Ålander	PhD student	MD

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The Swedish Research Council	140.000
Swedish Asthma and Allergy Association	150.000
The Vårdal Foundation – for Health Care Sciences and Allergy Research	150.000
AstraZeneca	150.000
Dalarna County Council	1.300.000
Gävleborg County Council	400.000
Stockholm County Council	800.000
Södermanland County Council	1.500.000
Uppsala University and Uppsala County Council	2.000.000
Västernorrland County Council	200.000
Örebro County Council	1.000.000

Social Insurance Medicine

Kurt Svärdsudd, Rolf Wahlström

The natural history of disability pension – risk factors, track record and health consequences

A consortium including The Research Group for Cardiovascular Epidemiology at Sahlgren's Academy, Gothenburg, the national Social Insurance Agency and our unit was created to perform a project aiming at analysing the course of events leading to disability pension (track record), to find factors that in addition to the underlying disease affects the course and what the consequences are in terms of health situation, quality of life continued health care utilisation and survival compared to that of the corresponding general population. The study population was created by using data from five on-going population studies with approximately 7000 men and women who have been followed since 1980-1993 and onwards. Two doctoral students (Thorne Wallman and Johan Bogefeldt) are working in the study, which is financially supported by the Social Insurance Agency, the Medical Research Council, Sörmland County Council, Västra Götaland County Council and Uppsala University.

The first report shows that the health care utilisation continued to be 3-4 times higher among the disability pensioners than among the corresponding general population still 13 years after the retirement. The health care diagnoses had no relation to the retirement diagnoses [1]. The retirement thus had no obvious curative effect which has been claimed previously.

In the second report the survival after disability retirement as compared to the corresponding general population is presented. Male pensioners had more than 3 and female pensioners approximately 2.5 fold increased mortality rate, even when the influence of age, education, smoking habits, family structure, cause of retirement and health care diagnoses after retirement (underlying disease) was taken into account. The increased mortality rate is thus non-specific, i.e., not related to the underlying disease and may possibly be a damage caused by the retirement *per se* [2].

In a third report the track record measured as duration of sick-listing periods before the retirement will be analysed and compared with that of the corresponding general population. The analyses are not yet concluded.

In the fourth report the quality of life before and after the retirement will be analysed. Quality of life

has been measured on several occasions and in various points in time in relation to the retirement. We are going to use a time-dependent analysis in order to disclose a possible relationship to the retirement.

To be or not to be sick-listed

The project is based on approximately 600 appointments in Örebro primary health care, where sick-listing was a possible option. The physician and the patient each gave their view of what factor were of importance for the outcome, to be or not to be sick-listed. In the first report, physician related factors were analysed. Age, a long professional career, part-time work and participation in the seminars held by the Social Insurance Agency all increased the probability of sick-listing [3]. In the second report patient related factors were analysed. One PhD student (Gunilla Normén) is involved in the project.

Physicians view of the sick-listing commission

The project is performed in collaboration between our research group, the Rehabilitation section of Department of Neuroscience, Uppsala University and the Social Insurance Centre at the Department of Clinical Neuroscience, Karolinska Institute. It is focussed on obtaining information on what view physicians take regarding patients' wish to be sick-listed and the duty as a society gate keeper to the social insurance system. Deep interviews and postal questionnaires will be used. Two groups of physicians, general practitioners and orthopaedic surgeons, will be approached. The project led by Rolf Wahlström and financially supported by the Social Insurance Centre and Uppsala University. One PhD student (Malin Swartling) is involved.

Muskuloskeletal disease

Kurt Svärdsudd and Stefan Blomberg

The Säter and Gotland studies

The projects are based on two randomised controlled clinical trials of manual therapy (orthopaedic medicine therapy) versus traditional treatment (traditional physiotherapy and own physical activities) with the aim to assess if manual therapy in addition to own activity affects the pain level, use of analgesic drugs and return to work better than traditional physiotherapy. The two trials had a somewhat different design. In the Säter study the manual therapy was performed by one therapist and primary health care performed the control treatment. In the Gotland trial general practitioners trained in manual therapy performed the manual therapy and orthopaedic surgeons the control treatment. In both trials those who got the manual therapy had a faster return to work, had less sick-listing and used less analgesics [4][5].

In the Gotland trial pain drawings are tested for their clinical value as predictors of pain course [6] and the nomenclature used by different physician categories for the same pain condition [7]. One PhD student (Stefan Blomberg) graduated in the project and another two (Johan Bogefeldt and Marie Grunnesjö) are involved. The projects are financially supported by Stockholm Stay-Active Clinic, the Province of Gotland, and Uppsala University.

Epicondylitis

Tennis elbow (epicondylitis) is a common pain condition that in 90% spontaneously heals within three months. In the remaining 10% the condition becomes "chronic" or persistent and then changes name to epicondylitis. This project has three main purposes, to map treatment methods currently

used in primary health care, to test a new treatment method, and to shed some light on the pathophysiology of the condition.

The first purpose was fulfilled by a postal questionnaire study involving general practitioners and physiotherapists showing that a large number of methods were used, some of which had been shown ineffective [8]. The second purpose will be fulfilled by a randomised controlled clinical trial in which the effect of two treatment methods (eccentric and concentric training) are compared involving more than 200 patients in a multicentre setting in Uppsala and Linköping. The trial is still on-going.

The third part of the project is a study of the pathophysiology by obtaining tissue specimen from the health and the affected elbow for microscopic and histochemical investigation (Uppsala and Halmstad) and positron emission tomography (PET) of the health and the affected elbow. The PET scan data are almost analysed and a report is under way. One PhD student (Magnus Peterson) is involved, and the project is financially supported by the Medical Research Council, PET Centre, and Uppsala University.

Cognitive behavioural therapy in fibromyalgia

The project, which is performed in collaboration with the sections of Social Medicine and Caring Sciences in our department and the section for Biological Research on Drug Dependence at Uppsala University, is a randomised controlled trial of cognitive behavioural therapy (CBT) in fibromyalgia where the purpose is to assess the effect of CBT in this condition. Fifty women with a fibromyalgia diagnosis in Northern Uppland were randomised to one of two groups, where one received CBT for one year with the other group as control. After one year the control group also received CBT. A large number of variables have been collected through questionnaires and blood samples. The data are now being analysed. One PhD student (Bo Karlsson) is involved and the project is financially supported by Uppsala University.

Subcutaneous injections of sterile water or saline solution in fibromyalgia tenderpoints

Previously a number of therapies have been tried with doubtful or only short-term effect in fibromyalgia. However, subcutaneous injections of small amounts of sterile water in other pain conditions have been shown to decrease pain with variable effect duration. Moreover, there are two prevalent hypotheses of the origin of the fibromyalgia pain syndrome, both hypotheses predicting influence on the nociceptor (causing the tenderpoint) of for instance substances with osmotic effect or mechanical irritation. In two pilot studies we could show that injections of sterile water were more effective than those of saline solution. In collaboration with the Clinical Chemistry and Immunology laboratories at Uppsala University Hospital and the section for Biological Research on Drug Dependence at Uppsala University we now perform a full-scale randomised controlled clinical trial of subcutaneous injections of sterile water versus saline solution in 60 women, half of them randomised to water and the remaining to saline solution. In addition blood samples have been taken for neuropeptide measurements. The project is financially supported by the Medical Research Council and Uppsala University.

The VIP study

Mari-Ann Wallander, Kurt Svärdsudd and Karin Björkegren

The project is a postal questionnaire based case referent study of 150 women in Uppsala County diagnosed for fibromyalgia (cases) and 750 matched reference persons from the general population. The purpose of the study is to compare cases and referents regarding psycho-socio-economic status, symptom reporting, and prevalence of functional gastrointestinal problems. This is the first controlled study in the world of symptom reporting among fibromyalgia patients showing that a considerable proportion of the fibromyalgia patients report not only traditional fibromyalgia

symptoms but also high frequencies of other symptoms. This has not been shown earlier. A first report has been submitted for publication [9].

Asthma, allergy and COPD

Gunnar Johansson and Kurt Svärdsudd

A national study of the health in children in allergy avoidance and conventional day care centres in Sweden

The project is a national study of the health in preschool children regarding asthma and various types of allergies, and of their home and school environment. The main purpose is to assess if special allergy avoidance day care centres would improve the situation for allergic children. All such existing day care centres in the country were identified and for each such centre two ordinary day care centres in the vicinity were chosen as controls, in total 593 day care centre sections. All these sections received a postal questionnaire regarding the physical environment of the school, cleaning routines, rules regarding smoking and having pets at home. A first report showed a considerably less allergogenic environment in the allergy avoidance centres than in the control centres [10]. Later a postal questionnaire about the children's health situation and home environment was sent to the parents of the 8700 children in the allergy avoidance and control centres. All children who had signs of asthma in the returned questionnaires received a symptom diary to be filled in during two weeks in order to get a better measure of asthma severity than was possible in the questionnaire. In early 2007 a follow-up questionnaire similar to the first one is being sent out to the parents.

The first results from the big questionnaire are focussed on providing a reliable age and sex specific prevalence. Several earlier studies have been presented but they have been regional, local or small. We have computed one-year age class prevalence for boys and girls using five diagnostic criteria. Using physician based criteria there are large regional prevalence differences, whereas physician neutral criteria show no regional differences. One PhD student (Kristina Bröms) is involved and the project is financially supported by Vårdalstiftelsen, the Asthma and Allergy Patient Foundation, Uppsala University, and a number of smaller funds.

The AIM study

In this project the asthma treatment in adults in the 240 primary health care centres in the Uppsala-Örebro Health Care Region is investigated. The purpose was to assess the proportion of centres with special asthma clinics [11]. Less than half had a complete asthma clinic based on the national criteria, approximately one third had an incomplete clinic and the remaining had none.

Then a random sample of approximately 1100 patients from the 240 centres was drawn and a questionnaire regarding socio-economic background, asthma symptoms, treatment quality of life, etcetera, was sent. Two reports have been published showing a strong association between perceived quality of life and the asthma disease control [12] and quality of life and severity of asthma [13]. An analysis of the asthma severity and its determinants is under way.

The project is led by Gunnar Johansson and is financially supported by the Cooperation Council of the Uppsala-Örebro Region, and Uppsala University. Two PhD students (Karin Lisspers and Björn Stållberg) are involved.

The ALMA study

The ALMA project ("Att Leva Med Astma") is a national study of the limitations that the asthma disease conveys. The project was performed by a national project group as a telephone interview study in a random sample of 10350 men and women nationwide, of whom 240 later were subjected

to an in depth interview. Moreover, a postal questionnaire was sent to a random sample of general practitioners. It was found that asthma patients generally had more symptoms than their general practitioners were aware of [14]. One PhD student (Björn Stållberg) is involved in the project which is now concluded.

Asthma during childhood and adolescence

The project is based on a series of measurements in 150 school children in a small municipality. The purpose was to evaluate the course of asthma with onset in childhood. A first report has been published [13] showing a decreased prevalence across age, and another one is under way. One PhD student (Björn Stållberg) is involved in the project, which is supported by Trosa municipality.

Asthma treatment practice

This project is a study of asthma treatment practice at the 240 primary health care centres and 11 lung disease departments in the Uppsala-Örebro Health Care Region. A random sample of 1100 patients from these health care units was drawn and their medical records have been obtained. The records are now being scrutinised for the purpose to assess the proportion in which the national quality of care criteria (similar to the GINA criteria) are followed. The data collection is finalized and the scrutiny is now being done. The project leader is Gunnar Johansson and two Phd students (Karin Lisspers and Björn Stållberg) are involved in the project, which is financially supported by Cooperation Council of the Uppsala-Örebro Region, and Uppsala University.

Utilisations of pharmaceuticals

Mari-Ann Wallander, Annika Bardel and Kurt Svärdsudd

Women's utilisation of pharmaceuticals

The project is based on a postal questionnaire sent to a random sample of 4200 women in the Uppsala-Örebro region, 35-64 years old. The purpose of the project is to study utilisation of pharmaceuticals among women. In a first report the pharmaceutical panorama and the diseases for which the drugs were given was presented [15]. In a second report the use of hormone replacement therapy at menopause and symptoms reported by users and non-users was presented [16]. In a third report adherence to prescribed drug and its determinants were presented [17]. The adherence increased with age, if a reappointment was scheduled, if the disease was serious or the drug necessary, while the adherence decreased if the respondent had negative feelings about the safety of the drug. In a fourth report the symptom prevalence across age and use of pharmaceuticals will be presented. The project leader is Mari-Ann Wallander and one PhD student (Annika Bardel, disserted in 2007) is involved that is supported financially by Vårdalstiftelsen and Uppsala University.

Rational drug prescribing

The project is based on the registration of prescribed pharmaceuticals in Storstrøms Amt, Southern Denmark. Ninety four general practices participated in the project. The purpose is to study factors leading to a rational drug prescribing. In the first report prescription data for the 94 practices (DDD/1000 listed patients for 13 drug groups) was abstracted from the database. Every six months for seven years a letter was sent to all practices where their level of prescription in relation to all practices was indicated. A report is now to be finalised.

In a second part of the project a trained general practitioner visited all practices twice with a one-year interval. During the visit the general practitioners were asked to indicate their level of

prescription in relation to all other practices. After the first visit the responses were no better than chance, but significantly better on the second occasion. A report is under way.

In the third part of the project the 94 practices were randomised to two groups. One became the intervention group and the other one control group for intervention directed against prescription of antibiotics (ATC group J). The groups were interchanged regarding intervention against prescription of relaxants (ATC group M and N). The same general practitioner as in part 2 visited regularly the 94 practices and discussed the use of antibiotics in half of the practices and the use of relaxants in the other half. The effect on prescriptions was followed by register data. This part of the project is not finalised. One PhD student (Keld Vaegter) is involved and the project is financially supported by Storstrøms Amt and Uppsala University.

Cardiovascular disease and diabetes

Kurt Svärdsudd, Marianne Omne-Pontén, Jan Cederholm, Dan Andersson, Jan Stålhammar, Margaretha Eriksson

The impact of birth weight

This project is a recently finalised study of the impact of birth weight on the prevalence of cardiovascular risk factors, and the incidence of cardiovascular disease, diabetes and prostate cancer. The study population consisted of 1800 boys born in Gothenburg in 1913, of whom a fraction participated in the Study of Men Born in 1913. Birth weights and other obstetric data were retrieved from various archives. The boys were followed regarding survival until age 85. For a fraction (the Study of Men Born in 1913) screening data were available from several occasions. In a first publication a quality control of the collected data was performed indicating sufficient quality for scientific use [18]. In a second report an inverse relationship between birth weight on the one hand and adult blood pressure and serum cholesterol on the other [19]. However, no relationship to adult myocardial infarction incidence, death from cardiovascular disease or death all causes [20]. Moreover, there was a curvilinear relationship between birth weight and adult diabetes incidence, with high incidence levels among those with a low and those with a high birth weight. Finally, a direct relationship was found between birth weight and adult prostate cancer incidence [21]. Barker's hypothesis of intrauterine priming could thus be verified in certain aspects but not in other. One PhD student (Margaretha Eriksson dissertated in 2005) was involved in the project that was supported financially by the Medical Research Council, Heart-Lung Foundation and Uppsala University.

Morbidity and mortality among diabetes patients

The project is based on the 1500 diabetes patients in the Tierp Health Care Database during the years 1976-1994 and a matched control group of 4500 persons from the population register. The Tierp Health Care Database is a longitudinal registration of all visits to the Tierp Health Care Centre, the only one in the area. The purpose of the project was to test the hypothesis that the aggressive diabetes treatment with a better metabolic control during recent years might have improved the survival outlook for diabetes patients. The final report is now being prepared. Preliminary data indicates that the diabetes patients have had less decline in mortality rate than the general population. One PhD student (Jan Stålhammar) has graduated in the project, which was supported by the Medical Research Council and Uppsala University.

Determinants for the survival of diabetes patients

The project is based on the 800 diabetes patients followed and treated at Laxå Primary Health Care Centre since 1972 and approximately 4000 referents from the general population matched to the

cases by age, sex, and year of onset for the diabetes patients. The purpose is first to see if the diabetes patients have had the same decline in mortality rate as the general population, and secondly, to evaluate determinants for survival among the diabetes patients (blood glucose, blood pressure, blood lipids and others). The data collection is ongoing. The project leader is Dan Andersson and one PhD student (Stefan Jansson) is involved in the project, which is supported financially by Örebro University and Uppsala University.

The National Diabetes Register

The National Diabetes Register, now covering 100% of all hospitals and approximately 50% of the primary health care in the country, forms the base for this project. One of our senior researchers (Jan Cederholm) is engaged in the research of the dataset [22-30].

Metabolic control in diabetes patients

The project is a large-scale study of all diabetes patients in Uppsala County during a long time period, approximately 10000 patients, and based on data collection in all electronic medical records in the 30 primary health care centres in Uppsala county. The data set includes not only diagnosis but also lab-data, drug treatment, etcetera. The purpose is to analyse the influence of the change of treatment attitude during recent decades on metabolic control variables and a number of other factors. The project leader is Jan Stålhammar. One PhD student (Mats Martinell) is involved in the project which is supported by the Primary Health Care in Uppsala and Uppsala University.

SUPRIM

The project deals with secondary prevention after a coronary heart event and is a randomised controlled clinical trial of two prevention concepts, optimised risk factor control and behavioural modification. The study population consists of approximately 400 patients discharged from Uppsala University Hospital to their general practitioners who were cross randomised according to a factorial design. First, their general practitioners were randomised into two groups, one receiving education in optimal risk factor control, the other was left to the market information. The patients in each of these two groups were then cross-randomised into behavioural modification or no modification. The patients thus belong to one of four groups, optimal risk factor control, behavioural modification, optimal risk factor control, no behavioural modification, no optimal risk factor control, behavioural modification, no optimal risk factor control, no behavioural modification. The factorial design allows evaluation of the two concepts separately.

After a baseline examination right after discharge the patients have been followed with new examinations every six months for 30 months, where the risk factor levels have been measured, a nutritional examination has been done twice, a video interview has been done twice to measure the effect of the behavioural modification programme and a large number of psycho-socio-economic variables have been measured by questionnaire. The trial is now about to be concluded. The first publication where the patients' psycho-socio-economic situation is compared with about 1000 age-sex-living are matched referents, showing that not only disease status but also gender seems to be strong determinants for well-being after a coronary event [31]. One PhD student (Mats Gulliksson) is involved in this project which is supported by the Medical Research Council, FAS, Vårdalstiftelsen, the Social Insurance Agency, Uppsala University and a number of other funding agents.

Secular trends in myocardial re-infarctions

The project is performed in collaboration with Epidemiology Centre (EpC) at the National Board of Health and the Cardiovascular Epidemiology Group at Sahlgren's Academy, Gothenburg. It is based

on the National Myocardial Infarction Register at EpC, which contains all incidents of myocardial infarction since the early 1970s, in total some 1.1 million incidents. The purpose is to study the risk for myocardial re-infarctions during the years following a first infarction, and how this risk has changed over the years. A first publication is to be finalised and shows that the risk for a new event decreases rapidly during the first year after an event, has its lowest level after five years and then slowly increases. When the risk is at its lowest it is almost indistinguishable from the risk to have a first event. Over the years the risk function for a new event was fairly stable but from 1980 and onwards it has been declining, indicating that the risk for a new event irrespective of the time frame from the first event has gone down considerably. One PhD student (Mats Gulliksson) is involved in the project, which is supported by EpC and Uppsala University.

Damaged brain and susceptible life

The project is a one year long follow up of all 390 stroke patients discharged from Falun Hospital during a specified period of time, and who before the admission were living in their own home. At discharge the staff were asked to indicate their view of the patient's prognosis. The patients were followed with an interview at home immediately after discharge, and after 3 and 12 months. On the same occasion a close relative responded to a matching questionnaire. Furthermore, all health care utilisation at hospital, primary health care and municipality social service and the caring efforts of close relatives have been recorded.

In the first publication the prognostic ability of the staff was analysed. The prognoses were given regarding health development, need of help and living as three alternatives (better, unchanged or worse). The prognoses were correct in 67%, much better than chance (33%) [32]. Currently an evaluation of care utilisation during the first year is analysed. One PhD student (Lena Olai) is involved in the project, which is supported by Vårdalstiftelsen, Dalarna County Council and Uppsala University.

Screening for diabetes and hypertension in the Dental Care Service

The dental service is the only clinical area where patients on a large scale come for health check-ups without having symptoms. This project deals with the possibility to use the dental health service as a screening function for high blood pressure and diabetes. The purpose is to evaluate to what extent new diabetes or hypertension cases that were not known previously in the health care may be detected. Three dental services in Gävleborg County in places with only one primary health care centre measured blood pressure and blood sugar in all patients attending the service, approximately 2000 patients. All patients who had blood pressure or blood sugar above preset levels were referred to the primary health care centre for evaluation. Data from these units covering the referred persons the three preceding and three following years were obtained to find out whether the referred person was already known or, if not so, if he or she came for evaluation and if so if he or she got a diagnosis. A first publication based on a pilot study shows a strong relationship between high blood pressure and the prevalence of deep gingival pockets [33]. One PhD student (Sevek Engström) is involved in the project which is financially supported by Gävleborg County Council, Dental Service Gävleborg and Uppsala University.

Varia

Kurt Svärdsudd and Lars Englund

Infections in the elderly

The purpose of the project is to find out if asymptomatic bacteriuria in old people should be treated or not. The project is based on all persons 80 years or older in a district of Falun. In a first publication the prevalence of asymptomatic bacteriuria was measured by means of urine cultures [34,35]. The condition was common. After six months a new culture was done. Analysis of the data is under way. The Project leader is Lars Englund and one PhD student (Nils Rodhe) is involved in the project, which is financially supported by Dalarna County.

Psychiatric secondary prevention – Case management

The project is focussed on psychiatric secondary prevention. The purpose is to find out if case management in psychiatry reduces the risk of readmission to hospital. Case management using managers from outside the health care has been tried earlier with moderate success. In this project we evaluated the effect of professional managers, i.e., psychiatric ward staff. All patients discharged from a psychiatric ward unit after at least three days in hospital and who agreed to participate (50 patients) were randomly allocated to one of two groups. One group was offered a case manager among the staff in the ward, while the other group was referred to an psychiatric out-patient clinic. The case manager contacted or met the patient regularly. Every third month questionnaire were filled in by the patient and the case manager. Also the control group sporadically was in touch with the managers. After one year the control group was offered a case manager while the former intervention group could go on with their contact on their own initiative. After one year the case manager group had significantly fewer re-admissions to hospital than the control group. The project leader is Lars Nilsson and the project is financially supported by the Social Insurance Agency, Karolinska Institute and Uppsala University.

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Undergraduate Teaching

Medical programme

- responsible for “Professional Development” on term 1-4
- responsible for the students practice in Family Medicine on term 6-7
- responsible for the students practice in Family Medicine on term 11

Registered Nurse Programme

- teaching on various levels

Centres and Facilities

Epidemiology Centre (EpC) at the National Board of Health, Stockholm

The Cardiovascular Epidemiology Group at Sahlgren’s Academy, Gothenburg

Social Insurance Agency

Centre for Clinical Research, Örebro County Council

Centre for Clinical Research, Dalarna County Council

Centre for Clinical Research, Gävleborg County Council

Centre for Clinical Research, Södermanland County Council

Geriatrics

Group leader Professor Lars Lannfelt

Dementia research

The dementia research unit was established in 2001 and is thus a relatively new research unit at Uppsala University. The two areas of research are:

1. Molecular studies of dementia
2. Clinical and epidemiological research in these disorders

We are using cellular- and transgenic mice models of Alzheimer's disease to better understand mechanisms of amyloid formation in the brain and to develop disease-modifying therapeutics. At present there is a growing interest within the research community of soluble amyloid beta (A β) peptides aggregate intermediates as being the main pathogenic species in Alzheimer's disease. In our transgenic mice we are evaluating the possibility that aggregation of A β peptides starts inside the nerve cells and our hypothesis is that large A β aggregates, e.g. A β protofibrils, are responsible for the neurotoxicity in Alzheimer's disease. We have developed monoclonal antibodies (mAbs) specifically recognising A β protofibrils to be able to immunologically study this A β species. Using the mAbs in an ELISA, we have enabled measurement of A β protofibrils in cellular models as well as in transgenic AD mice. In the future, biological tissue such as brain, CSF, plasma and fibroblasts from Alzheimer patients will be evaluated for A β protofibril content. If successful, our method can be developed and used for the early diagnosis of Alzheimer's disease and as a biomarker to monitor amyloid-directed therapies. We have also started to study passive vaccination with the conformation-specific mAbs against A β protofibrils as a therapeutic strategy in the transgenic mice. The ultimate goal is to use the A β protofibril specific antibodies both in early diagnosis and as therapeutics for Alzheimer's disease. The close contact between the laboratory and the Geriatric Clinic at Uppsala University Hospital facilitates the access of appropriate clinical samples. In a close collaboration with Prof. Ulf Lindahl we are also investigating the possibility of disease-modification of A β -amyloidosis by means of heparane sulfate proteoglycans (HSPGs). Transgenic and cell culture models are being used in these studies. In a recently initiated project we are trying to generate a transgenic model with more complete Alzheimer's disease neuropathology. The research is pursued using a broad repertoire of experimental approaches such as molecular biology, biochemistry, histology and behavioural analysis.

The research group is also involved in genetic analysis of dementia in human samples. This entails mutation screening and copy number studies of previously identified disease causing genes, as well as genetic mapping of previously not described genes with effect on dementia. For this purpose we have access to a large and well characterised collection of dementia patients and their relatives. Most patients have been diagnosed with Alzheimer's disease, but other forms of dementia are also represented. In addition we carry out association studies searching for susceptibility factors with influence on the risk of developing Alzheimer's disease.

We have recently initiated projects related to tau- and α -synuclein protein pathology. Tau is a protein that gets deposited in the brain as neurofibrillary tangles in a number of neurodegenerative disorders, including Alzheimer's disease and another dementia disorder,

frontotemporal dementia. Our research is focused on characterizing the aggregation process, with the aim of exploring potentially critical intermediary steps in this process. Also, we are studying how various isoforms and mutants of the tau protein, known to influence the disease process in frontotemporal dementia behave in an in vitro aggregation assay.

The α -synuclein protein is the principal component of Lewy bodies, intraneuronal protein deposits in disorders such as dementia with Lewy bodies and Parkinson's disease. We are describing early steps in the fibrillogenesis, with the aim to observe critical steps that can be developed as targets for new diagnostic and therapeutic approaches. This project is utilizing a combination of modern techniques, such as high-performance liquid chromatography (HPLC), cryo electron microscopy, circular dichroism and mass spectrometry.

Clinical research

The clinical research unit has recently been built and is currently categorizing dementia patients clinically, neuropathologically and through a tissue bank that include DNA, CSF, plasma, serum, fibroblasts and brain tissue. Longitudinal studies of Alzheimer's disease and frontotemporal dementia are carried out in collaboration with Uppsala PET-center, especially using the newly developed amyloid-binding ligand PIB. These investigations were initiated the last year.

Population based investigations have been performed on samples from the Uppsala Longitudinal Study of Adult Men (ULSAM). We have recently measured $A\beta$ in plasma in this cohort and evaluated its predictive value for the development of Alzheimer's disease. Insulin-resistance at age 50 has also been used as a predictor of the development of Alzheimer's disease at 82 years of age. Another population based collection of AD patients and healthy controls have been collected, in which to carry out replication studies of genes that show significant association to Alzheimer's disease within ULSAM.

Immunotherapy is at present the most promising strategy for treating Alzheimer's disease and the interest for this approach is huge all over the world. Moreover, as the mechanisms of many neurodegenerative disorders are thought to centre around protein misfolding and aggregation and thus to some extent similar to Alzheimer's disease, immunotherapy is thought to be promising also for other dementia disorders as well. We are collaborating with a number of, national and international, research groups (listed below) in order to produce and evaluate antibodies for their possible immunotherapeutic effects both for Alzheimer's disease and other dementias.

The major aim for the dementia research group in the future is to establish immunotherapeutic strategies to treat dementia. By using our $A\beta$ protofibril specific monoclonal antibodies we hope to set up methods for early diagnosis of Alzheimer's disease and therapeutic intervention. Also the projects on tau and α -synuclein have great potentials. If successful, these lines of research may provide us with new targets for the development of both diagnostic and therapeutic approaches for frontotemporal dementia, dementia with lewy bodies and Parkinson's disease, disorders for which there are today no therapies directed against the disease pathogenesis.

The close contact with the Geriatric Clinic provides access to unique well characterized human clinical material. Moreover it gives us opportunities for the collection of samples from rare families with monogenic forms of dementia where previously unknown dementia genes can be discovered.

Type 2 Diabetes Mellitus, Obesity and Coronary Heart Disease, Cohort and Case Control Studies.

Björn Zethelius, associate professor.

The project analyze the importance of genetic determinants and their associations with phenotypes, i.e. quantitative traits such as proinsulin and insulin secretion and action and their possible interactions in relation to hard endpoints type 2 diabetes (T2DM) and its associated complication coronary heart disease (CHD) adjusting for possible modulating effects of lifestyle factors and established CHD-risk factors using phenotype data from investigations in three large epidemiological studies including the ULSAM, the PIVUS and a case control study. Also clinical studies on obese subjects after bariatric surgery are performed. Two important recent findings in ULSAM were that proinsulin predicted the development of T2DM, and that proinsulin and cTnI, respectively independently predicted CHD. The study enabled us to study the impact of proinsulin and insulin resistance on hard endpoints (T2DM, and CHD). Genotype variation (SNPs, Uppsala SNP-genotyping platform) are analysed in relation to quantitative traits and hard endpoints in investigatory and replicatory studies using the three epidemiological study samples. A large number of individuals at high risk of developing T2DM and CHD and functional gene variants having known mechanisms to cause T2DM and CHD and gene-environment interactions will be evaluated. Proinsulin and insulin secretion dynamics will be studied in obesity and after three types of bariatric surgery, totally, partially or not by-passing the stomach. Further optimizing of statistical methods for replication studies, correcting for regression dilution bias, are performed.

Studies on Motor Functioning and Health of the Elderly

Anna Cristina Åberg, adj clinical lecturer

The research in this field is aimed at investigations of motor functioning and physical activity in relation to health among elderly people. This implies that both quantitative and qualitative methodologies are combined and complementarily used. This area includes methods development of clinical and laboratory based assessments of motor function, as well as studies on associations between motor function and subjective health aspects, in particular life satisfaction and fear of falling. The research is mainly directed towards elderly with a need for rehabilitation due to multiple diseases/functional limitations, and those with specific neurological or neurodegenerative diagnoses, such as stroke or Alzheimer's disease.

Members of the group during 2005-2007

Researchers

Professor Hans Basun, associate professor Björn Zethelius, associate professor Lars Nilsson, senior lecturer Lena Kilander, Maria Lindau, Martin Ingelsson, Frida Ekholm-Pettersson, Vilmantas Giedraitis, Xiao Zhang, Anna Glaser, adj. clinical lecturer Anna Cristina Åberg and PhD students, Technicians and other participating in the research: approximately 15 persons.

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Reviews 2005-2007

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1. **Charlotte Sahlin**, Pathogenic mechanisms of the Arctic Alzheimer mutation. Doktorsavhandling 2007-03-23; ISBN 978-91-554-6806-4
2. **Ann-Sofie Johansson**, Amyloid- β Protofibril Formation and Neurotoxicity: Implications for Alzheimer's Disease, Doktorsavhandling; 2007-04-13; ISBN 978-91-554-6827-9
3. **Christina Ström-Möller**, The resting electrocardiogram and risk for cardiovascular disease. Doktorsavhandling 2006-12-08. ISBN.

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Health Services Research

Group leaders: Inger Holmström & Ulrika Winblad Spångberg

Health services research is interdisciplinary, as the research theories and methods used have their origins in many different scientific disciplines. The researchers as well have very different backgrounds, such as psychology, medicine, nursing, political science and economy. There are many approaches to health services research. Some of these approaches are represented in present research projects at the Department for Public Health and Caring Sciences as follows: One approach is to study the health care system from the view of the individuals involved, for example, doctors, medical care personnel, students and patients. This approach focuses mainly on how the medical caring personnel understand their work, and how their professional competence develops and can be influenced by education and professional guidance. Another approach is the study of political, administrative and medical decision making process. Studies presently in progress with this approach focus on management of different political reforms in health care.

Members of the group during 2007

Inger Holmström, associate professor, group leader

Ulrika Winblad, PhD, vice group leader

Cecilia Bernsten, associate professor

Ingeborg Björkman, PhD

Madeleine Boll, PhD student

Eva Boström, PhD

Annica Ernesäter, PhD student

Mio Fredriksson, PhD student

Nils- Olof Hedman, PhD student

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Ulrika Jönzén, project assistant

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Dorte Kjeldmand, PhD

Jan Larsson, PhD

Margareta Sanner associate professor

Ragnar Stolt, licenciate

Marta Röing, PhD

Aniko Veg, PhD

Publications 2005-2007

1. **Björkman I, Bernsten C, Sanner M.** Care ideologies reflected in four conceptions of pharmaceutical care. (Accepted)

2. **Winblad U**, Ringard Å. "Meeting Rising Public Expectations. The changing roles of patients/citizens". I: Magnusson J, Saltman R, Vrangbaeck K (eds.) Nordic Health Reform, WHO European Observatory, (forthcoming 2008).
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4. Höglund, A., **Holmström, I.**, "It's easier to talk to a woman" – aspects of gender in Swedish telenursing. *Journal of Clinical Nursing*, in press.
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Gävleborg County Council
Mid Sweden University

Research Projects

Below follow projects related to the *first line of research* in the group: to study the health care system from the view of the individuals involved, for example, doctors, medical care personnel, students and patients. We have a special interest in patient-centred care.

Anaesthetists' experiences of difficulties at work

Participants: Jan Larsson, Inger Holmström, Urban Rosenqvist

Trainee anaesthetists often feel insufficient at work and are exposed to much stress, whereas many specialist anaesthetists report being content with their job. Trainees would benefit from understanding how their senior colleagues have learned to live well at work. The aim of this study was to examine how experienced anaesthetists handle and cope with situations that can be perceived as difficult and that are potentially stressful. Two sets of interviews were performed with 19 anaesthetists. The first set consisted of in-depth interviews focussing on how the interviewees experienced difficulties at work. In the second set the interviews were semi-structured with questions based on themes found in the first set of interviews and focussed on how the anaesthetists handled different kinds of difficulties. The first set of interviews resulted in five themes: A) anaesthesiology as an inherently difficult work; B) ethically difficult decisions; C) hard working conditions; D) disrespect from surgeons; and E) no external obstacles to doing a good work. The second set of interviews showed two categories of ways of handling difficult situations at work. The first category focussed on problem solving, on how to act in medically complex situations or in situations with acute work overload. The second category consisted of appraising difficult situations in ways that would convert them from threats to challenges, even if the actual problems could not be solved. It is a task for teachers of anaesthesiology to help trainees to develop into anaesthetists who know how to live well at work. Many experienced anaesthetists have developed highly functional ways of handling different kinds of difficulties. Getting access to these coping strategies might help young anaesthetists to come to terms with their work.

Towards improved medication Use: Increasing understanding of professional efforts

Participants: Ingeborg Björkman, Cecilia Bernsten, Inger Holmström, Margareta Sanner

Pharmacists are developing new professional roles and try to find methods to counsel patients/pharmacy-customers. However, pharmacists develop different tools and seem to perceive their role in different ways. Two studies were designed; 1) to explore similarities and differences in four classification systems for drug related problems (DRPs) and 2) to study how pharmaceutical care was perceived. In the first study patient cases with DRPs were reclassified by using four different classification systems. Similarities and differences in the four classification processes were

noted and analysed. In the second study four central figures representing each of the pharmaceutical care perceptions were interviewed. In both studies a qualitative method inspired by grounded theory was used. The processes to classify DRPs were different and thus the systems had different functions. The patients were given different roles in the different perceptions of pharmaceutical care. One perception was based on a patient-centred ideology and the others on the ideology expressed in evidence-based medicine. A third study was aiming to explore the attitudes among pharmacy personnel to public health work and to their new roles. The work at community pharmacies today includes both the dispensing of medication, giving information on how to use medication, helping customers to treat minor ailments, and lately also to promote a healthy lifestyle. Texts from 8 focus group discussions held in the years 2004/05 were analysed by a qualitative inductive method. Five themes were identified - "Public health work includes pharmacy activities"; "Apoteket AB (the employer) sets the working framework", "Positive feelings dominate", "Traditional pharmacy challenged", and "Need of change and support". A fourth study was based on the fact that the level of antibiotic resistance (AR) relates to the level of antibiotic use and the choice of antibiotic preparations. The aim of this study was to explore perceptions among hospital physicians of prescription of antibiotics in relation to the threat of AR. Twenty hospital physicians of three different specialities were interviewed (in year 2006) and the texts were analysed by phenomenographic method.

DruGs and patient behaviour – the influence of organizational and professional actors

Participant: Cecilia Bernsten

How people use and do not use medicines have been highlighted since the beginning of the 1980:s. Drugs do not work if people don't take them has been a mantra of those researchers investigating how patients comply with directions given by a prescriber. Throughout the years compliance has been replaced by notions such as adherence and coherence, moving the act of compliance from blind obedience to a state of agreement between the professional health care worker and the patient. Recent research has pointed to the importance not only of trust between the two actors but also to the importance of mutual understanding and agreement in actions to be taken. Still there is much research that needs to be done in the area of why drugs are being taken in the way that they are and how to change unwanted behaviour. These two issues both have to do with human behaviour, structure and organizational factors and thus have to be researched using methods and theories from behavioural and humanistic sciences. Social pharmacy research and pharmacy practice research form the surrounding framework. The aim of this research is to investigate, describe and analyze patients' and pharmacy customers' drug use behaviour and the factors influencing this behaviour. Randomized clinical trials with interventions as well as mapping of behaviour have been used to study the different phenomena in question. Quantitative as well as qualitative data collection and analyse methods have been used.

The perceptions among DTC key persons reveal an ongoing development of the role of the DTCs, including a more complex notion of the DTC goals and strategies (The trend was to focus both on improving economic and quality aspects of medication use and to consider new target groups for DTC activities. Patients were considered, but involving patients as subjects was not a major concern. The results also show that different ways to perform Pharmaceutical Care have been developed based on different care ideologies, e.g patient-centered ideology and EBM, which includes a biomedical understanding of health. In another study it was shown that a large proportion of older people living in the community have difficulties with Medication Management (MM). A fairly large proportion of older people were not able to open three different kinds of medicine containers. A large proportion among those that did not manage to open the containers did not receive help with their own medications. Also, results from a (more comprehensive) MM test correlated poorly to the self-reported ability to manage medications. In the study it was also shown that there are older people that experience difficulties when swallowing medicines and that these people took a larger volume of tablets than others. In a study of necessary counselling in community pharmacy it was

shown that 16 % of the patients were not asked necessary questions nor received necessary information when purchasing their prescribed medicine at a community pharmacy. Counselling was affected by type of drug, staff education and age, number of waiting customers, type of pharmacy and time of day. It is clear from the results that there are many factors influencing patients' and customers' drugs use behaviour. There is room for improvement when it comes to pharmacist, and other health care workers performance. A change towards a more patient-centred perspective would probably lead to a better use of medications and probably to a decrease in drug related morbidity.

GPs and emergency care physicians' views on their role in drug prescribing

Participants: Inger Holmström, Urban Rosenqvist

This is a PhD project run in collaboration with the Karolinska Institute. Using qualitative methods, we have investigated emergency physicians' expectations of a computerized drug prescribing support system before it was implemented. The expectations were high and the physicians were eager to use it.

However, in a further study we found that they did not use it in practice due to practical problems and lack of integration of systems. In addition, they did not find it as their task to adjust the patients' drug list. Their focus was on the "here and now" and they only dealt with obvious side effects or well known interactions. In their view, other aspects of drug use should be handled by the patients GPs. When we studied the GP's view on drug prescribing, they had five different views of it. Only a few had the patients' entire life situation in focus, and a particular difficulty was the use of drugs to prevent future diseases. Aspects of environmental effects of drugs and economy were also mentioned. Drugs should be prescribed in a safe and effective manner. Decision support systems were not an integrated part of their drug prescribing work. Instead, they leaned on personal experiences and discussion with colleagues.

Competence of Physiotherapy – does it change in new working contexts?

Participant: Madeleine Boll, Eva Boström, Urban Rosenqvist

The purpose of the project is to describe ways of understanding and approaching physiotherapy by interviewing professionals who no longer work with individuals but with groups or organisations. In Study I six physiotherapists now working on organisational levels in health care organisations have been interviewed about their understanding of their work, both when working with patients and within an organisational context. In Study II seven physiotherapists in primary care working with health promotion in compulsory schools have been interviewed. The aim of this study is to describe their understanding of their job in a new context. Qualitative methods have been used in the two studies.

Telenursing in SWEDEN: can competence and safety be developed?

Participants: Annica Ernesäter, Elenor Kaminsky, Inger Holmström, Urban Rosenqvist

During the last years centralization of telenursing services has occurred in Sweden with a national telephone number for the entire country. In connection with this, the use of computerized decision support has increased. Hence, two studies have focussed on telenurses' experiences of working with computerized decision support from different angles. Qualitative methods were used to analyse interviews with telenurses. One analysis resulted in three main categories and two formed a theme: *Being strengthened, but simultaneously controlled and inhibited*. The content of two of the main

categories which formed the theme were latent, allowing interpretation of the content into a theme. The decision support was perceived to be incomplete and lacking information, and not fully adapted to telenurse's way of working. Yet it was a useful tool that provided a sense of security.

In another study we investigated the variation in ways of understanding work among a group of Swedish telenurses. Data from 17 interviews telenurses was analyzed using a phenomenographic approach. Five different ways of understanding work were identified: (1) Assess, refer and give advice to the caller. (2) Support the caller. (3) Strengthen the caller. (4) Teach the caller. (5) Facilitate the caller's learning. The first way can be seen as a base for the work of telenursing, the second has components of traditional caring and the third is a coaching function. In the fourth way the work of telenursing contains a teaching component, but having the caller's learning in focus is only expressed in the fifth way. Telenurses who expressed the fifth way included all other ways of understanding found. No new categories emerged in the new interviews. The categories can be seen as a telenursing workmap. They are all valuable and can be used for reflection, to expand the understanding of work, when developing tomorrow's telenursing profession.

We have also studied ethical dilemmas and gender related problems in Swedish telenursing. Both these aspects seem to be common in day-to-day clinical practice of telenursing. Ethical dilemmas concerning patients' autonomy and integrity were common, and cross-cultural encounters were highlighted as particularly challenging due to the new multicultural Swedish society. Priority setting between caregivers might put additional strain on telenurses. Regarding gender aspects telenurses found it easier to talk to female callers, as they were perceived to be more submissive and take on a "wait-and-see" advice. Male callers were experienced as being more aggressive and not as trustworthy in their parental role.

Understanding Oral Cancer – A Lifeworld Approach

Participants: Marta Röing, Inger Holmström

Dental involvement with oral cancer patients during their treatment and rehabilitation can be long and intense. How can dental personnel better understand their role in the treatment of these patients? How does treatment affect the patients and their spouses? In searching for answers, the theories of phenomenography, phenomenology and hermeneutics are used to describe and interpret the experiences of the hospital dental treatment teams, oral cancer patients, and their spouses.

Study I reveals that hospital dental treatment teams perceive the encounter with head and neck cancer patients in three qualitatively different ways; as an act of caring, as a serious and responsible task, and as an overwhelming emotional situation, indicating that they are not always able to lean on education and professional training in dealing with situations with strong emotional impact. Study II gives insight into the lifeworld of oral cancer patients, and how the patient becomes embodied in a mouth that is increasingly 'uncanny', as it slowly ceases to function normally. Study III shows that oral cancer puts a hold on the lifeworld of the patients' spouses which can be described as 'living in a state of suspension'. These findings suggest that the support needs of patients and spouses appear to be greatest at treatment end, when, upon returning home, they are faced with the accumulated impact of the patients' sickness and treatment. Study IV gives insight into what it may mean to live with the consequences of oral cancer, revealing a silent physical, emotional and existential struggle to adjust to a changed way of living.

These studies raises the question if today's organisation of oral cancer care can meet the varying emotional and existential needs of treatment teams, patients and spouses that were brought to light.

Balint groups for general practitioners – a means of developing new understanding in the physician-patient relationship

Participants: Dorte Kjeldmand, Urban Rosenqvist, Inger Holmström

The general practitioner has a central position in the health care system, but demands have increased and there are signs of exhaustion in the corps. Patient-centredness is beneficial for patients and probably for the outcome of health care, but patients are dissatisfied with their encounters with physicians. In Balint groups general practitioners study and gain further understanding of the physician-patient relationship by reflection on their own experiences. A patient-centred view is inherent in the Balint method. The study aims at exploring effects of Balint groups as experienced by members and leaders.

General practitioners with and without Balint group experience are compared by means of a questionnaire, using statistical methods. General practitioners with Balint group experience are interviewed. Balint groups are viewed critically in interviews with Balint group leaders, with focus on difficulties and dropouts from the groups.

The study shows positive experiences of Balint group participation in the physicians' working life in terms of feeling of control and satisfaction, and in relations to patients, particularly patients with complex problems. Balint groups are found to fit into modern theories of small groups as complex systems, submitted to group dynamics that are sometimes malicious. Professionally conducted Balint groups seem to be a gentle, efficient method to train physicians, but with limits. Participation of a member demands a stable psychological condition and an open mind, and obligatory Balint groups are questioned.

The study concludes that Balint groups are generally beneficial for general practitioners' working life as a means to enable the physicians to endure, even thrive in their job. The method facilitates development of new understanding of the physician-patient relationship with possible positive effects for the patient as well.

Understanding life after stroke

Participants: Finn Hjelmblink, Cecilia Bernsten, Margareta Sanner, Inger Holmström, Urban Rosenqvist

Qualitative methods based on different theories are used to investigate the meaning of stroke and subsequent rehabilitation to 19 stroke survivors. The essence of the meaning of stroke to those who postponed treatment was: *Need of not giving up control*. Three themes made up this structure: *Acting as if nothing has happened*, *Need of control of decision-making*, *Need of being emotionally met as persons, not patients in consultations about stroke*. Health care information has to convey the notion that emergency care of early stroke symptoms is a prerequisite, and not a threat to control. The core category of rehabilitation was social re-integration. The survivors responded with defences and coping strategies to overcome loss of certainty, and rehabilitation strategies to regain play in togetherness with near ones. Elderly Swedish stroke survivors need support from professionals in developing constructive defences and coping strategies to achieve social reintegration.

The stroke accident had caused a disruption in the lives of the patients, and a new awareness of human temporality and their uncertain future. Confronted with these problems of time, the stroke victims constructed narratives on the time models: time cycles and dissolution of time limits, exchange of time and exclusion from time. In this way, stroke patients handled their uncertain future by using temporal models in their narratives. Professionals can support stroke patients by reinforcing these models. Furthermore, we tried to reveal the meaning of rehabilitation to an aphasic person in a case study. The informant lived in a dichotomised situation. He was supposed to train in a goal-oriented way and to believe in recuperation. At the same time he had to prepare himself and his next of kin for the consequences of failure. The impairment of aphasia misled the informant and his physician to exclusively focus on language therapy, leaving the informant unsupported in other important aspects of rehabilitation.

The *second research approach* in the group is the study of political, administrative and medical decision making process, and these projects are further outlined below:

Elderly Care on Contract-basis: How Can Quality be Ensured?

Participants: Ulrika Winblad, Ragnar Stolt

This is a project that is run in collaboration with the Dept of Government, Uppsala University (project leader Paula Blomqvist, associate prof). This project examines how Swedish municipalities supervise the quality of care services contracted out to private firms. The practice of contracting is fairly new in Swedish elderly care, but currently about 12% of all publicly financed care services for the elderly are carried out by private providers, mostly large, for-profit firms. There is great local variety, where many of the 290 municipalities have no private contracting, whereas others contact out more than half of all services they provide for the elderly to private firms.

Even if care services are contracted out, local authorities (municipalities) are still legally obliged to ensure that the services are of high quality. The main question in the project is how they perform this function and what sanctions they use against the private providers if they find the care quality to be low?

The methods used in the project includes analysis of juridical and political documents (contracts, policy statements) as well as interviews with politicians, civil servants and private providers in four selected Swedish municipalities.

The project brings knowledge of the new phenomenon of privatization which is a new mode of governance in Swedish health and social care.

Democracy and individual rights in the Swedish welfare state

Participants: Ulrika Winblad, Mio Fredriksson

This is a project that is run in collaboration with the Dept of Government, Uppsala University (project leader Paula Blomqvist, associate prof) and the Faculty of Law, Uppsala University (Ewa Axelsson, doctoral student).

Swedish democracy lacks strong civil rights in the area of social welfare. Traditionally, the state has been considered as a guarantee for citizens' interests. However, changing preferences, a higher educational level and the EU membership, have led to stronger demands on more explicit citizens' rights. Lately, several reforms within Swedish health- and social care have been introduced that increase citizens' rights to social services (such as choice of doctors or rights to services for disabled persons). The aim of this project is to investigate the political and organisational prerequisites for these new rights within the social field. The implementation of four reforms is investigated: the Handicap-reform, the Waiting-time guarantee, the Patient choice reform and the Psychiatric reform. Research shows that the former two have been more successful in bringing services and help to patients and care-takers. How can the variation be explained? This will be investigated by an implementation study at both national and local level. At national level the political construction and the legislators' motives underlying the reforms will be studied as well as how trust is established among the actors. At the local level, case studies will be made in several municipalities and county councils in order to investigate the implementation of the reforms. The project brings knowledge of hindrances and prerequisites for strengthening citizens' rights within health- and social care.

The Political Governance and Control of Swedish Health Care

Participants: Ulrika Winblad, Mio Fredriksson

The democratic governance of Swedish health care has some specific features. One of these is the high degree of municipal self-determination, which in 1992 was reinforced through municipal legislation. Another specific feature is the strong tradition of what may be termed *consensus-based steering*, where the intentions of the Swedish parliament and government are carried through in consensus with local government rather than through compelling measures or binding legislation. However, this model has been challenged recently. The national state has made efforts to increase the equivalence in the whole country by imposing more binding regulations. At the same time, many of the county councils emphasize their self-determination and focus more on the regional political collaboration. The potential power conflict between the national and local political government is studied in this project.

More precisely, the implementation of the patient choice reform is studied. Our results so far show that some of the county councils have not implemented the intentions of the patient choice reform. For instance, they have not informed the patients of their rights to choose, or they have introduced hindrances for their choices. The aim of the project is to explain *why* some of the counties have chosen to hinder the reform. What do the county councils see as their primary concern when it comes to the implementation and what are their perceived hindrances? Important as well in the study is to find out how the national political level reacts toward county councils that do not implement the reform. For instance, have they sanctioned these counties? To answer these questions a survey will be sent to all counties and case studies will be made in three county councils in order to get a more thorough picture of the development. Key persons in the three county councils and on the national political level will be interviewed. The study will bring us knowledge of what principles guide the relation between national and local government and thereby problematize the issue of how extensive the self-determination of the county councils is in practice.

Clustering and inertia: structural integration of home care in Swedish elderly care

Participants: Nils Olof Hedman, Urban Rosenqvist

One project investigates how different ways of implementing the ADEL reform affects the care for the elderly. The empirical data is collected throughout Sweden to enable the study of differently structured organisations. To study the design and distribution of different organizational solutions regarding the responsibility for and provision of home care for elderly in Swedish municipalities, directors of the social welfare services in all Swedish municipalities received a questionnaire about old-age care organization, and especially home care services and related activities. Rate of response was 73% (211/289). Three different organizational models of home care were identified. The models represented different degrees of integration of home care, i.e. health and social aspects of home care were to varying degrees integrated in the same organization. The county councils (i.e. large sub-national political-administrative units) tended to contain clusters of municipalities (smaller sub-national units) with the same organizational characteristics. Thus, municipalities' home care organization followed the county council pattern. In spite of a general tendency for Swedish municipalities to reorganize their activities, only 1% of them had changed their home care services organization in relation to the county council since the reform. The decentralist intention of the reform - to give actors at the sub-national levels freedom to integrate home care according to varying local circumstances - has resulted in a sub-national inter-organizational network structure at the county council, rather than municipal, level, which is highly inert and difficult to change.

Psyco Social Oncology

Researchgroup leader: Louise von Essen, Professor

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Lena Högberg, Msc, PhD student, Department of Women's and Children's Health, Uppsala University

Annika Lindahl Norberg, PhD, Researcher, Department of Women's and Children's Health, Karolinska Institutet

Björn Lindgren, Professor, Lund's University Centre of Health Economics, Department of Health Sciences, Lund University

Gustaf Ljungman, Associate professor, Head of pediatric oncology unit, Academic Children's Hospital, Uppsala

Susanne Lorenz, Research assistant, Department of Public Health and Caring Sciences, Uppsala University

Elisabet Mattsson, MSc, PhD student, Department of Public Health and Caring Sciences, Uppsala University and The Vårdal Institute

Ulrika Pöder, MSc, PhD student, Department of Public Health and Caring Sciences, Uppsala University

Inger Skolin, PhD, Senior lecturer, Department of Laboratory Medicine, Karolinska Institutet

Publications 2005-2007

1. Hedström, M., Ljungman, G. & von Essen, L. (2005). Perceptions of distress among adolescents recently diagnosed with cancer. *Journal of Pediatric Hematology/Oncology*, 27, 15-22.
2. Broberger Wiberg, E., Tishelman, C. & von Essen, L. (2005). Discrepancies and similarities in how patients with lung cancer and their professional and family caregivers assess symptom occurrence and symptom distress. *Journal of Pain and Symptom Management*, 29, 572-583.
3. Haglund, K. & von Essen, L. (2005). Locked entrance doors at psychiatric wards – advantages and disadvantages according to voluntarily admitted patients. *Nordic Journal of Psychiatry*, 59, 511-515.

4. Ekstrand, M., Larsson, M., von Essen, L. & Tydén, T. (2005). Swedish teenagers' perceptions of teenage pregnancy, abortion, sexual behaviour and contraceptive habits - a focus group study among 17-year-old female high school students. *Acta Obstetrica et Gynecologica Scandinavica*, 84, 980-986.
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8. Jörngården, A., Wettergren, L. & von Essen, L. (2006). Measuring health-related quality of life in adolescents and young adults: Swedish normative data for the HADS and the SF-36. *Journal of Health and Quality of Life Outcomes*, 4, 91.
9. Fröjd, C., Lampic, C., Larsson, G., Birgegård, G. & von Essen, L. (2007). Patient behaviours, attitudes and other factors considered by doctors when assessing cancer patients' worry and wish for information. *Scandinavian Journal of Caring Sciences*, 21, 523-529.
10. Haglund, K., von Knorring, L., van der Meiden, E. & von Essen, L. (2007). Psychiatric care behind locked doors. A study regarding the frequency of and the reasons for locked psychiatric wards in Sweden. *Journal of Psychiatric and Mental Health Nursing*, 14, 49-54.
11. Larsson, G., von Essen, L. & Sjöden, P.O. (2007). Are importance-satisfaction discrepancies with regard to ratings of specific health-related quality-of-life aspects valid indicators of disease- and treatment-related distress among patients with endocrine gastrointestinal tumours? *European Journal of Cancer Care*, 16, 493-499.
12. Enskär, K. & von Essen, L. (2007). Prevalence of aspects of distress, coping, support, and care among adolescents and young adolescents undergoing and being off cancer treatment. *European Journal of Oncology Nursing*, 11, 400-408
13. Mattsson, E., Ringnér, A., Ljungman, G. & von Essen, L. (2007). Positive and negative experiences with regard to having had cancer during adolescence. *Psycho-Oncology*, 16, 1003-1009.
14. Fröjd, C., Larsson, G., Lampic, C. & von Essen, L. (2007). Health related quality of life, anxiety, depression and satisfaction with doctors' care in Swedish patients with carcinoid tumours. *Journal of Health and Quality of Life Outcomes*, 11, 18.
15. Jörngården, A., Mattsson, E. & von Essen, L. (2007). Health-related quality of life, anxiety, and depression among Swedish adolescents and young adults with cancer. *European Journal of Cancer*, 3, 1952-1958.
16. Pöder, U., Ljungman, G. & von Essen, L. (2007). Prevalence of subclinical acute stress disorder and posttraumatic stress disorder among parents of children on cancer treatment. A longitudinal study. *Psycho-Oncology* (Epub ahead of print).
17. Broberger, E., Tishelman, C., von Essen, L., Doukali, E., & Sprangers, M. (2007). Spontaneous reports of most distressing concerns in patients with inoperable lung cancer: at present, in retrospect and in comparison with EORTC-QLQ-C30+L13. *Quality of Life Research*, 16, 1635-1645.

Reviews 2005-2007

None

Dissertations 2005-2007

1. Hedström, M. (2005). Distress among Adolescents with Cancer. Acta Universitatis Upsaliensis Uppsala.
2. Haglund, K. (2005). Patient and Staff Perceptions of Medication Administration and Locked Entrance Doors at Psychiatric Wards. Acta Universitatis Upsaliensis Uppsala.
3. Fröjd, C. (2007). Cancer Patients' Satisfaction with Doctors' Care. Acta Universitatis Upsaliensis Uppsala.

Agencies that support the work/Funding 2005-2007

2005

The Swedish Children's Cancer Foundation: 2,000,000 Sek

The Swedish Cancer Society: 200,000 Sek

The Vårdal Institute: 207,000

2006

The Swedish Children's Cancer Foundation: 2,600,000 Sek

The Swedish Cancer Society: 400,000 Sek

The Vårdal Institute: 220,000

2007

The Swedish Children's Cancer Foundation: 2,100,000 Sek

The Swedish Cancer Society: 400,000 sek

The Vårdal Institute: 60,000

Research Projects

Cancer during adolescence. Psychosocial and health economic consequences

Participants

Gunn Engvall, Louise von Essen, Mariann Hedström, Gustaf Ljungman, Elisabet Mattsson, Inger Skolin

Aim (2008)

To (A) investigate the potential psychosocial and health economic consequences of cancer during adolescence; (B) compare the psychosocial and health economic situation for those struck by cancer during adolescence and those not struck by cancer during adolescence, and (C) explore whether

there exist any positive psychosocial consequences of cancer during adolescence, and if so explore whether these will wear off or are permanent.

Methods

The project is based on a longitudinal design with six assessments from one month to four years after diagnosis and a comparative design. Sixty adolescents with cancer and 300 healthy matched controls were included. Adolescents with cancer have been included at three of the six Swedish centres for paediatric oncology: Lund, Umeå, and Uppsala. Questions about quality of life, depression, and anxiety are answered over the telephone. In addition, those struck by cancer answer questions about disease- and treatment related concerns, how they handle these concerns, and about potential negative and positive experiences of cancer.

Occurrence, development, and treatment of posttraumatic stress disorder among parents of children with cancer

Participants Therese Berglund, Per Carlbring, Louise von Essen, Kristina Haglund, Annika Lindahl Norberg, Björn Lindgren, Gustaf Ljungman, Susanne Lorenz, Ulrika Pöder

Aim (2008)

The main aims are to, among parents of children with cancer: (A) describe occurrence and development of cancer-related posttraumatic stress symptoms (PTSS) and posttraumatic stress disorder (PTSD), and perceptions of support and of the child's illness-related situation; (B) inductively explore experiences of having and caring for a child with cancer; (C) investigate the health-related costs for those who are: PTSD negative, PTSD positive and not treated for it, and PTSD positive and treated for it; (D) investigate whether PTSS and PTSD while the child is on treatment, perceptions of support, perceptions of the child's illness-related situation, and/or experiences of having and caring for a child with cancer predict PTSS and PTSD after end of treatment, and (E) evaluate the clinical efficacy and cost-effectiveness of an Internet-based CBT treatment for PTSS and PTSD as compared to a standard medical care waitlist condition.

Methods

Aims A-D are investigated in a study with a longitudinal design covering seven assessments from one week after the child's diagnosis to five years after end of treatment. 259 parents have been included at four of the six Swedish centres for paediatric oncology: Gothenburg, Linköping, Umeå, and Uppsala. To quantify health-related costs in comparison with the general population the sample will be compared to a sub-sample of the data base HILDA (Health and Individuals, Longitudinal Data and Analysis, www.ekh.lu.se/ed/databaser/hilda.asp), consisting of parents with children in the same age range (0-18 years). HILDA includes all people who have been interviewed at least once in the Survey of Living Conditions (ULF), administered by Statistics Sweden since 1975. The control group is, hence, a sub-set of the random sample of the Swedish population, aged 16-84, which is used for the ULF surveys and is approximately 3-4 times larger than the study group. Also included in HILDA are individual data from the National Board of Health and Welfare on inpatient care and on cancer incidence and treatment, all linked to the individual ULF interview data. Data is collected from parents over the telephone and from registries. Aim E is investigated in a study with an experimental design with two conditions to which parents will be randomly assigned a little more than a month after the child's diagnosis: an Internet-based CBT treatment program and a standard medical care waitlist condition. 100 parents will be included. Assessments will take place before, shortly after, and twelve months after treatment. Data will be collected over the telephone.

Research projects on procedural pain in children with cancer

Participants: Louise von Essen, Lena Högberg, Gustaf Ljungman

Aim (2008)

To investigate whether children with cancer experience less anxiety, distress and/or pain connected to a routine needle insertion in an intravenous port when subjected to an intervention: (A) blowing soap bubbles or having a heated pillow vs. standard care and (B) four different pharmacological interventions vs. placebo.

Methods

(A) Twenty-eight children, 2-7 years, cared for at a pediatric oncology unit, undergoing a routine needle insertion in an intravenous port were included consecutively. All children were subjected to 2 needle insertions; at the first they received standard care, and at the second standard care + a randomized intervention. Parents and nurses assessed children's fear, distress, and pain on visual analogue scales (VAS). (B) The effects of midazolam, morphine, paracetamol and ibuprofen is examined in four separate double blinded RCTs in parallel groups with intervention vs placebo. Children, parents, and nurses answer questions about children's anxiety, distress, and pain on VAS.

Health-related quality of life and needs of care and support among adult Tanzanians with cancer

Participants: From the research group: Louise von Essen. In addition: PhD, Senior lecturer Lena Wettergren, Department of Neurobiology, Care Science, and Society, Karolinska Institutet, and Thekla Kohi, RN, PhD, Head of Nursing School, Golden Masika, RN, Master student, Nursing School, and Edith Mroso, RN, PhD student, Nursing School, Muhimbili University College of Health Sciences, Dar es Salaam, Tanzania.

Aim (2008)

To investigate the health-related quality of life and explore the needs of care and support among adult Tanzanians with cancer.

Methods

The project is based on a comparative, explorative design. Patients are interviewed in focus groups and answer questionnaires.

Social Medicine

The Division of Social Medicine focuses on three major research areas.

1. The bio-psycho-social mechanisms behind health disparities.

Research in this area looks at the relationship between psychosocial determinants, including socioeconomics, coping, lifestyle, and biological disease pathways and its relationship to important public health outcomes, such as disease, mortality, mental health and sick leave behaviour.

The relationship between stress and common disabling disorders is studied. Studies concerning this but also treatment studies with e.g. cognitive behaviour therapy are under production.

2. Stress factors and psychophysiological consequences of the modern lifestyle.

We look at the impact from wireless technologies, the information technology society and the increasing globalization on health, well being and stress hormones.

We develop and evaluate workplace intervention program and look at the effects on employee health, biological stress markers, and organizational productivity.

3: Modern health care – implications for patients, employees, health care organizations and society.

A large number of studies following the implications of current structural and economic changes to patients, employees, health care organizations and society have been carried out. We look at the implication for staff, patients and hard treatment outcome, including cost, morbidity and mortality, from enhancing patient involvement. We have expanded the definition of moral distress and look at the impact on moral competence from ethical rounds in a prospectively controlled intervention study. We also study the inter relationship between health care environment and quality of care patient care.

Research Area 1: Health disparities and Healthy organizations

Research group leader: Ingrid Anderzén/Bengt Arnetz (on leave)

Healthy organizations are defined as organizations that promote employee and patient/client health and well-being and performance (effective use of resources). The relationship between psychosocial determinants, including socioeconomics, coping lifestyle, and biological disease pathways and its relationship to important public health outcomes, such as disease, mortality, mental health and sick leave behavior is studied. We have made a number of controlled intervention studies linking improved management too improved stress physiology, well being, productivity and decreased absenteeism in employees.

The relationship between stress fibromyalgia and migraine is investigated

We work together with The Swedish Social Insurance Administration and the Primary Health Care sector to develop and evaluate strategies to decrease sick leave and to improve the sick leave process.

Members of the group during 2007

Bengt Arnetz, Professor

Ulla- Maria Anderberg, Associate Professor

Ingrid Anderzén, PhD
Christina Halford, MD, doctoral student
Ann-Sophie Hansson, doctoral student
Per Lytsy, MD, MD, doctoral student

External

Ingrid Demmelmaier, doctoral student
Lisa Ekselius, professor
Kerstin Hedborg, doctoral student
Per Johansson, professor
Bo Karlsson, MD, doctoral student
Erica Lindahl, doctoral student
Carin Muhr, PhD, chief physician
Birgitta Pleijel, physiotherapist
Sofia Sporrang-Kälvemark, PhD
Kurt Svärdsudd, professor
Eva Vingård, professor
Ulrika Winblad, PhD

Agencies that support the work/Funding 2005-2007

The Swedish Social Insurance Agency in Uppsala
The Swedish Social Insurance Agency in Uppsala
The Swedish Social Insurance Agency in Uppsala
The Uppsala County Council
Skandia Liv
Alecta Research Fund
Folksam Research Fund
“Dagmar capital” (The Swedish Health Insurance System, The Uppsala County Council),
Söderström Königska foundation, ALF
The Gävle high school/university
The Uppsala University, Selander’s foundation.

Dissertations 2005-2007

1. Dan Hasson: Stress Management Interventions and Predictors of Long-term Health. ISBN 01-554-6350-9. Dept of Public Health and Caring Sciences, Uppsala University. (Super-adviser U-M. Anderberg).
2. 2007: Kälvemark Sporrang S. Ethical Competence and Moral Distress in the Health Care Sector. A prospective evaluation of ethics rounds. Uppsala University. ISBN 978-91-554-6797-5. (Super-adviser BB. Arnetz)
3. 2006: Hasson H. Nursing Staff Competence, Psychosocial Work Environment and Quality of Elderly Care: Impact of an Educational Intervention. Uppsala University. ISBN 91-554-6750-4 (co-advisor BB.Arnetz)
4. 2006: Wiholm C. Advanced Knowledge Work and Stress-related Symptoms. Epidemiological and Clinical Intervention Studies. ISBN 91-554-6479-3 (Super-adviser BB Arnetz).

Publications 2005-2007

1. Anderberg Ulla-Maria. "Fibromyalgi - på grund av stress?" Ica/Formaförlag år 2007.

2. Anderzén I, Arnetz BB. The impact of a progressive survey-based workplace intervention program on employee health, biological stress markers, and organizational productivity. *Journal of Occupational and environmental Medicine* 2005;47:671-682.
3. Arnetz BB. Subjective indicators as a gauge for improving organizational well-being. An attempt to apply the cognitive activation theory to organizations. *Psychon associate professor euroendocrinology* 2005;30:1022-1026.
4. Arnetz BB, Frenzel L, Akerstedt T, Lisspers J. The brief fatigue syndrome scale: validation and utilization in fatigue recovery studies. Springer 2008, pp. 55-66.
5. Arnetz D, Blomkvist V. Leadership, mental health, and organizational efficacy in health care organizations. Psychosocial predictors of healthy organational development based on prospective data from four different organizations. *Psychother Psychosom.* 2007;76:242-248.
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8. Arnetz BB. Stress – why managers should care. In, Arnetz BB, Ekman R (Eds.), *Stress in Health and Disease*. Wiley-VCH, Weinheim, 2006, pp 91-121. ISBN-13 978-3-527-31221-4.
9. Bergman D, Arnetz B, Wahlstrom R, Sandahl C. Effects of dialogue groups on physicians' work environment. *J Health Organ Manag.* 2007;21:27-38.
10. Blessman J, Skupski J, Jamil M, Bassett D, Wabeke R, Arnetz BB. Barriers to at-home preparedness in public health employees: implications for disaster preparedness training. *J Occup Environ Med.* 2007;49:318-326.
11. Branth S, Ronquist G, Stridsberg M, Hambræus L, Kindgren E, Olsson R, Carlander D, Arnetz B. Development of abdominal fat and incipient metabolic syndrome in young healthy men exposed to long-term stress. *Nutr Metab Cardiovasc Dis* 2007;17:427-435.
12. Bojner-Horwitz E, Theorell T, Anderberg UM. Dance/movement therapy in fibromyalgia patients – changes in self figure drawings and their relation to verbal self-rating scales and hormones. *The Arts in Psychotherapy*, 33(2006):11-25.
13. Dunn PM, Arnetz BB, Christensen JF, Homer L. Meeting the imperative to improve physician well-being: Assessment of an innovative program. *J Gen Intern Med.* 2007;22:1544-1552.
14. Ekman R, Arnetz BB. The brain in stress – influence of environmental and lifestyle stress-related disorders. In, Arnetz BB, Ekman R (Eds.), *Stress in Health and Disease*. Wiley-VCH, Weinheim, 2006, pp 196-213. ISBN-13 978-3-527-31221-4.
15. Gardulf A, Orton M-L, Arnetz B, Eriksson LE, Uden M, Nordstrom G. Factors related to work satisfaction among nurses. *Scand J Caring Sci.* In Press. 2007.
16. Gardulf A., Soderstrom IL, Orton M-L., Eriksson L.E., Arnetz B., Nordström G. Why do nurses want to quit their jobs? *Journal of Nursing Management.* 2005;13:329-337.
17. Hansson A-S, Anderzén, I. Goal Clarity Work as an Instrument for Improved Organizational Wellbeing in the Church of Sweden, accepted for publication in *Work*, (jan2008)
18. Hansson, Vingård, E., A-S, Arnetz, B.B., Anderzén, I. Organizational change, health and sick leave among health care employees: a longitudinal study measuring stress hormones, individual and work site factors. (accepted for publication in *Work and Stress*, dec 2007)

19. Hansson, A-S, Arnetz, B.B., Anderzén, I. Risk-factors for Stress-related Absence Among Health Care Employees: A Bio-Psychosocial Perspective. *Associations Between Self-rated Health, Working Conditions and Biological Stress Hormones. Italian Journal of Public Health*, 3(3-4), 53-61, 2006
20. Hansson, Psychosocial Work Environment in the Church of Sweden, An explorative study. *Non Profit Management and Leadership*, 2006 16(3), 329-343.
21. Hasson D, Anderberg UM, Theorell T, Arnetz BB. Psychophysiological effects of a web-based stress management system: a prospective, randomized controlled intervention study of IT and media workers. *BMC Public Health*. 2005;5:78.
22. Hasson D, Arnetz BB. Validation and findings comparing Vas vs. Likert scales for psychosocial measurements. *International electronic Journal of Health Education* 2005;8:178-192.
23. Hasson D, Arnetz BB, Theorell T, Anderberg UM. Predictors of self-rated health: a 12-month prospective study of IT and media workers. *Popul Health Metr*. 2006;31:4:8.
24. Källemark Sporrang S, Arnetz B, Hansson MG, Westerholm P, Höglund AT. Developing ethical competence in health care organizations. *Nurs Ethics*. 2007;14:825-837.
25. Källemark, S., Höglund, A. T., Hansson, M. G., Westerholm, P., Arnetz, B. "We are White Coats Whirling Round". *Moral Distress in Swedish Pharmacies. Pharmacy World and Science* 2005;27:223-229.
26. Marteinsdottir I, Svensson A, Svedberg M, Anderberg UM, von Knorring L. The role of life events in social phobia. Accepted July 2006 in *Nordic Journal of Psychiatry*
27. Nilsson Kajermo K, Unden M, Gardulf A, Eriksson LE, Orton M-L, Arnetz B, Norstrom G. What factors in the working situation influence the nurses' perceptions of barriers to research utilization. *J Nursing Management*. In Press. 2007.
28. Schell E, Theorell T, Hasson D, Arnetz B, Saraste H. Stress biomarkers' associations to pain in the neck, shoulder and back in healthy media workers: 12-month prospective follow-up. *Eur Spine J*. 2007 Dec 13; [Epub ahead of print]
29. Sporrang SK, Höglund AT, Arnetz B. Measuring moral distress in pharmacy and clinical practice. *Nurs Ethics*. 2006;13:416-427.
30. Sporrang SK, Höglund AT, Hansson MG, Westerholm P, Arnetz B. "We are white coats whirling round"--moral distress in Swedish pharmacies. *Pharm World Sci*. 2005;27(3):223-229.
31. Svendsen E, Arnetz BB, Ursin H, Eriksen HR. Health complaints and satisfied with the job? A cross-sectional study on work environment, job satisfaction and subjective health complaints. *J Occup Environ Med*. 2007;49:568-573.
32. von Vultee PJ, Axelsson R, Arnetz B. The impact of organizational settings on physician wellbeing. *Int J Health Care Qual Assur*. 2007;20:506-515.
33. Wallin L, Ewald U, Wikblad K, Scott-Findlay S, Arnetz BB. Understanding work contextual factors: a short-cut to evidence-based practice? *Worldviews Evid Based Nursing*. 2006;3:153-164.
34. Wiholm C, Arnetz BB. Stress management and musculoskeletal disorders in knowledge workers: The possible mediating effects of stress hormones. *Advances in Physiotherapy*. 2006;8:5-14.
35. Willis K, Brown CR, Sahlin I, Svensson B, Arnetz BB, Arnetz JE. Working under pressure: a pilot study of nurse work in a postoperative setting. *Clin Nurse Spec*. 2005;19:87-91; quiz 92-93.

36. Willis K, Brown CR, Sahlin I, Svensson B, Arnetz BB, Arnetz J. Why do nurses at a university hospital want to quit their job? *J of Nursing Management* 2005;13:329-337.

Research projects

Determinants of Individual and Organizational Health in Human Service Professions

Participants: Ann-Sophie Hansson, Ingrid Anderzén, Eva Vingård

The overall aim of this projects is to identify determinants of individual and organizational well-being among employees in human service professions from a multifactor perspective (involving societal, work-related, biological, individual, health- and sickness absence factors), based on the research question: “What kind of exposures in the complex psychosocial work environment are found to be determinants for individual and organizational well-being among those working in human service professions?”

The project is based on four different studies of various aspects of psychosocial work exposures. The first, examines determinant factors of psychosocial work environment in the Church of Sweden. The second study, assesses effects of goal clarity work on organizational well-being in the Church, the third, examines exposures resulting in stress-related sick leave among health care employees and the fourth, is a longitudinal study, assessing effects of organizational change on health and sickness absence among health care employees.

Stress and global Self-Rated Health: Exploration of Possible Psychophysiological Mechanisms and Implications for Public Health

Participants: Christina Halford, Lisa Ekselius, Kurt Svärdsudd, Ingrid Anderzén, Bengt Arnetz

The main aim of this longitudinal project is to investigate associations between psychobiological markers of daily-life stressors and global self-ratings of health, among healthy adult men and women. Results show that global SRH is consistently associated with personal coping resources, psychological well-being and levels of exhaustion. Among men a decrease in SRH below the level of good was associated with significant differences in levels of testosterone and increased levels of prolactin. Results concerning women are under analyses

Evaluation of Collaboration in "Resource team" within the Swedish Social Insurance Administration and Country Council in Uppsala County – a collaboration project to reduce reported sickness.

Participants: Ingrid Anderzén, Ulrika Winblad, Ann-Sophie Hansson, Ingrid Demmelmaier, Per Johanson Erica Lindahl,

The rates of sick leaves are increasing in Sweden. Because of this, a new collaboration form called "Resource team" has been established in Uppsala. Different professional groups (handling officers from the Swedish Social Insurance Administration, physicians, physiotherapists and behavioral scientists) meet on a regular basis and collaborate in order to decrease patients' sick leave time. At these meetings patients' individual needs are appraised and measures for action are suggested. The

overall aim of this evaluation was to analyse if collaboration of a “Resource team” had an impact on a patient’s length of sick leave and self-assessed health. A questionnaire was sent to persons who had taken part in the “Resource team” and a control group, and the output of the “Resource team” based on patients’ self-assessed health and reported sickness was estimated. The results were ambiguous and showed either no effect, or a negative effect on the patients who were appraised by the “Resource team”. For instance, the results showed there is about 20 percent higher probability to remain reported sick after 180 days for those patients who were appraised by the “Resource team” compared to those who were not.

“NySatsa” – A project to support individual’s on long term sick leave to return to working life through individual development and guidance

Participants: Ingrid Anderzén, Ann-Sophie Hansson, Per Lytsy

The project “NySatsa” has the overall aim to support individuals to return to working life through individual guidance. Thirty participants on long term sick leave have been given the opportunity to personal development and training through various tools for guidance. The objective has been to facilitate the return to working life, full-time or part-time, school studies, or other working life related activities based on the individual’s conditions, motivation and participation. The project has been evaluated after six months and the result shows that approximately 60 percent of the project participants have been able to return to working life or pre-work related activities. The project will finally be evaluated after one year.

Evaluation of a multidisciplinary collaborative team to optimize complicated rehabilitation processes at the orthopaedic and psychiatric clinics

Participants: Ingrid Anderzén, Per Lytsy, Birgitta Pleijel

The orthopaedic and the psychiatric clinics face a lot of patients who are unable to work due to their health condition. A multidisciplinary collaborative team, including a representative from the Swedish Social Insurance Administration, has been formed at each clinic in order to aid physicians and facilitate and optimize the rehabilitation process for patient at risk for long term sick absence. The value and importance of this work form will be evaluated in the work force at the clinics, using a pre- and post questionnaire method.

Treatment with cognitive behavioural therapy (CBT) and measuring biological markers in women with fibromyalgia syndrome

Participants: Bo Karlsson, Kurt Svärdsudd and Ulla Maria Anderberg

Between 4-9 % of the population are struck by fibromyalgia syndrome (FMS). 90% are women. There is some scientific evidence that this disorder could be related to stress over time. It could be due to own high expectations as well as high demands from society or at work or private problems. CBT has earlier been performed in uncontrolled studies on patients with FMS with good results. In this study CBT will be performed in a controlled randomized study to analyse if women with FMS will improve when they get CBT. Different kinds of self-rating instruments to detect pain, stress, well being are used. Biological effects of the CBT are detecting by measuring levels of different biological markers in blood as well as in saliva.

CBT have been given to 48 women with FMS who have been divided into early and late treatment phase, respectively. Results so far have showed a relationship between well-being and traumatic life

events. After gone through the therapy sessions the women reported an improved well-being, decreased depressive feelings, less type A-behaviour and decreased experience of pain.

Stress and migraine – a mapping and intervention study in patients with migraine

Participants: Kerstin Hedborg, Ulla Maria Anderberg, Carin Muhr

There are today scientific and clinical reports that indicate that stress might be a factor to be involved in the development and maintenance of migraine. This study will map the importance of stress and depression in patients with migraine. The intention of the study is also to reduce the symptoms through an internet-based interactive stress-coping education. 106 women and 44 men participate in the study. There will be data of each person's migraine history and neurological status. The research persons have all been answering several different computerized questionnaires and they have also made a daily notification about their migraine history. Biological markers as well as saliva cortisol have been performed for all subjects. The analysis of the data is in progress.

Research Area 2: Mobile phones and health

Research leader: Bengt B Arnetz

In a series of research projects, we have investigated the possible effects on human self-rated health, cognitive functions, and physiological reactions to everyday use of mobile phones.

Members of the group during 2007

Bengt Arnetz, professor
Clairy Wiholm, PhD

External

Sarah Thomsén, PhD
Scott Moffat, associate Professor (pending review)
Lena Hillert, associate Professor
Arne Lowden, PhD
Torbjörn Åkerstedt, professor
Niels Kuster, professor

Publications 2005-2007

1. Hillert L, Akerstedt T, Lowden A, Wiholm C, Kuster N, Ebert S, Boutry C, Moffat SD, Berg, M, Arnetz BB. The effects of 884 MHz GSM wireless communication signals on headache and other symptoms: An experimental provocation study. *Bioelectromagnetics*. 2007 Nov 28; [Epub ahead of print]
2. Arnetz B, Åkerstedt T, Hillert L, Lowden A, Kuster N, Wiholm C. The effects of 884 MHz GSM wireless communication signals on selfreported symptoms and sleep – an experimental provocation study. *PIERS online*. 2007;3:1148-1150.

3. Blessman J, Skupski J, Jamil M, Bassett D, Wabeke R, Arnetz BB. Barriers to at-home preparedness in public health employees: implications for disaster preparedness training. *J Occup Environ Med.* 2007;49:318-326.
4. Hillert L, Åkerstedt T, Lowden A, Wilholm C, Kuster N, Ebert S, Boutry C, Moffat SD, Berg, M, Arnetz BB. The effects of 884 MHz GSM wireless communication signals on headache and other symptoms: An experimental provocation study. *Bioelectromagnetics.* 2007 Nov 28; [Epub ahead of print]
5. Arnetz B, Åkerstedt T, Hillert L, Lowden A, Kuster N, Wiholm C. The effects of 884 MHz GSM wireless communication signals on self-reported symptoms and sleep – an experimental provocation study. *PIERS online.* 2007;3:1148-1150.

Reviews 2005-2007

None

Agencies that support the work/Funding

Mobile Manufacturers Forum (MMF)
Kungafonden, (Wayne State University)

Research Projects

Mobile phones and health

Participants: Bengt B Arnetz, Clairry Wiholm, Scott Moffat, Lena Hillert, Arne Lowden, Torbjörn Åkerstedt, Niels Kuster

Laboratory-based, double-blind exposure studies using 884 MHz radiofrequency fields corresponding to GSM mobile phone use has been carried out. The project has started generating publications that have received large international media coverage. The project involves researchers at Uppsala University, Karolinska Institute, IT IS Foundation-Zurich Technical University, and Wayne State University, Michigan.

Low impact stress among first responders. Implications for Health and Performance

Participants: Bengt B Arnetz, Sarah Thomsen

Low impact stress among first responders (first line employees within the military, coast guard, customs control, and the police) are at increase risk to suffer from low-level, chronic stress exposure. We were interested to identify more in detail operational, organizational and personal sources of low impact stressors, their impact on health and performance, as well as means to cope with such stress. We carried out focus groups interviews with seventeen first responders. Results generated distinct areas of low impact stress. Results will be used in a subsequent survey-based, large-scale study in which we will collect prevalence data on specific low impact stressors, their relationships to health and performance and effective means to increase stressor resiliency. The research is done in close collaboration with the Swedish Kungafonden.

Health care systems, patients and health

Research group leader: Judy Arnetz

The group conducts multidisciplinary research studying the associations between health care systems, the healthcare work environment, health care processes, patients' and relatives views of care, and treatment outcome. Research in recent years has focused on parental involvement in paediatric hospital care; competence and stress among nursing staff in elderly care; patient involvement in myocardial infarction care; and patients' views and experiences of municipal dental care. In all of these projects, the working situation of health professionals is viewed as a key factor for the quality and efficacy of care. Our projects have utilized both quantitative and qualitative research techniques, with a major focus on development and validation of questionnaire instruments.

Since 2005, the group leader has been on partial leave of absence to develop a research program in the U.S. A major project on patient involvement in myocardial infarction care was completed in 2007. We also carried out a follow-up study of patient-perceived quality of care in municipal dentistry in the municipality of Uppsala.

Members of the group during 2007

Judy Arnetz, Associate Professor
Henna Hasson, PhD-student (PhD, Jan 2007)

External

Anna Höglund, associate professor
Josephine Smelik, Master Student (Master degree completed May 2005)
Margareta Weiåker, Master Student (Master degree completed May 2007)
Ulrika Winblad, PhD

Publications 2005-2007

1. Willis K, Brown CR, Sahlin I, Svensson B, Arnetz BB, Arnetz JE. Working under pressure: A pilot study of nurse work in a post-operative setting *Clinical Nurse Specialist*. 2005;19(2):87-91.
2. Ygge BM, Lindholm C, Arnetz JE. Hospital staff's perceptions of parental involvement in paediatric hospital care. *Journal of Advanced Nursing* 2006;53(5), 534-542.
3. Arnetz JE, Hasson H. Evaluation of an educational "toolbox" for improving nursing staff competence and psychosocial work environment in elderly care: results of a prospective, non-randomized controlled intervention. *International Journal of Nursing Studies* 2007; 44:723-735.
4. Arnetz JE, Winblad U, Arnetz BB, Höglund AT. Physicians' and nurses' perceptions of patient involvement in myocardial infarction care. *European Journal of Cardiovascular Nursing*. In press 2007 Jun 18; [Epub ahead of print].
5. Arnetz JE, Höglund AT, Arnetz BB, Winblad U. Development and evaluation of a questionnaire for measuring patient views of involvement in myocardial infarction care. *European Journal of Cardiovascular Nursing*. In press 2007 Dec 11; [Epub ahead of print].

Dissertations 2007

1. Hasson, Henna. Nursing staff competence, psychosocial work environment and quality of elderly care: impact of an educational intervention. Doctoral thesis in social medicine, Uppsala University 2007 (Super-adviser J. Arnetz).

Masters theses

2. Weiåker, Margareta. Goal achievement in individual treatment plans in paediatric disability services (Måluppfyllelse i den individuella habiliteringsplanen). In Swedish with English abstract. Uppsala University, Sweden. Masters program in disability research, Uppsala University 2007
3. Smelik, Josephine. From complaints to quality development? Two questionnaire surveys on the use of patient complaints in quality development in Swedish disability services (Från klagomål till kvalitetsutveckling? In Swedish with English abstract. Masters program in disability research, Uppsala University 2005.

Agencies that support the work/Funding

The Swedish Association of Local Authorities and Regions, 2004-2006.

The Swedish Heart and Lung Association, 12004-2005.

The Swedish Heart-Lung Foundation, 2004-2005.

Research Projects

The involved patient: implications for treatment outcome and secondary prevention of myocardial infarction.

Participants: Judy Arnetz, Anna Höglund, Ulrika Winblad, Bengt Arnetz

This project studied the implications of patient involvement for length of stay, compliance, treatment outcomes, and the work of physicians and nurses caring for heart attack patients. Initiated in 2004, this project was a multidisciplinary collaborative effort with Uppsala Clinical Research Center which administers the Swedish national quality registry for cardiovascular disease, RIKS-HIA.

Results from this project were presented at two international conferences in 2007:

24th International Conference, International Society for Quality in Health Care (ISQUA), Boston, Massachusetts, September 29-October 3, 2007.

ICCH International Conference on Communication in Healthcare, Charleston, South Carolina, October 9-12, 2007.

Questionnaire study of quality of dental care from the patient perspective

Participant: Judy Arnetz

This was a follow-up of a questionnaire study conducted by the research leader in 2004. The project was carried out at the request of Community Dental Care, County Council of Uppsala, Sweden, who also financed this work.

Centres and Facilities

CEOS, Center for Environmental Health and Stress Research is a collaborative effort between Uppsala Academic Hospital and Uppsala University. This is an academic research and development center with the overall purpose to improve basic and applied scientific understanding of the mechanisms behind and effective treatment and prevention of stress-related disorders. The Center also evaluates and treat patients referred from the health care sector. The Center is truly translational in nature, with a multidisciplinary composition of researchers and clinicians.

Awards and Appointments 2007

Wayne State University Research Stimulation Award-200

Member of the Michigan IPIP (Initiative for Primary Health Practice Transformation) Initiative with the Robert Wood Johnson Foundation's to the American Board of Medical Specialties (ABMS)

Member of the External Advisory Committee, the University of Michigan NISOH-funded Education and Research Center (ERC)

Renewed appointment by the Swedish Government to the Vårdal Foundation, the Swedish Foundation for Allergic and Health Care Research, as well as being elected by the Board to be the Vice Chairperson of the Board.

Sociomedical epidemiology

Research group leader: Associate professor Ragnar Westerling

In the research of the group we are integrating main fields in social medicine, such as social epidemiology, prevention research and health services research. The aim of the research programme is to

- 1) develop methods for identifying and analysing the mechanisms behind preventable disease patterns in the population.
- 2) evaluate the impact of the health care system and other parts of the society on these preventable disease patterns.
- 3) analyse the associations between the social situation and psychosocial, behavioural and biological risk factors for ill health and how these associations may be influenced in order to improve preventive strategies, 4) develop, plan and evaluate preventive programmes.

This program line is implemented for different fields of public health, in accordance with the Swedish National Public Health Goals, such as the health of children and families, health related to working life, health related life styles as well as health orientated medical care and the prevention of adverse events in medical care. Several doctoral students are involved in these studies and several collaboration projects are included. The research group is multi professional including persons with the backgrounds as medical doctors as well as from behavioural and economical sciences. Several

studies have been performed in collaboration with national and international groups and organisations.

Members of the group during 2007

Ragnar Westerling, Associate professor

Annika Åhs, Dr. Med Sci, Researcher.

Marcus Westin, Med Dr, Research physician

Stefan Kunkel, Doctoral Student, Research assistant

Peter Berg, Doctoral Student, Research physician

Per Lytsy, Doctoral Student, Research physician

Ulrika Paulsson, Research assistant

Lars-Age Johansson, Doctoral student

Monica Appel, Doctoral student, collaboration with Umeå University

Marianne Hanning, Dr Med Sci

Charlotte Björkenstam, Statistician at the National Board of Health and Welfare

Susanne Sundell Lecerof, Research engineer, collaboration with Lunds University

Publications 2005-2007

1. Åhs A, Westerling R. Hälsa, vård och levnadsvillkor: En jämförelse mellan nyregistrerade arbetslösa och personer i totalbefolkningen. (In Swedish: Health, medical care and living circumstances among the unemployed: A comparison between newly registered unemployed persons and the population). Socialmedicinsk rapportserie.
2. Larsson M, Aneblom G, Eurenus K, Westerling R, Tydén T. Limited impact of an intervention regarding Emergency Contraception Pills in Sweden - repeated surveys among abortion applicants. The European Journal of Contraception & Reproductive Health Care 2006;11(4):270-276.
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4. Åhs A, Westerling R. Mortality in relation to employment status during different levels of unemployment. Scand J Public Health 2006;34:159-167.
5. Åhs A, Westerling R. Health care utilization among persons who are unemployed or outside the labour force. Health Policy. 2006 Oct;78(2-3):178-93
6. Larsson M, Eurenus K, Westerling R & Tydén T. Evaluation of a Sexual Education Intervention among Swedish High School Students. Scand J Public Health 2006;34:124-131
7. Westin M, Westerling R. Health and health care utilisation in single mothers and single fathers. Scand J Public Health 2006;34:182-189.
8. Johansson LA, Westerling R, Rosenberg HM. Methodology of studies evaluating death certificate accuracy were flawed. Journal of Clinical Epidemiology 2006;59:125-131.
9. Kunkel S, Westerling R. Different types and aspects of quality systems and their implications: A thematic comparison of seven quality systems at a university hospital. Health Policy 2006;76:125-133.

10. Larsson M, Aneblom G, Eurenus K, Westerling R, Tydén T. The adoption of Emergency Contraceptive Pills in Sweden -a repeated cross-sectional study among abortion applicants. *Acta Obstet Gynecol Scand.* 2006;85(9):1142-3.
11. . Åhs A, Burell G, Westerling R. Predictors of health and health care utilization in relation to employment status. Department of Public Health and Caring Sciences, Uppsala University, Uppsala 2006. (submitted)
12. Westin M, Sundelin C, Westerling R . Swedish parental characteristics and children's mental health, 2006. (submitted)
13. Westerling R. Åtgärdbar dödlighet som en indikator i den folkhälsopolitiska uppföljningen - en undersökning av regionala skillnader i Sverige 1989-2003 (Avoidable mortality as an indicator in the surveillance of the public health policy – a study on regional variation in Sweden 1989-2003; In Swedish). Statens folkhälsoinstitut, Stockholm 2006.(accepted for publication)
14. Kunkel S, Rosenqvist U, Westerling R. The structure of quality systems is important to the process and outcome. An empirical study of 386 hospital departments in Sweden. *BMC Health Services Research* 2007;7:104.
15. Berg P, Westerling R. A decrease in both mild and severe bicycle related head injuries in helmet wearing ages – trend analyses in Sweden. *Health Promotion International* 2007; 22: 191-197
16. Westin M, Westerling R. Social capital and inequality in health between single and couple parents in Sweden. *Scand J Public Health.* 2007;35:609-617.
17. Lytsy P, Westerling R. Patient expectations on lipid-lowering drugs. *Patient Educ Couns* 2007;67(1-2):143-50
18. Kunkel S, Rosenqvist U, Westerling R. Quality improvement designs are related to the organisational type of quality system. An empirical study of hospital departments. *Health Policy* 2007. (In press). Web access doi:10.1016/j.healthpol.2007.04.007
19. Johansson LA, Björkenstam C, Westerling R. Unexplained differences between underlying cause of death and hospital discharge diagnosis indicate mistakes in cause-of death certification - An investigation of 1094 deaths in Sweden during 1995. Submitted
20. Kunkel S T, Rosenqvist U, Westerling R. Implementation strategies influences the structure, process and outcome of quality systems. Submitted
21. Lytsy P, Burell G, Westerling R. Views on treatment necessity, harm and benefit in a statin treated population. (Submitted)
22. Berg P, Sundelin C, Westerling R. The connection between socioeconomic and psychosocial factors and bicycle helmet use among school children and teenagers. 2007 (Submitted)
23. Hanning M, Lundström M. Waiting for cataract surgery--effects of a maximum waiting-time guarantee. 38. *J Health Serv Res Policy.* 2007 Jan;12(1):5-10.

Dissertations 2005-2007

1. Hanning M Maximum Waiting-time Guarantee - a remedy to long waiting lists?: Assessment of the Swedish Waiting-time Guarantee Policy 1992-19967. *Acta Universitatis Upsaliensis.* Uppsala 2005.

2. Åhs A. Health and Health Care Utilization among the unemployed, Acta Universitatis Upsaliensis. Uppsala 2006.
3. Westin M. Health and Healthcare Utilization Among Swedish Single Parent Families Acta Universitatis Upsaliensis. Uppsala 2007.

Agencies that support the work/Funding 2005-2007

A programme for studies on inequalities in health-mechanisms and the outcome of intervention. Swedish Council for Working Life and Social Research (FAS): (1 300 000 kr year 2003;1 300 000 kr year 2004;) 1 300 000 kr year 2005.

Regional variation in avoidable mortality in Sweden. The Swedish National Public Health Institute. 180 000. 2006.

Health and health care utilization among lone parents and their children. Academic hospital, Uppsala, 151 000. 2006.

Expectations of statin treatment. Academic hospital, Uppsala. 100 000, 2006.

How is bicycle helmet use among school children influenced by a law with and without other intervention. Folksam. 190 000 year 2007.

International Health Communicators (partnership with Lunds University and the region of Skåne). 1 850 000 år 2007-2008. European refugee fund.

Research Projects

Health and health care utilization among the unemployed

Participants: Annika Åhs. Gunilla Burell, Ragnar Westerling

The last decades there have been considerable changes in the Swedish labour market. During the 1990s the level of unemployment increased considerably and the last years the level of sick leave has been high. In a number of studies we are analysing the risk factors for ill-health among different employment groups. In a thesis by Annika Åhs we have found that poor self-rated health was significantly higher among the unemployed, than among the employed during both high and low levels of unemployment. The self reported ill health was a predictor of an increased mortality risk independent of the presence of a chronic disease among the unemployed.

In a recent study we have found that the unemployed experiences depressive mood and indications of potential depression already after a few months of unemployment to a higher extent than employed persons. This depressive pattern occurs irregardless of sociodemographic factors, economic situation and social network factors. However, the unemployed abstained from seeking medical care although when they perceived a need for that more often than the employed did.

Health and health care utilization among lone parent families

Participants: Marcus Westin, Claes Sundelin, Ragnar Westerling

In a thesis from 2007 Marcus Westin has been studying inequity in health and health care utilization with regard to whether parents in Sweden are single or couple. Besides traditional sociodemographic factors, economy and social network he has also analysed what contribution the concept of social capital may give to the understanding of the health situation of the families.

Both single fathers and single mothers were reporting worse health than their married or cohabiting counterparts. However, single fathers had contact with a physician more frequently than married or cohabiting fathers, whereas single mothers had not. On the contrary, single mothers refrained from seeing a physician, despite a medical need, much more often than non-single mothers. Low level of social capital, when adjusted for socio-economic and socio-demographic variables, was clearly and positively associated with less than good self-rated health. Social capital was unevenly distributed between single and couple mothers but not between single and couple fathers. The thesis also showed that both lone parenthood and low level of social capital influences also the children's mental health negatively. The analyses were based on SDQ (Strengths and Difficulties Questionnaire) measures of the children's mental health.

Bicycle helmet use among school-children

Participants: Peter Berg, Claes Sundelin, Ragnar Westerling

In a doctoral project for Peter Berg we have analysed the use of bicycle helmets among School children as well as the associations with the involvement of parents and school. There was a clear link between parental involvement, children's attitudes and children's helmet use. However, parental involvement decreased as the children grew older. In a recent study we have further analysed the impact of socioeconomic and psychosocial factors on helmet use as well as the association with other health related behaviours, such as alcohol, smoking, exercise and eating habits.

An intervention study has been performed in a Swedish municipality – Bålsta – aiming at increasing the voluntary bicycle helmet use among school children. A nearby municipality is a reference area in the study. The activities have been conducted towards parents, children and schools. There has been a significantly higher increase of bicycle helmet use among schoolchildren in ages 11-14 years in the intervention community compared to the reference community. Thus it seems as broad community interventions directed not only to the pupils but to the surrounding adults and their organisations has positive effect on the children's health related habits. We have also continued the evaluation after the introduction of a bicycle helmet law for children under the age of 15. Our preliminary results show that the helmet law had limited effect on the children's helmet use, especially when it was not combined with intervention campaigns like those performed in our study in Bålsta.

Quality systems in hospital departments

Participants: Stefan Kunkel, Urban Rosenqvist, Ragnar Westerling

In a doctoral project Stefan Kunkel has analysed what organisational factors that influence the quality of quality systems in medical care. Stefan Kunkel, has analysed interviews with heads and quality managers of hospital departments and surveys to about 600 such departments. The studies include both qualitative analyses and advanced statistical modelling, such as LisRel-analyses.

The result was a new framework with three organisational aspects of quality systems each with two sub-aspects: structure (resources and administration), process (culture and cooperation), and outcome (evaluation of goal achievement and development of competence). Strong positive relationships were confirmed among structure, process, and outcome. Quality systems could be classified into three organisational degrees. For instance, quality systems of high organisational degree often had adequate resources and administration as well as positive organisational cultures and high cooperation among different professions. Advanced designs required quality systems of high organisational degrees. Examples of such designs were coordination between departments, random check ups, and accreditation. The organisationally demanding quality systems had been implemented through cooperative implementation that is, directed by managers while at the same time giving opportunities for staff to participate in planning and designing.

Targeting non-obvious errors in cause of death statistics

Participants: Lars Age Johansson, Harry Rosenberg, Charlotte Björkenstam, Ragnar Westerling

In our studies we have found considerable differences between death certificates and corresponding hospital discharge records. These differences have been further examined in order to find out whether this can be explained by the ICD selection rules. The ACME, standard software for the selection of underlying cause of death was used to examine the compatibility between the underlying cause of death and the final main conditions. This is to our knowledge the first study of this kind. One third of the difference could not be explained by ICD selection rules. Adding hospital discharge data changed the underlying cause in 11 % of the deaths. In a recent study we have performed a structured assessment of the causes of death based on 1200 medical acts. The death certificates identified to be problematic by the ACME-test were about twice as often as other death certificates questioned also in this assessment. For these death certificates a change of the choice of cause of death was suggested. Thus, this test should be useful in screening for potential quality problems in the cause of death statistics. These assessments would be useful also since we in a methodological review published in *Journal of Clinical Epidemiology* have found considerable quality problems in studies aiming at evaluating the quality of causes of death statistics.

Patients and physicians expectations on lipid-lowering drugs

Participants: Per Lytsy, Gunilla Burell, Ragnar Westerling

Preventive treatment with statins is shown to significantly reduce the absolute risk of coronary heart disease; yet long-term compliance is poor. We have studied the expectations and factors that might affect expectations on statin treatment among patients. A total of 909 Swedish statin users were identified and a questionnaire was used to obtain information on the health of the study objects, cardiovascular risk factors, life style and expectations on statin treatment. On average, statin treated patients believed that 53.6% of statin users would avoid a coronary event as a result of a five-year treatment period. Thus, patients highly over-estimate the general preventive effect of statins. Higher education lowered expectations, but factors commonly used to assess cardiovascular risk, such as age, sex, BMI and previous coronary heart disease, did not affect expectations at all. Patients' expectations of their own possible treatment benefits were found to be more negative among those with a poor social network and patients not socially active.

The study is part of a doctoral project for Per Lytsy. In an ongoing study the physicians expectations and attitudes towards statin treatment are analysed. This study is performed in collaboration with the

pharmaceutical committees in the county of Uppsala and Gävle and supported by the Academic hospital in Uppsala

Studies of Avoidable mortality

Participant: Ragnar Westerling

According to the concept of studying “avoidable” mortality the health care may prevent mortality from a number of causes of death by means of preventive or therapeutic measures. An agglomeration of deaths from avoidable causes is a warning signal motivating further investigation of factors which may increase the possibilities to prevent these causes of death. The method has been used in several studies from different countries and has been applied to Swedish conditions by our research group. Recently we have studied the role of avoidable mortality as an indicator in evaluations of the national public health goals in collaboration with the Swedish National Institute of Public Health. The regional variation in avoidable mortality among health administrative areas declined during the 1980s. In the beginning of the 1990s avoidable mortality from conditions amenable to medical care was higher in the small municipalities in Sweden than in the big cities. Avoidable mortality related to smoking and alcohol habits were however higher in the big cities. However, since the 1990s the difference in avoidable mortality between large cities and rural areas has declined considerably. The persisting regional variation in avoidable mortality mainly reflects public health problems that should be assessed as part of the surveillance of the Swedish Public Health goals. Furthermore, our research group is one of the partners of an European research initiative aiming at further developing the “Avoidable Mortality Indicators for the Effectiveness of Health Systems”.

International health advisors

Participants: Achraf Daryani, Ragnar Westerling

We are evaluating the impact of international health advisors on health and health care utilization among immigrants to Sweden. The health advisors are working with information to immigrants about health related factors and medical care in Sweden.

In the first part of the project a cross-sectional study of health and health care utilization and experiences of contacts with health advisors among refugees from Iraq has been performed as a post-doctoral project for Achraf Daryani. In another part a longitudinal study has been designed aiming at analysing the effects of contacts with health advisors on the health as well as on the health related knowledge and behaviours of immigrants to Sweden. The studies are performed in collaboration with *Lund's University, MIM School of Research, Malmö and the Region of Skåne*. The project is funded by the European Refugee Fund. In the longitudinal study, Ragnar Westerling is jointly supervising research engineer Susanne Sundell Lecerof.