Department of Public Health and Caring Sciences

Annual Report 2009
Introduction

During 2009 there were twelve research groups at the Department of Public Health and Caring Sciences: Caring Sciences, Clinical Nutrition and Metabolism, Disability and Habilitation, Family Medicine and Clinical Epidemiology, Geriatric Research, Health Service Research, Oxidative Stress and Inflammation, Preventive Medicine, Psychosocial Oncology and Supportive Care, Research Ethics and Bioethics, Social Medicine and Sociomedical Epidemiology.

In all, 164 persons had positions at the department. There were 11 professors, 3 adj. professors, 4 professors emeriti, 1 adj. professor emeritus, 5 senior lecturers, 3 adj. senior lecturers, 10 associate professors, 39 researchers, 11 research assistants, 25 teachers, 24 administrators, 7 archivist, dieticians, laboratory assistants and technicians, 2 coordinators, and 1 research physicians. Sixty two doctoral students were studying at the department and 20 of those had appointments.

During 2009, 246 articles were internationally published in scientific journals and 14 of the doctoral students defended successfully their dissertations, and two defended their licentiate thesis. The external founding was about 31 million Swedish crowns.

At the undergraduate level, 518 full time students were educated at the department. The students belonged to different programs and courses, 326 were educated within the Nursing programs, 70 within the Physician program, 22 within the MSc-program in Public Health and 100 in other short courses.

The research groups are presented below

Caring Sciences
Caring Sciences is a broad concept that includes theory, methods and techniques for the study of problems and intervention for individuals and groups within the health care system. Outcome and relations between different, clinically relevant factors are evaluated, as well as the processes involved. Research in Caring Sciences emanates from a multi scientific and multi professional perspective which includes preventive, supportive, caring and rehabilitative actions. One area of the Caring Sciences emphasizes social and behavioral science, including such theories and methods. An important field of study is the interaction between personnel, patients and their family/ significant others. The individual's resources for keeping and regaining optimal health, as well as his/her ability to adjust to change in health status are other important foci for research. Resources within the health care system for support to the individuals and their families are also of great interest, particularly when such resources are lacking and in palliative care. Finally, research concerning health care organizing and education is within the scope of the Caring Sciences.
Clinical Nutrition and Metabolism

The research at Clinical Nutrition and Metabolism (CNM) deals with dietary intake and metabolism during health and disease, and covers aspects of preventive public health nutrition, clinical disease- and age-related nutrition, child and adult obesity, circadian metabolism and physical activity. Fatty acid (FA) and carbohydrate metabolism, inflammation, dietary interventions, dietary assessment, energy metabolism, body composition measurements and implementation techniques are examples of research activities and methodology expertise. Epidemiological studies consider nutritional, metabolic and dietary factors in relation 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.

Disability and Habilitation

Research in disability is interdisciplinary and multi-professional with a fundamental perspective focussing the interface between the individual and his or her environment. A joint conceptual tool is found in World Health Organisation’s classification ICF (International Classification of Functioning, Disability and Health). Contextual Factors in particular serve as a framework for research programme activities in elucidating environmental aspects of disability. More specifically, the study objectives are environmental and personal factors as potential facilitators (e.g. interventions) and/or barriers as well as the outcome of the person-environment interaction from the perspective of people with disabilities and their networks as well as of professionals.

Family Medicine and Clinical Epidemiology

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. The researchers also teach in the undergraduate curriculum within the medical and nursing programmes. In the research programme the focus is on patient centred research using clinical as well as epidemiological techniques.

Geriatric Research

The dementia research unit was established in 2001 and the main areas of research are: Molecular studies of dementia, clinical and epidemiological research and clinical and epidemiological research affecting the elderly population. The researchers 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. 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. The clinical research unit is currently categorizing dementia patients clinically and neuropathologically. This research is based on a tissue bank that includes 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. Population based investigations have been performed on samples from the Uppsala Longitudinal Study of Adult Men (ULSAM). The major aim for the dementia research group in the future is to establish immunotherapeutic strategies to treat dementia.
Health Service Research
The focus of Health Services Research is to study, evaluate and compare the health care system on a national or an international basis. Health services researchers have different backgrounds, such as psychology, medicine, nursing, political science and economy. The approaches in present research projects at the Department for Public Health and Caring Sciences are as follows: One approach is to study the health care system from the view of the individuals involved, for example, doctors, medical care personnel 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. Currently we run several studies within the expanding field of Telehealth. Another approach is the study of political, administrative and medical decision making processes. Studies presently in progress with this approach focus on management of different political reforms within health and elderly care.

Oxidative Stress and Inflammation
This research group “Oxidative Stress and Inflammation” is dedicated to research on inflammation in physiology and in disease state specifically with bioactive eicosanoids. Additionally, oxidative stress which reflects increased levels of free radicals in the body that implicated both in ageing and several inflammatory diseases is also a key research area. Collectively, the research group is devoted to experimental, clinical, epidemiological studies and also development of methodology specifically on eicosanoids. The research group has many national and international collaborative projects within the research vicinity.

Preventive Medicine
The chair was established in 2008 as the first chair in preventive medicine at Uppsala University. Cooperation with preventive activities in the county council and the regional primary communes are under development. The research addresses mechanisms of social inequalities in health, theories of the life course approach in current epidemiology and pertinent empirical topics like the combined effect of early life and later life risk factors on health and morbidity and risk factors triggering the onset of health problems.

Psychosocial Oncology and Supportive Care
The research group has through extensive funding and a unique collaboration with all Swedish centres for pediatric oncology, health IT specialists at Linköping and Uppsala University, and health-economists at Lund and Uppsala University succeeded in reaching a leading-edge concept in the area of psychosocial research in pediatric oncology now replicated within adult oncology and cardiology care. Our research is cross-disciplinary and our group hosts the U-CARE program and consists of several clinicians, researchers, post doc researchers, and PhD students from different academic disciplines such as caring sciences, clinical psychology, computor and systems science, and health-economy.

Research Ethics and Bioethics
The researchers conduct research on Research Ethics, Bioethics and Medical Law. Research Ethics involves the application of ethical principles and values to a variety of research topics. It aims to create good research, while at the same time studying what good research is. Bioethics, on the other hand, includes philosophical, theological, legal and social scientific aspects of medicine and biology. Medical law spans a wide range of traditional branches of law and is associated to the Centre through our collaboration with the Department of Law at Uppsala University. The centre is placed at the Faculty of Medicine and administratively associated to the Department of Public Health and Caring Sciences.
**Social Medicine**
The Division of Social Medicine focuses on three major and inter-related research areas. A common factor for all our research is enhancing the scientific understanding of risk- and resiliency factors, as well as related bio-psycho-social mechanisms, of relevance for sustained and equitable occupational and social health and well-being. The Division’s health systems research concerns determinants of and effective use of limited financial and human resources, and its implications for major health care stakeholders, including patients, staff, and third-party payers.

**Sociomedical Epidemiology**
The research integrates 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.

During 2009, nine of the research groups moved to BMC and have now better opportunities to cooperate with each other. Three groups remained at Dag Hammarskjöld's väg 14B, but the good cooperation between those groups and the rest of the department will remain. The year 2009 has been a good year for the Department of Public Health and Caring Sciences and a lot of achievements have been accomplished by the staff and the students. We are now facing 2010 and thereby new economical, educational, organizational and scientific challenges.

Uppsala 2010-03-30
Marianne Carlsson
Head of Department
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Organization

**Head of Department**
Marianne Carlsson

**Deputy Head of Department**
Mats G Hansson

**Department Board**
Carina Ahlstedt, Teacher Representative
Gunnar Bergström, Student Representative
Monica Blom Johansson, Graduate Student Representative
Tommy Cederholm, Teacher and Researcher Representative
Birgitta Edlund, Teacher and Researcher Representative
Margaretha Eriksson, Teacher and Researcher Representative
Annica Ernesäter, Graduate Student Representative Deputy
Ulf Holmbäck, Teacher and Researcher Representative Deputy
Inger Holmström Teacher and Researcher Representative Deputy
Jonas Lindberg, Student Representative
Annie Lundberg, Representative of Technical and Administrative Personnel, Deputy
Rose-Marie Marcusson, Representative of Technical and Administrative Personnel,
Karin Nordin, Teacher and Researcher Representative Deputy,
Catarina Olsson, Protocol,
Anja Saletti, Teacher and Researcher Representative Deputy
Charlotte Traneus, Economist
Ulrika Winblad Spångberg, Teacher and Researcher Representative

**Professor Emeriti**
Urban Rosenqvist
Björn Smedby
Kurt Svärdsudd
Claes-Göran Westrin
Bengt Vessby adj. Professor Emeritus
Directors of Graduate Studies
Mats G Hansson, Head
Margaretha Eriksson
Inger Holmström
Karin Nordin MSc in Public Health

Directors of Undergraduate Studies
Karin Björkegren, Head
Birgitta Edlund, Head
Carina Ahlstedt
Lena Kilander
Sören Kjellberg
Ragnar Westerling
Annika Åhs

Director of Clinical Issues
Lars Lannfelt

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Bengt Arnetz
Samar Basu
Marianne Carlsson
Tommy Cederholm
Louise von Essen
Johan Hallqvist
Mats G Hansson
Inger Holmström
Lars Lannfelt
Karin Nordin
Karin Sonnander
Tanja Tydén
Ragnar Westerling
Ulrika Winblad
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Wulf Becker
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Arnetz Bengt
Arnetz Judith
Arving Cecilia
Ashir Assalie
Basu Samar
Basun Hans
Becker Wulf
Bergknut Eva
Berglund Marie
Bergström Berit
Bergström Joakim
Bjerg-Bäcklund Rie
Björkegren Karin
Blom Anna-Lena
Blom Johansson Monica
Bratteby-Tollerz Linda
Burell Gunilla
Bäcklund Linus
Carlsson Maria
Carlsson Marianne
Cederholm Tommy
Cernvall Martin
Daryani Achraf
Demmelmaier Ingrid
Denison Eva
Edlund Birgitta
Ekholm-Pettersson Frida
Engvall Gunn
Eriksson Carola
Eriksson Heléne
Eriksson Margaretha
Eriksson Ove
Eriksson Stefan
Eriksson-Öhman Solveig
Ernesäter Annica
Etzell Camilla
Evers Katinka
Fernow Josepine
Forsberg Joanna
Fredriksson Mio
Giedraitis Vilmantas
Glaser Anna
Gottvall Maria
Granberg Gun-Britt
Gulliksson Mats
Gunningberg Lena
Gustavsson Gunilla
Halford Christina
Hall Håkan
Hallqvist Johan
Hansson Mats Gunnar
Hashemi Rohab Nooshin
Hedström Mariann
Holm Marta
Holmåk Ulf
Holmström Inger
Honkanen Kirsti
Hovstadius Eva
Hurtigh Liljestam Anna
Höglund Anna
Ingelsson Martin
Ingvoldstad Charlotta
Isaksson David
Isaksson Stina
Jansson Håkan
Johannesson Marie
Johansson Gunnar
Jonasson Sören
Jöreskog Karin
Kallings Lena
Kaminsky Elenor
Karlström Brita
Kihlbom Ulrik
Kilander Lena
Kjellberg Sören
Kuhlau Frida
Lampic Claudia
Lannfelt Lars
Larsson Jan
Lindahl Norberg Annika
Lindstedt Helena
Lundberg Annie
Lundberg Pranee
Lundin Birgit
Lundquist Annika
Lytsy Per
Magnusson Kristina
Magnusson Maria
Marnell Harriet
Martinsson Carl Magnus
Masterton Malin
Mattsson Elisabet
Modin Karin
Muntlin Åsa
Nilsson Gunilla
Nilsson Lars
Nordin Karin
Norinder Camilla
Normark Lena
Näsström Thomas
O’Callaghan Paul
Olsson Catarina
Olsson Mona
Olsson Roger
Paulsson Ulrica
Peippo Maria
Petersson Helena
Pettersson Elisabet
Pettersson Mona
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Rissanen Ritva
Röing Marta
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Thulin Christina
Torbratt Karin
Traneus Charlotte
Tydén Tanja
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Umb-Carlsson Œie
von Essen Louise
Wadensten Barbro
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Westerling Ragnar
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Gustafsson, Carina
Hanning, Marianne
Hansson, Ann-Sophie
Hedov, Gerth
Helmersson, Johanna
Hjelmblink, Finn
Hofsten, Anna
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Jansson, Pia von Vultée
Johansson, Lars Age
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Kullberg, Kerstin
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Sanner, Margareta
Smedman, Annika
Smide, Bibbi
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Ström Möller, Kristina
Ståhlhammar, Jan
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Bogefeldt Johan
Boll Madeleine
Boman Jill
Bröms Kristina
Cedervall Ylva
von Cellsing Anna-Sophia
Cernvall Martin
Demmelmaier Ingrid
Engström Sevek
Ernesäter Annica
Ferdous Tamanna
Fredriksson Mio
Glad Johan
Gottvall Maria
Gulliksson Mats
Gumucio Gatica Astrid
Gustavsson Catarina
Halford Christina
Hallman David
Hayat Roshahay Afsaneh
Hedlund Mathilde
Höyer Marie
Iggman David
Isaksson Stina
Jansson Stefan
Johansson Hans-Erik
Johnsson Linus
Jönsson Birgitta
Kaminsky Elenor
Karlsson Bo
Kuhlau Frida
Lindberg Magnus
Lindberg Maria
Lytsy Per
Muntlin Åsa
Mårtensson Gunilla
Nerpin Elisabet
Nordin Jenny
Norrmén Gunilla
Näsström Tomas
O’Callaghan Paul
Olai Lena
Olsson Erika
Paulsson Ulrica
Petersson Helena
Philipson Ola
Rissanen Ritva
Ryttter Elisabet
Rönnemaa Elina
Sehlin Dag
Star Kristina
Stjernschantz Forsberg Joanna
Söllvander Sofia
Törmä Johanna
Wahlberg Therese
Westerberg Jacobsson Josefin
Wiberg Bernice
Centres

During 2009, the Department of Public Health and Caring Sciences was the host of two Centres, the Centre for Disability and Habilitation and the Centre for Research Ethics and Bioethics.

CRB

Centre for Disability and Habilitation
The Centre for Disability and Habilitation was established in 1998 to coordinate research in disability issues in various subject areas at the faculties at Uppsala University 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.

Centre for Research Ethics & Bioethics (CRB)
The Centre for Research Ethics & Bioethics (CRB) is an interfaculty centre. CRB’s research profile includes research ethics, bioethics and medical law. More specifically, we conduct research on animal and environmental ethics, investigate autonomy, the ethics of biobanking, dual-use issues related to biosafety and biosecurity, codes and guidelines for research, clinical ethics, enhancement of human performance, genetic information and testing, medical law, neuroethics and the philosophy of mind, ethics at the beginning of life, priorities in health care and quality of life issues.

CRB also has an extensive teaching load in ethics for undergraduate students in medicine and nursing, as well as research ethics for PhD students at all faculties. (www.crb.uu.se)
Scientific Reports

Caring Sciences

Research Group Leader Tydén Tanja, RN, Professor

Caring Sciences is a broad concept that includes theory, methods and techniques for the study of problems and intervention for individuals and groups within the health care system. Outcome and relations between different, clinically relevant factors are evaluated, as well as the processes involved. Research in Caring Sciences emanates from a multi scientific and multi professional perspective which includes preventive, supportive, caring and rehabilitative actions. One area of the Caring Sciences emphasizes social and behavioral science, including such theories and methods. An important field of study is the interaction between personnel, patients and their family/ significant others. The individual's resources for keeping and regaining optimal health, as well as his/hers ability to adjust to change in health status is another important focus for research. Resources within the health care system for support to the individuals and their families are also of great interest, particularly when such resources are lacking and in palliative care. Finally, research concerning health care organizing and education is within the scope of the Caring Sciences.

Researchers/group leaders

Our group consists of several researchers of which many are very experienced and have interesting ongoing projects of high quality. The group is multi professional, but the majority is registered nurses. The researchers are to a high degree engaged in education on the undergraduate level, master and doctoral level. The education mainly concerns courses in caring sciences within the Nursing- and Specialist Nursing Programs, single subject courses and courses within the Master Program in Public Health.

The following researchers/group leaders belonged to Caring Sciences during 2007-2009:

- Aarts Clara, nurse, PhD, senior lecturer
- Arving Cecilia, registered nurse, PhD, research assistant, guest lecture
- Carlsson Maria, registered nurse, associate professor, senior lecturer
- Carlsson Marianne, professor
- Edlund Birgitta, registered nurse, associate professor, senior lecturer
- Gunningberg Lena, registered nurse, associate professor, senior lecturer (new member 2009)
- Hedström Mariann, registered nurse, PhD, senior lecturer (new member 2008)
- Lampic Claudia, psychologist, associate professor, senior lecturer (Karolinska Institute, partly at Caring Sciences Uppsala)
- Lindberg Per, psychologist, professor (left 2008 for professor at the dep. of psychology, Uppsala Univ.)
- Lundberg Pranee, registered nurse and midwife, associate professor, senior lecturer
- Nordin Karin, psychologist, professor
- Pöder Ulrika, registered nurse, PhD, senior lecturer (new member 2008)
Tydén Tanja, registered nurse, midwife, professor  
Wadensten Barbro, registered nurse, associate professor, senior lecturer (new member 2008)  
Winblad Ulrika, political scientist, PhD, research assistant (new member 2008)  

**Fundings over 100.000 SEK, 2007-2009**  
The Swedish Research Council  
The Swedish Cancer Society  
The Swedish Council for Working Life and Social Research  
Uppsala/Örebro Regional Research Council  
The Swedish Association of Local Authorities and Regions (SKL)  
Försäkringskassan  

**Licentiate dissertation 2007-2009**  
Kullberg Kerstin, Food in older men with somatic diseases. Eating habits and approaches to food-related activities, 2009  

**Dissertations 2007-2009**  
Jeanette Winterling, "Hope and Despair. Philosophy of life, expectations and optimism in cancer patients and their spouses”, 2007  
Cecilia Arving, “Individual psychosocial support for breast cancer patients”,  
Caring sciences in cooperation with the Domain of Humanities and Social Sciences, 2007  
Maria Engström, “A Caregiver Perspective on Incorporating IT Support into Dementia care”, 2007  
Bernice Skytt, ” First –line Nurse Managers: Preconditions for Pratice, The important interplay between Person and Organization”, 2007  
Elisabet Wasteson, "Living and coping with cancer, Specific challenges and adaption”, 2007  
Eva Landström, To choose or not to choose functional foods? – Attitudes to and use of functional foods among Swedish consumers and health care professionals“, 2008  
Kjerstin B Larsson, “Quality of Life and Coping with Ulcerative colitis and Crohn’s Disease”, 2008  
Annika Nilsson, ”Health Care Staff: Riskfactors for Pain, Disability and Sick Leave“, 2008  
Mathilde Hedlund, “Coping, psychiatric morbidity and perceived care in patients with aneurismal subarachnoid haemorrhage”, 2009  
Gunilla Mårtensson, “The insider and outsider perspective. Clinical importance of agreement between patients and nurses in cancer care concerning patients’ emotional distress, coping resources and quality of life”, 2009  
Rastad Cecilia “Winter Fatigue and Winter Depression – Prevalence and Treatment with bright light, 2009  
PhD students at Caring Sciences in 2009
Björn Catrine
Demmelmaier Ingrid
Gottvall Maria
Gustavsson Catharina
Höjer Marie
Isaksson Stina
Jönson Birgitta
Lindberg Magnus
Lindberg Maria
Nordin Jenny
Paulsson Ulrika
Rashanai Afsaneh
Rissanen Ritva
Kristina Star
Westerberg Josefin

Aarts Clara
The focus of research has been within primary health care and international collaboration of student exchange programs.

Publications 2007 - 2009


European and Canadian nursing students. International Journal of Nursing Practice 15:502-509


Cecilia Arving

Psychosocial- and supportive care, within the field of oncology. The focus is mainly on interventions for adult females diagnosed with breast cancer and main outcomes are: Quality of Life, psychological distress, health economic evaluations, satisfaction with care and perceived emotional support.

Publications 2007-2009


2. Arving C, Glimelius B & Brandberg Y (2008). Four weeks of daily assessments of anxiety, depression and activity compared to a point assessment with the Hospital Anxiety and Depression Scale. Qual Life Research 17, 95-104.


Maria Carlsson

Research about information seeking behavior in cancer patients, fatigue in relatives to dying cancer patients cared for in a palliative care setting and the professional encounter in a hospital setting, perspective of the patients and the nurses.

Publications 2007-2009


3. Carlsson M. Fatigue in relatives of palliative patients. Palliative and Supportive Care 2009 7:207-211.

Marianne Carlsson
Quality of life and coping in everyday life in different life situations in a health care context. The focus is primarily psychometric, but the perspective of patients is also studied with qualitative research methodology. Another field of study contains development and testing of a diagnostic tool for detection of early signs of dementia.

Publications 2007-2009


Edlund Birgitta
Field of research: Health- and lifestyle behaviours in children, adolescents and young adults
The research is conducted mainly within the following three areas: Protective factors and risk factors for the development of eating disorders, environmental risk factors for overweight in children and unhealthy life habits and vulnerability among school children.

Publications 2007 - 2009


Lena Gunningberg

The research is focusing on improving nursing practice, patient safety and clinical outcomes in acute hospital settings. The studies have been performed with a professional perspective (e.g. prevention of pressure ulcers, nutrition, pain management postoperatively and in the emergency room), as well as studies from the patients’ perspective (quality of care, communication and participation).

Publications 2007-2009


Marianne Hedström
Research is conducted within two main areas:
1) Geriatric nursing
2) Ethical aspects of DNR decisions

Publications 2007-2009

Claudia Lampic
Research is conducted within two main areas: 1) Cancer patients’ quality of life, satisfaction with care and other aspects, including both patient and staff perspectives and 2) Psychosocial aspects of fertility and infertility, with a focus on treatment with donated gametes.

Publications 2007-2009


**Per Lindberg**

Research is focused on problems related to health and self-care within a bio-psycho-social and behavioural medicine theory framework.

**Publications 2007-2008**


**Pranee Lundberg**

Research within nursing and health related to culture, self-management of cancer and chronic diseases, reproductive health, and ergonomics.

**Publications 2007-2009**


**Karin Nordin**

The research is within two main areas

1) Emotional support and rehabilitation of patients with cancer

2) Ethical and psycho-social implications of the medical adaptation of the new knowledge within human genetics

**Publications 2007-2009**


Ulrika Pöder
Psychosocial- and supportive care, within the field of pediatric oncology. The focus is on parents of children diagnosed with cancer: parental posttraumatic stress, satisfaction with care and perceived emotional support.

Publications 2007-2009


Tanja Tydén
Research mainly within sexual and reproductive health and family planning issues; sexual behavior among teenagers and young adults, use of contraception, sexually transmitted infections, attitudes to abortions and caring of abortion applicants, attitudes to HPV and the new vaccine against cervical cancer

Publications 2007-2009

Title in English. Preventative work is needed in order to promote sexual health among adolescents.


**Barbro Wadensten**

Main research area: gerontological nursing

Publications 2007 -2009


17. **Ahlström G. & Wadensten B. (2009).** Encounters in close care relations from the perspective of personal assistants working with persons with severe disability. Health and Social Care in the community 18, 2, 180-188.


Winblad Ulrika

Research focus is on the political, administrative and medical decision making processes within health- and elderly care. Especially public policies about patient involvement and patient choice are studied.

Publications 2007-2009


Clinical Nutrition and Metabolism

Research group leader Tommy Cederholm, MD, PhD, Professor

The research at Clinical Nutrition and Metabolism (CNM) deals with dietary intake and metabolism during health and disease, and covers aspects of preventive public health nutrition, clinical disease- and age-related nutrition, child and adult obesity, circadian metabolism and physical activity. Fatty acid (FA) and carbohydrate metabolism, inflammation, dietary interventions, dietary assessment, energy metabolism, body composition measurements and implementation techniques are examples of research activities and methodology expertise. CNMs two laboratories analyze FA profiles in various tissues by gas-chromatography and measure body composition by air-displacement and bioelectrical impedance, and energy expenditure. Epidemiological studies consider nutritional, metabolic and dietary factors in relation 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 2009

<table>
<thead>
<tr>
<th>Name</th>
<th>Academic title</th>
<th>Professional title</th>
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<tr>
<td>Tommy Cederholm</td>
<td>Professor</td>
<td>MD</td>
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<tr>
<td>Wulf Becker</td>
<td>Adjoint professor</td>
<td>Chief nutritionist</td>
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<td>Brita Karlström</td>
<td>Professor</td>
<td>Dietitian</td>
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<td>Bengt Vessby</td>
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<td>Ulf Riserus</td>
<td>Associate professor</td>
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<td>Ulf Holmäck</td>
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<td>Anja Saletti</td>
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<td>Per Sjögren</td>
<td>Post-doc</td>
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<td>Viola Adamsson</td>
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<td>Tamanna Ferdous</td>
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<td>Roger Olsson</td>
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<td>Johanna Törnä</td>
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<td>Erika Olsson</td>
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<td>Sigvard Sobestiansky</td>
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</table>
Linda Bratteby-Tollerz  
Physiotherapist

Marie Berglund  
Research assistant

Partly affiliated or associated to CNM:

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Postdoc  
MD

Anders Forslund  
Postdoc  
MD

Torbjörn Åkerfeldt  
PhD student  
MD

Eva Warenjö  
Postdoc

Tamanna Ferdous  
Postdoc

Annika Smedman  
Postdoc

Achraf Daryani  
Postdoc

Marie von Post Skagegård  
Dietitian

Susanne Eriksson  
Dietitian

Maria Lennernäs  
Professor

Anders Sjödin  
Ass professor  
MD

Publications 2007-2009


41. Helmersson J, Arnlöv J, Axelsson T, Basu S. A polymorphism in the cyclooxygenase 1 gene is associated with decreased inflammatory prostaglandin F(2)(alpha) formation and


Reviews 2007-2009


**Other articles 2007-2009**

1. **Cederholm T, Saletti A.** Måltidens plats i vardagen. Äldre i Centrum 2009, 3:16-17.


13. Becker W, Bruce A, Mattisson I, Sohlström A. Dietary guidelines are the same in spite of different basis
Läkartidningen. 2007;104:3786-7.

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2. 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.


**Agencies that support the work/Funding 2009 >100 000 SEK**

<table>
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<tr>
<th>Agency</th>
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<td>EU Lipgene</td>
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<td>Nordforsk SYSDIET</td>
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<td>FAS</td>
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<td>Johanniterorden</td>
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<td>Uppsala County Council - ALF</td>
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<td>Uppsala Municipality (&quot;Stimulansmedel&quot;)</td>
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<td>Riksförsbundet för rörelsehindrade (RBU)</td>
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**Project 1: Nutrition and ageing**

Tommy Cederholm, Brita Karlström, Anja Saletti, Johanna Törmä, Tamanna Ferdous, Erika Ohlsson, Per Sjögren, Sigvard Sobestiansky

**Implementing nutritional routines into institutionalized elderly care**

Collaborators: Johanna Törmä, Anja Saletti, Brita Karlström, Marianne Sellgren, Ulrika Spångberg Winblad Tommy Cederholm.

Despite a good awareness of the problem and several years of educational efforts, malnutrition and insufficient food intake is still common among elderly in community care. In order to find a feasible process for effective implementation of actions to address nutrition, food and meals, a
study in collaboration with the Uppsala Commune has been launched. The municipal county of
Uppsala has decided upon a certain formula for nutrition and dietary routines. In interactive
models of action research the research team together with the community care staff will develop
an effective model of implementation of the formula. In a combination of qualitative and
quantitative techniques the effects of the efforts will be studied in a controlled trial where four
units will be targeted for the implementation intervention, whereas four stratified units will
receive a limited educational effort. Both the staff attitudes and behavior, as well the food and
mealtime effects for the care-takers will be studied.

Age, dependency and appetite
Collaborators: Anja Saletti, Tommy Cederholm, Ylva Mattson Sydner, 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 everyday life. The study of qualitative
interviews was undertaken during 2005 and 2006. 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 interview about their
meals, food and appetite.

Dietary intake and risk of cognitive disorders: A 12-year follow-up study in 70 year old
men (The ULSAM Cohort).
Collaborators: Erika Olsson, Brita Karlström, Tommy Cederholm, Lena Kilander, Per Sjögren
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).

Dietary patterns 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
The aim of the study is to evaluate dietary intake and dietary habits in the ULSAM population at
the age of 82, i.e. 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). Dietary intake was measured at the fifth
follow-up of ULSAM - Uppsala Longitudinal Study of Adult Men, when the participants were
82 years old, using a pre-coded 7-d record book and with a food frequency questionnaire
(FFQ). Questions were asked about their food habits, e.g. who does the shopping and cooking,
whether they eat alone or with someone.

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.

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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. This project was ended by the successful defence of a dissertation in September 2009.

**Sarcopenia in geriatric care – the importance of skeletal muscle in elderly patients**

*Collaborators: Sigvard Sobestiansky, Ann-Christin Åberg, Thomas Gustafsson, Per Tesch, Andreas Fugman, Tommy Cederholm*

Sarcopenia denotes the loss of muscle mass linked to physiological changes during ageing which is enhanced by age-related conditions like chronic disorders, chronic inflammation, insufficient dietary intake an low physical activity, including periods of bed-rest due to illnesses. Sarcopenia is the cause of disability and inability to recover from disease in the old subject. Increased attention has been paid to this condition during the last 10-20 years. In a joint effort with expertise on physiotherapy and muscle metabolism the prevalence of sarcopenia and methods to define and diagnose the condition will be studied in a group of 100 consecutively admitted geriatric patients. Body composition, physical strength and physical function will be addresses. Subsequently, an intervention study is planned.

**Selective Androgen Receptor Modifiers (SARMs) for the treatment of muscle wasting/sarcopenia in free-living older adults**

*Collaborators: Ulf Holmbäck, Maria Berglund, Torbjörn Åkerfeldt, Roger Olsson, Karl Michaelsson, Tommy Cederholm*

CNM was one of many international centers in a Phase II/III study performed by MSD to evaluate feasibility, safety and effects on muscle strength and functionality in community-dwelling older adults with limited functional impairments by a new Selective Androgen Receptor Modifiers. CNM did a thorough screening of close to 50 subjects and finally was able to include 4 in a 6-month protocol. CNM was the most successful of all participating centers. The data collection was finished during 2009 and analyses are now performed.

**The PROVIDE Study – protein and vitamin enforced supplementation to sarcopenic older adults**

*Collaborators: Ulf Holmbäck, Sigvard Sobestiansky, Marie Berglund, Marie von Post Skagegård, Susanne Ericsson, Tommy Cederholm*

This project has been planned during 2009 to start in 2010 and aims to evaluate the muscle strengthening effects of a liquid supplementation rich in essential amino acids, vitamin D and vitamin Bs, to subjects >65 years of age, altogether ~300, with reduced muscle mass and muscle strength. It is a RCT design and the intervention period will be 6 months. It is a multi-center study involving 5 international centers and the study is driven by Danone/Nutriticia, and will be performed in collaboration with Good Food Practice, Uppsala, who will give logistic support.
Projects where CNM was a participant 2009:

**Functionality and quality of life in stroke patients one year after the event**
*Collaborators: Birgit Wahlberg Tommy Cederholm, Lena Zetterberg, Karin Hellström,*
The aim of this study is to describe the functional capacity and psycho-social well-being in 200 stroke patients 65-85 years of age one year after the event. Nutritional status (MNA), body composition (BIA), function (ADL, gait speed, Physical Activity Scale) self-efficacy and coping will be tested. This project is performed in collaboration with the Department of Neuroscience at UU.

**Omega-3 fatty acid supplementation to patients with Alzheimer’s disease - The OmegAD Study**
Epidemiological evidence indicates 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, inflammation and gene expression are studied. During 2009 PhD student Inger Vedin, KI defended her thesis based on this project. Tommy Cederholm is PI for this study.

**Protein supplementation and bisphosphonates in elderly lean patients with hip fracture.**
*Collaborators: Tommy Cederholm, Margareta Hedström, Amer Al Ani, Nils Dalen, Paul Ackerman, Lena Flodin.*
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 bisphonates 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. The study is performed in collaboration with Fresenius Kabi

**Inflammation and nutritional status in patients with rheumatoid arthritis**
*Collaborators: Tommy Cederholm, Ann-Carlotte Elkan, Inga-Lill Engvall, Birgitta Tengstrand, Johan Frostegård, Ingiäld 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 one group of 80 in-ward patients and in one corresponding group of out-clinic patients, the nutritional status, body composition, muscle mass integrity and function in relation to inflammatory markers and cardiovascular disease are studied. PhD student Ann-Charlotte Elkan, KI defended her thesis on this project during 2009.

**Project 2: Fat and carbohydrates in the diet and the body**
Collaborators: Ulf Risérus, Brita Karlström, Siv Tengblad, Per Sjögren, Bengt Vessby.

**Effects on appetite and cognitive performance of meals with different glycaemic load**
*Collaborators: Agneta Andersson, Anders Sjödin, 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 lipid esters and desaturases in relation to metabolic disease - Dietary and genetic aspects.**
*Collaborators: Eva Warensjö, Bengt Vessby, Tommy Cederholm och Ulf Risérus*

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. 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.

**Effects of a Nordic diet on cardiovascular risk and the metabolic syndrome.**
*Collaborators: Ulf Risérus, Viola Adamsson, Bengt Vessby, Gunnar Johansson, Tommy Cederholm*

In a series randomized controlled studies, we are currently investigating the role of a “healthy Nordic diet”, i.e. a diet containing foods traditionally used in the Nordic countries, and foods that have documented health effects on metabolic and cardiovascular risk factors,
Uppsala is one of 11 academic centres in the consortium “Nordic Centre of Food, Nutrition and Health”, financed by NordForsk. The aim is to conduct a large dietary multicentre intervention study using systems biology to investigate the genetic and metabolic effects of a Nordic diet in overweight subjects with the metabolic syndrome (SYSDIET project). We are also investigating the clinical effects of a Nordic diet in subjects with hypercholesterolemia (NORDIET project), as well as investigating the metabolic impact of a Nordic healthy breakfast (NORDBREAK project)

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

**Collaborators: Ulf Risérus, Helena Petersson, David Iggman, Tommy Cederholm**

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 Hellénius 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.

Project 3: Dietary habits, dietary patterns and effects of diet

**Wulf Becker, Brita Karlström, Bengt Vessby, Annika Smedman, Per Sjögren**

**Dietary patterns and long-term health**

**Collaborators: Per Sjögren, Erika Olsson, Brita Karlström, Tommy Cederholm, Lena Kilander, Karl Michaelsson, Wulf Becker**

Dietary data collected in the ULSAM Study at 70 years of age, around 1100 males, is compiled into dietary patterns; i.e. Mediterranean-like Diet, WHO-recommended Diet and Carbohydrate Restricted (Atkins-like) Diet, according to previously described methods. We investigate relationships between the adherence to the various dietary patterns and long-term health outcome, e.g. mortality, cardiovascular disease, cognitive function, osteoporosis and cancer. Corresponding studies are planned for the PIVUS cohort.

**Gene-diet-interactions and cardiometabolic risk**

**Collaborators: Per Sjögren, Ulf Risérus, Erik Ingelsson, Jennifer A Nettleton (USA)**

Our genetic background interacts with dietary modifications in determining health outcome. In this project we focus on the intake of certain nutrients, how they interact with selected gene variants and the effect on this interaction on intermediate risk factors for type-2-diabetes and cardiovascular disease. These studies are part of a large multinational collaboration (i.e. the CHARGE consortia) including several prospective cohort studies, and conducted by JA Nettleton (Texas, USA). Ongoing studies in this collaboration include the impact on fasting plasma glucose levels from selected gene variants and their interaction with the dietary intake of fibre, coffee and zinc, respectively.
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 and researchers in Norway and 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.

Project 4: Inflammation, oxidative stress and effects of antioxidants

Until 2008 ass professor Samar Basu was a part of CNM. January 1, 2009 Samar Basu started his own Research group, i.e. Oxidative Stress and Inflammation. Some, see below, of the projects are performed with shared responsibility between Clinical Nutrition and Metabolism and Oxidative Stress and Inflammation

Association between diet, obesity, oxidative stress and inflammation
Participants: Samar Basu, Bengt Vessby, Alan Sinaiko
The project is performed in collaboration with University of Minnesota Medical School, USA.

Effects of antioxidants on oxidative stress, inflammation and metabolic control in humans.
Co-workers: Elisabet Rytter, Rikard Åsgård, Samar Basu, Lennart Möller, Anders Sjödin, Lilianne Abramson-Zetterberg, Bengt Vessby
The aim of the studies are 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.

Project 5: Obesity and overweight in children and adults

Ulf Holmbäck, Tommy Cederholm, Roger Olsson, Linda Bratteby Tollerz, Marie Berglund, Torbjörn Åkerfeldt, Arvo Hänni, Anders Forslund

Individualized treatment of pediatric obese patients
Collaborators: Anders Forslund, Ulf Holmbäck, Jan Gustafsson
In spring 2008 the children’s obesity clinic opened in Uppsala. We have 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. We have started a pilot study looking at if individualized diet treatment may facilitate weight loss and normalize endocrine variables.
Weight reducing operations and effects on body composition and endocrine function.
Collaborators: Ulf Holmbäck, Tommy Cederholm, Anders Karlsson, Arvo Hänni, Magnus Sundbom
Project: Morbid obesity is treated with various operative techniques, depending on degree of obesity. Few studies have examined the impact of various operation techniques at weight stabilization. Using a cross-sectional approach, we are studying obese subjects after gastric bypass or duodenal switch and comparing them to weight matched non-operated controls. We are assessing body composition, energy expenditure, psychometric variables, expression of lipogenic genes, appetite regulation, inflammation and markers for fat, protein and muscle turnover.

Assessment of nutrition status in pediatric patients
Collaborators: Roger Olsson, Ulf Holmbäck, Marie Berglund, Linda Bratteby-Tollertz, Anders Forslund
In various diseases, such as cystic fibrosis or neurological conditions such as cerebral pareses, correct assessment of nutrition status is important. Often caloric needs are estimated from equations, and these equations might underestimate energy needs in these patient populations. By using various techniques such as activity monitors, heart rate monitors and activity diaries, together with indirect calorimetry and body composition assessment, we strive to get a more complete picture of these patients nutrition status. These, hopefully, more correct nutrition status figures will aid in the treatment and increase health in these patient populations.

The effects of nutrition and physical activity on muscle metabolism and biochemical variables.
Collaborators: Torbjörn Åkerfeldt, Mats Stridsberg, Ulf Holmbäck.
In various clinical settings, such as after surgical procedures, patients have to recover from loss of muscle mass and muscle function. Our projects aim to learn more about how to optimize nutrition support for muscle gain, and also to elucidate what changes occur within the muscle as well as on the whole body level.

Project 6: Circadian Metabolism
Ulf Holmbäck, Anders Forslund

Metabolic, endocrine and mental performance effects of nocturnal eating
Participants: Ulf Holmbäck, Anders Forslund, Torbjörn Åkerfeldt, Mats Stridsberg; Maria Lennernäs (Högskolan i Kristianstad); John Axelsson, Arne Lowden and Torbjörn Åkerstedt (Stockholms universitet).
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.
SLOPUS: Will short sleep in adolescents affect energy expenditure, glucose metabolism and appetite?
Participants: Ulf Holmbäck, Anders Sjödin (University of Copenhagen) & Jean-Philippe Chaput (University of Copenhagen).
Project: Adolescents will take part in a randomized interventions trial looking at the effects of short sleep on energy expenditure, glucose metabolism and subjective and objective appetite. Two pilot subjects have been run during the autumn and enrollment for the study has begun.

Undergraduate Teaching

Biomedical Laboratory Science Program - Biomedicinsk analytiker (BMA)-programmet
Energy balance, body composition and nutrition status in the course “Biochemistry”; lectures and seminars, together with the Department of Medical Biochemistry and Microbiology

Biomedical Program - Biomedicinarprogrammet
Energy balance, body composition and nutrition status in the course “Medical physiology and pharmacology”; lectures and seminars, together with the Department of Medical Cell Biology

Medical Program - Läkarprogrammet
First semester – Energy balance and nutrition status; lectures and seminars, together with the Department of Medical Cell Biology
Sixth and seventh semester – Clinical nutrition and public health nutrition: lectures, seminars, case reports and discussion.

"Livsmedelsagronom"-programmet
Energy balance, body composition, substrate metabolism and nutrition status in the course “Human nutrition”; lectures and seminars together with the Department of Food Science, the Swedish University of Agricultural Sciences

Master in Public Health - Master i Folkhälsa
Responsible for the 15 HTPS course”Diet, nutrition and health; lectures, seminars, projects and examination.

Nursing Program - Sjuksköterskeprogrammet
First semester – Energy balance and nutrition status; lectures and seminars, together with the Department of Medical Cell Biology
Third semester: "Nursing for obese patients”; lectures, seminars, and memo
Sixth semester: “Nutrition for elderly”; lectures
Centers and Facilities

**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.

**DiabetesForum** – an Uppsala network of researchers working with diabetes

**Dietitians in Geriatrics** – DIG facilitate national clinical and research collaboration between dietitians working in geriatric medicine.

**EFSA** – Scientific cooperation & Assistance Directorate within European Food Safety Authority

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


**Euronut** – 15 European institutions with high quality nutrition research collaborating around Diet and ageing, in accordance with EU:s 7th Frame Program.

**European Working Group on the definition of sarcopenia in older adults** – an initiative stamming from Eur Geriatric Medicine Society in order to create an operational definition of sarcopenia

**Gerontonet** – around 40 European Centers of Excellence for nutrition and ageing.

**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.

**National Food Administration – Expert group on Diet and Health**– An advisory group comprised of stakeholders in nutrition research dealing with issues related to dietary recommendations for public health purposes.

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

**Nordic Centre of Excellence in Food, Nutrition and Health (NoCE)** - Systems biology in dietary intervention studies (SYSDIET). KNM at Uppsala university is one of 3 Swedish academic research groups included in this Nordic network funded by NordForsk.
**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.

**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.

**OPUS** - the OPUS centre is a collaboration between various Danish and international universities to orchestrate the worlds largest intervention study on the effect of diet and lifestyle on children and adolescents.

**SWESPEN** – The Swedish Society for Clinical Nutrition and Metabolism. A society linked to the corresponding European Society, i.e. ESPEN.

**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.
Research in Disability and Habilitation

Research Group Leader Karin Sonnander, Professor

Research in disability is interdisciplinary and multi-professional with a fundamental perspective focussing the interface between the individual and his or her environment. A joint conceptual tool is found in World Health Organisation’s classification ICF (International Classification of Functioning, Disability and Health). Contextual Factors in particular serve as a framework for research programme activities in elucidating environmental aspects of disability. More specifically, the study objectives are environmental and personal factors as potential facilitators (e.g. interventions) and/or barriers as well as the outcome of the person-environment interaction from the perspective of people with disabilities and their networks as well as of professionals.

Members of the group during 2009
Monica Blom Johansson, BA, PhD student
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
Gunilla Maria Olsson, PhD, associated researcher
Mia Pless, PhD Faculty of Medicine, associated researcher
Karin Sonnander, PhD, professor
Öie Umb-Carlsson, PhD Faculty of Medicine, senior researcher

External partners
Amanthi Bandusena, PhD student, Department of Community Medicine, University of Sri Jayewardenepura, Colombo, Sri Lanka
Marianne Carlsson, PhD, professor, Department of Public Health and Caring Sciences, Uppsala University
Helge Folkestad, PhD senior lecturer, Department of Social Education and Social Work, Bergen University College
Ann-Britt Ivarsson, PhD, associate professor, School of Health and Medical Sciences, Örebro University
Lennart Jansson, PhD Faculty of Medicine, Department of Neuroscience, Uppsala University
Ulla Jergeby, PhD, National Board of Health and Welfare, Stockholm
Gunilla Lindmark, PhD Faculty of Medicine, professor em., Department of Women's and Children's Health, Uppsala University
Berit Höglund, PhD student, Department of Women's and Children's Health, Uppsala University
Margareta Larsson, senior lecturer, Department of Women’s and Children’s Health, Uppsala University
Birgitta Rosberg, occupational therapist, Uppsala University Hospital
Anna Cristina Åberg, PhD Faculty of Medicine, adj clinical lecturer, Department of Public Health and Caring Sciences, Uppsala University
Publications 2007-2009


19. Olsson, G.M.& Hultling, A. Intellectual profile and associations with IQ among a clinical group of obese children and adolescents. Accepted 2009 for publication in Eating & Weight Disorders


Dissertations 2006- 2008

- External agencies that support the work/External Funding 2007-2009
Regional Research Council in Uppsala-Orebro Region: 320 000
Swedish International Development Cooperation Agency (SIDA): 400 000
Swedish Disability Federation: 250 000 (Contract education: Current knowledge and treatment of persons with neuropsychiatric disabilities)
The Sävstaholm Foundation: 420 000
The Sävstaholm Foundation: 335 000
The Sävstaholm Foundation: 460 000
Uppsala County Council: 128 000

Project 1: Living with aphasia: communication and communication strategies from the perspectives of significant others, speech and language pathologists, and persons with aphasia – a description of experiences, and a trial of intervention
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.

**Project 2: The HOME Inventory, Home Observation for Measurement of the Environment - A Swedish Adaptation**
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).

**Project 3: A pilot study of a Swedish version of the Parent Assessment Manual (PAM) in a field setting**
Carina Gustafsson, Lydia Springer, Karin Sonnander

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).

**Project 4: Support and information to parents of children with Down syndrome**
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 workload, employment and sick-leave rate and parental stress.

**Project 5: People with mental health disorder, implementing individual treatment goals and long-term follow-up in psychiatric rehabilitation.**
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.

**Project 7: Early identification by parental assessment of children with developmental delay in Colombo, Sri Lanka**
Amanthi Bandusena, Karin Sonnander

The general objective of this study is to estimate the prevalence of children aged eighteen months in the Colombo district with developmental delay, to describe their parents’ perceptions on selected aspects of care giving and facilities currently available for them.
Project 8: The concept of successful aging from the perspective of elderly men.  
Birgitta Rosberg, Öie Umb-Carlsson, Anna Cristina Åberg  
The aim is to describe, define and gain insight into the concept of successful aging from the perspective of elderly men. Elderly men born between 1920 and 1924 are interviewed concerning the concept of successful aging, contributory factors of successful aging and their lived experiences of successful aging.

Project 9: Pregnancy, childbirth and newborn health of women with intellectual disabilities and their infants.  
Berit Höglund, Öie Umb-Carlsson, Margareta Larsson  
The objective is to describe pregnancy, childbirth and health care from the perspective of women with intellectual disabilities. Women with intellectual disabilities in Sweden who gave birth 1973-2006 are interviewed regarding pregnancy and childbirth, including experiences of support provided by the health care system during pregnancy and childbirth.

Project 10: People with intellectual disabilities as participants in the research process.  
Öie Umb-Carlsson  
The aim of the project is to gain experience and further knowledge in involving people with intellectual disabilities in the research process. People with intellectual disabilities are involved in validation of a quality of life model, in identifying issues of importance in a quality of life scale and in production of the research report.

Project 11: Men and women with intellectual disabilities and quality of life  
Öie Umb-Carlsson, Helena Lindstedt  
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).

Project 12: Support in housing- a comparison between people with psychiatric disability and people with intellectual disability  
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.

Project 13: Parents' use of ICF and ICF-CY when reporting on focus in habilitation services for their children with developmental disabilities  
Mia Pless, Nina Ibragimova, Margareta Adolfsson, Eva Björck-Åkesson, Mats Granlund  
The aim is to report on parents' use (n=87) of the International Classification of Functioning, Disability and Health, ICF/ICF-CY (Children and Youth version) when reporting on what focus habilitation services have concerning their children with developmental disabilities. The design is descriptive with a questionnaire using the structure and language in ICF model and with questions concerning identification, goal setting and intervention of function and health.
Family Medicine and Clinical Epidemiology

Research 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 2009:

<table>
<thead>
<tr>
<th>Academic title</th>
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<tr>
<td>Kurt Svärdsudd</td>
<td>Professor MD</td>
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<tr>
<td>Mari-Ann Wallander</td>
<td>Associate professor MD</td>
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<tr>
<td>Gunnar Johansson</td>
<td>Associate professor MD</td>
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<tr>
<td>Margaretha Eriksson</td>
<td>Postdoc Researcher</td>
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<tr>
<td>Håkan Jansson</td>
<td>Programmer Datamanager</td>
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Medical Programme - Professional Development

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

External

| Dan Andersson        | Associate researcher MD |
| Johan Bogefeldt      | PhD student MD          |
| Kristina Bröms       | PhD student MD          |
| Anders Carlberg      | PhD student Psychotherapist |
| Jan Cederholm        | Associate professor MD  |
| Dag Elmfeldt         | Adjunct professor, emeritus MD |
Publications 2007-2009:


**Disserations 2007-2009:**


Lisspers K. *Organisation of asthma in primary care, quality of life and sex-related aspects in asthma outcomes.* Medical sciences. Uppsala University, 2008.


Agencies that support the work / Funding 2008 (SEK):

Swedish Asthma and Allergy Association 196.000
The Vårdal Foundation –
  for Health Care Sciences and Allergy Research 150.000
Hjerpstedts stiftelse 40.000
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 2.160.000
Västernorrland County Council 200.000
Örebro County Council 1.000.000

Project 1: Social Insurance Medicine
Kurt Svärdsudd, Rolf Wahlström, Thorne Wallman, Malin Swartling

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. Thorne Wallman dissertated in 2008, is 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 was 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 process 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 [3]. In the fourth report the quality of life before and after the retirement was analysed. Quality of life has been measured on several occasions and in various points in time in relation to the retirement. Time-dependent analysis was used in order to disclose a possible relationship to the retirement [4].

**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 factors were of importance for the outcome, *i.e.*, 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 [5]. In the second report patient related factors were analysed [6]. One PhD student (Gunilla Normén) is involved in the project.

**Physicians view of the sick-listing commision**

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 were used. Two groups of physicians, general practitioners and orthopaedic surgeons, were approached. The project is led by Rolf Wahlström and financially supported by the Social Insurance Centre and Uppsala University. One PhD student (Malin Swartling) dissertated in 2008 [7].

**Project 2: 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 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 [8-9].

In the Gotland trial pain drawings were tested for their clinical value as predictors of pain course [10] and the nomenclature used by different physician categories for the same pain condition [11]. One PhD student (Stefan Blomberg) graduated in the project and another two (Johan Bogefeldt and Marie Grunesjö) are involved. The projects are financially supported by Stockholm Stay-Active Clinic, the Province of Gotland, and Uppsala University.
Prevalence and consequences of low back pain

This project is based on data from a large number of on-going population studies in Gothenburg, Eskilstuna, and Uppsala with altogether 14000 observations and with an age range of 25-99 years in both sexes and data collected during the time period 1980-1993. Some of the instruments used in the population studies were identical and will be used in the project. The aims are to analyse the prevalence of low back pain by sex and age, adjusted for a large number of possible other outcome affecting variables, to analyse possible secular trends (cohort effects) with increasing or decreasing back pain reporting over time, and to analyse the consequences of low back pain in terms of well-being, sick leave, health care utilisation, disability pension, and survival. One PhD student (Johan Bogefeldt) is involved. The project is carried out in cooperation with the Cardiovascular epidemiology group in Gothenburg, the National Insurance Board, and the National Board of Health and Welfare.

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 were not tested for efficacy, and some even had been shown ineffective [12]. The second purpose was fulfilled by a double randomised controlled clinical trial in which, first, the effect of exercise versus wait-and-see was tested, and, secondly, the effect of two treatment methods (eccentric and concentric exercise) are compared involving more than 200 patients in a multicentre setting in Uppsala and Linköping. A publication on the exercise versus wait-and-see has been submitted [13]. A manuscript on eccentric versus concentric exercise is under way. 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 hispochemical 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 published [14].

Project 3: Asthma, allergy and COPD
Gunnar Johansson, Kurt Svärdsudd, Karin Lisspers and Björn Ställberg

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 [15]. 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 was 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. Moreover, in an analysis of geographical asthma prevalence gradients the strongest geographic/demographic variable was population density, as a proxy for degree of urbanisation [16]. In a third report the “atopic march” hypothesis was tested, i.e., that allergic children get one atopic manifestation after another. A manuscript has been submitted [17]. A fourth publication is underway in which the asthma incidence is estimated [18]. One PhD student (Kristina Bröms) is involved. 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 [19]. 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 [20] and quality of life and severity of asthma [21].

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 Ställberg) are involved and both dissertated in 2008.

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 [22]. Björn Ställberg is leader of 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 [21] showing a decreased prevalence across age, and another one is under way. Björn Ställberg is leader of 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 leads by Gunnar Johansson, Karin Lisspers and Björn Ställberg and is financially supported by Cooperation Council of the Uppsala-Örebro Region, and Uppsala University.

Project 4: **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 [23]. In a second report the use of hormone replacement therapy at menopause and symptoms reported by users and non-users was presented [24]. In a third report adherence to prescribed drug and its determinants were presented [25]. 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 show the symptom prevalence across age and use of pharmaceuticals [26]. The symptom report will further tested in the Consort dataset (see above under Natural History of Disability Pension) including more than 17000 observations in men and women 25-99 years old. The project leaders are Mari-Ann Wallander and Annika Bardel (disserted in 2007). The project 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 there level of prescription in relation to all practices was indicated. A report has been submitted [27]. 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 somewhat better than chance, but improved significantly 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 an 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 involve and the project is financially supported by Storstrøms Amt and Uppsala University.
Project 5: Cardiovascular disease and diabetes
Kurt Svärdssudd, 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 [28]. In a second report an inverse relationship between birth weight on the one hand and adult blood pressure and serum cholesterol on the other [29]. However, no relationship to adult myocardial infarction incidence, death from cardiovascular disease or death all causes [30]. 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 [31]. 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. Jan Stålhammar has graduated in the project [32], 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, the evaluate determinants for survival among the diabetes patients (blood glucose, blood pressure, blood lipids and others). A first report dealing with diabetes incidence and prevalence during 30 years of follow up has been published [33]. 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 [34-51].

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 362 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 factorial design allows evaluation of the two concepts separately.

After a baseline examination right after discharge the patients were followed with new examinations every six months for 30 months, where the risk factor levels were measured, a nutritional examination was 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 concluded. The first publication where the patients’ psycho-socio-economic situation during the first year after baseline 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 [52]. In a second report the main results of the randomised trial were shown, where the the group receiving behavioural modification had 45% less myocardial infarction incidence than the reference group [53]. One PhD student (Mats Gulliksson) is involved in this project which is supported by the Medical Research Council, FAS, Vårdsförsikringen, 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 1.2 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. The risk for a new event decreased rapidly during the first year after an event, had its lowest level after five years and then slowly
increased. 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 [54]. In a second report the geographic and demographic effects on myocardial prevalence were shown [55]. 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 was 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%) [56]. In a second report the risk of recurrence and an evaluation of care utilisation during the first year was analysed [57]. In a third report development of the health situation during the first post-stroke year was shown [58]. In a fourth report the burden carried by relatives and friends supporting the stroke patient was analysed. The burden was perceived as heavy [59]. 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 1500 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 unit regarding the referred persons cover the three years preceding and following the screening occasion, in total more than 30,000 appointments, 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 hypertension or diabetes diagnosis. A first publication based on a pilot study showed a strong relationship between high blood pressure and the prevalence of deep gingival pockets [60]. In a second report the efficacy of blood pressure screening in dental care and primary care work up of those screening positive was analysed. The report is submitted [61]. Currently the efficacy of diabetes screening is analysed. One PhD student (Sevek Engström) is involved in the project which is financially supported by Gävleborg County Council, Dental Sevice Gävleborg and Uppsala University.
Project 6: **Varia**
Kurt Svärdsudd, Lars Englund and Nils Rodhe

**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 health care district of Falun. The study population was followed during a few years with repeated assessments, bacterial cultivations and other lab tests. Four reports have been published showing the prevalence of asymptomatic bacteriuria as measured by means of urine cultures, determinants of asymptomatic bacteriuria, change of bacterial strains indicating that the infections come and go, and the possibility to differ between innocent asymptomatic bacteriurias and those in need of treatment with simple lab tests [62-65]. The project leader is Lars Englund and one PhD student (Nils Rodhe dissertated in 2008) 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 a psychiatric out-patient clinic. The case manager contacted or met the patient regularly. Every third month questionnaires 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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**References to the six projects:**


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58. Olai L, Omne-Pontén M, Borgquist L, Svärdsson K. Health problems in elderly patients during the first post stroke year. Submitted 2009


**Undergraduate Teaching**

**Medical programme**
- responsibility for “Professional Development” on term 1-4
- responsibility 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
National Social Insurance Board
Centre for Clinical Research, Örebro County Council/Uppsala University
Centre for Clinical Research, Dalarna County Council/Uppsala University
Centre for Clinical Research, Gävleborg County Council/Uppsala University
Centre for Clinical Research, Södermanland County Council/Uppsala University
Geriatric Research

Research Group Leader Lars Lannfelt, Professor

Geriatric research 2007-2009
The three areas of research within our unit are:
1. Molecular studies of dementia
2. Clinical and epidemiological research in these disorders
3. Clinical and epidemiological research in other diseases affecting the elderly population

Molecular studies of dementia
We are using cellular and transgenic mice models of Alzheimer’s disease to better understand mechanisms of abnormal protein aggregation in the brain and to develop disease-modifying therapies. The research is pursued using a broad repertoire of experimental approaches such as molecular biology, biochemistry, histology and behavioural analyses.

At present there is a growing interest within the research community of soluble amyloid beta (Aβ) peptide intermediates as being the main pathogenic species in Alzheimer’s disease. In our transgenic mice we are evaluating the possibility that aggregation of Aβ peptides starts inside the nerve cells and our hypothesis is that large Aβ aggregates, e.g. Aβ protofibrils, are responsible for the neurotoxicity in Alzheimer’s disease. We have developed monoclonal antibodies (mAbs) specifically recognising Aβ protofibrils to be able to immunologically study this Aβ species. Moreover, we have developed a transgenic mouse model for the disease. Using the mAbs in an ELISA, we have enabled measurement of Aβ protofibrils in cellular models as well as in the transgenic mice. In addition, biological tissue such as brain, CSF, plasma and fibroblasts from Alzheimer patients are being analyzed for Aβ protofibril content. If successful, our method can be developed and used for early diagnosis of Alzheimer’s disease and as a biomarker to monitor amyloid-directed therapies. We have also started to evaluate passive vaccination with a conformation-specific mAb against Aβ protofibrils as a therapeutic strategy in the transgenic mice. The ultimate goal is to use the Aβ protofibril specific antibodies both as a tool for 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 Aβ-amyloidosis on transgenic and cell culture models by means of heparane sulfate proteoglycans (HSPGs).

We have recently initiated a project that aims to improve PIB-amyloid imaging. APP transgenic mice are examined in micro-PET (positron emission tomography) using 11C-PIB-ligand and also a new 125I-labelled antibody-based ligand. The aim is to improve procedures of radiolabelling and to bring the new biological ligand to the clinic and thereby improve our ability to diagnose and objectively monitor functional decline in patients with Alzheimer’s disease. This project is supported by Vinnova and carried out in collaboration with GE Healthcare and BioArctic Neuroscience.

We have also developed 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 frontotemporal dementia. Our research is focused on characterizing the aggregation process, with the aim of exploring potentially critical intermediary steps. Also, we are studying how various isoforms and disease-causing mutants of the tau protein behave in an in vitro aggregation
assay. We are also trying to generate a transgenic model with more complete Alzheimer’s disease neuropathology, including tau pathology and to improve functional assessment of APP transgenic mice with Intelligages – an automated behavioural systems in which animals are housed in social groups.

The α-synuclein protein is the principal component of Lewy bodies, intraneuronal fibrillar 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), atomic force microscopy, circular dichroism and mass spectrometry.

Finally, 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 which influence the risk of developing Alzheimer’s disease.

Clinical research
The clinical research unit is currently categorizing dementia patients clinically and neuropathologically. This research is based on our own tissue bank with DNA, CSF, plasma, serum, fibroblasts and brain tissue. Longitudinal studies of Alzheimer’s disease and frontotemporal dementia are carried out in collaboration with the Uppsala PET-center, especially using the newly developed amyloid-binding ligand PIB. These investigations were initiated 2007.

Population based investigations have been performed on samples from the Uppsala Longitudinal Study of Adult Men (ULSAM). We have recently measured Aβ 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 cohort of AD patients and healthy controls have been collected, in which we perform replication studies of genes that show significant association to Alzheimer’s disease within ULSAM.

The major aim for the dementia research group in the future is to establish immunotherapeutic strategies to treat dementia. Immunotherapy is at present the most promising strategy for treating Alzheimer’s disease and has received great attention worldwide. Moreover, many other neurodegenerative disorders, are also believed to result from misfolding and aggregation in brain of specific proteins. Thus, similarly to Alzheimer’s disease, immunotherapy could be a promising therapeutic approach for several other disorders. 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 Aβ protofibril specific monoclonal antibodies we hope to set up methods for early diagnosis of Alzheimer’s disease and therapeutic intervention. Also the projects on α-synuclein and tau have great potentials. If successful, these lines of research may provide us with new diagnostic and therapeutic targets for frontotemporal dementia,
dementia with Lewy bodies and Parkinson’s disease, disorders for which there are currently no therapies directed against the pathogenic events.

The close contact with the Geriatric Clinic provides access to a unique collection of 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.**

**Research using Registries, Cohorts and Case Control Studies.**

Björn Zethelius, associate professor.

2. Optimizing statistical methods in epidemiological studies
3. Clinical studies in obesity after bariatric surgery
4. Genetic studies of diabetes

1. Type 2 diabetes and cardiovascular disease.
   The research is performed as longitudinal studies of type 2 diabetes and cardiovascular diseases in large scale register studies using the Swedish National Diabetes Registry (NDR), Swedish Cause of Death and Hospital Discharge Registers and population based investigations, the ULSAM cohort and the PIVUS cohort. We have recently published an article in the NEJM on the use of multiple risk marker strategy allowing for improved risk discrimination on the individual level using new techniques as well as ROC analyses. Further we recently published data from the NDR on risk determination in type 2 diabetes patients using a newly developed risk engine which is a vast improvement of previous existing risk engines constructed in the 1990s.

2. Optimization of statistical methods for replication studies, correcting for regression dilution bias, are performed using the ULSAM cohort. Two papers on the development of a new strategy, the extreme selection and maximum likelihood regression have recently been published in Statistics in Medicine.

3. Proinsulin and insulin secretion dynamics has been studied in clinical studies in obesity and after three types of bariatric surgery, totally, partially or not by-passing the stomach. We have recently published results on gastric by-pass surgery where psominulin-insulin dynamics are normalized after surgery.

4. The genetic studies 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.

**Studies on Physical Activity and Health of the Elderly**
Anna Cristina Åberg, adj clinical lecturer

The research in this field is aimed at investigations of motor function 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. One main focus is prevention of falls and balance performances among older people, specifically for those with an increased risk of falling.

**Members of the group during 2007-2009**

**Researchers**
Professor Hans Basun, associate professor Björn Zethelius, associate professor Lars Nilsson, associate professor Martin Ingelsson, associate professor Anna Glaser, senior lecturer Lena Kilander, senior researchers Frida Ekholm-Pettersson, Vilmantas Giedraitis, Xiao Zhang and Joakim Bergström, adj. clinical lecturer Anna Cristina Åberg and PhD students, technicians and other participating in the research: approximately 30 persons.

**Doctoral thesis**
Martin Wohlin. Carotid Vessel Wall Thickness and Echogenicity In the ULSAM study. 2008.

**New associated professors**
Anna Glaser. 2009.
Martin Ingelsson. 2009.
Publications 2009


**Publications 2008**


Zethelius B, Berglund L, Hänni A, Berne C. The interaction between impaired acute insulin response and insulin resistance predict type 2 diabetes and impairment of fasting


Åberg AC. Care recipients' perceptions of activity-related life space and life satisfaction during and after geriatric rehabilitation. *Qual Life Res* 2008; **17**: 509-20.


**Publications 2007**


Strom Möller C, Zethelius B, Sundström J, Lind L. Persistent ischaemic ECG abnormalities on repeated ECG examination have important prognostic value for cardiovascular disease beyond established risk factors: a population-based study in middle-aged men with up to 32 years of follow-up. Heart 2007; 93: 1104-10.


Books


Health Services Research

Research Group Leaders Inger Holmström, Associate Professor and Ulrika Winblad, PhD, Researcher

The focus of Health Services Research is to study, evaluate and compare health care systems on a national or an international basis. The researchers in the group have different backgrounds, such as psychology, medicine, nursing, political science and economy. The approaches in present research projects are as follows: One approach is to study health care systems from the view of the individuals involved, for example, doctors, medical care personnel 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. Currently we run several studies within the expanding field of Telehealth. Another approach is the study of political, administrative and medical decision making processes. Studies presently in progress with this approach focus on management of different political reforms within health and elderly care.

Members of the group during 2009

Inger Holmström, associate professor, group leader
Ulrika Winblad, PhD, vice group leader
Caroline Andersson, research assistant
Pia Bastholm Rahmner, PhD
Cecilia Bernsten, associate professor
Ingeborg Björkman, PhD
Madeleine Boll, PhD student
Eva Boström, PhD
Gunilla Brattberg, associate professor, PhD, MD
Helène Eriksson, administrative assistant
Annica Ernesäter, PhD student
Mio Fredriksson, PhD student
Finn Hjelmblink, PhD, MD
David Isaksson, research assistant
Elenor Kaminsky, PhD student
Dorte Kjeldmand, PhD, MD
Jan Larsson, PhD, MD
Martin Rejler, PhD student, MD
Urban Rosenqvist, Professor em, MD
Marta Röing, PhD
Margareta Sanner, associate professor
Ragnar Stolt, PhD student
Anikó Vég, PhD
Ulla Wihlman, PhD

Publications 2007-2009


**Dissertations 2007-2009**


3. Hjelmblink, F., Understanding life after stroke. Uppsala, 2008 - 80 p. Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of Medicine, ISSN 1651-6206; 376.


**Licentiate dissertation 2009**

Agencies that support the work/Funding
The Swedish Research Council (Vetenskapsrådet)
The Swedish Cancer Society (Cancerfonden)
Swedish Council for Working life and Social research (FAS)
The Faculty of Medicine, Uppsala University 106
Selanders Stiftelse
Swedish Healthcare Direct 1177
Gävleborg County Council
Swedish Associations of Local Authorities and Regions (SKL)
ESO

Anaestetists’ experiences of difficulties at work
Participants: Jan Larsson, Inger Holmström, Urban Rosenqvist.
Trainee anaesthetists often feel insufficient at work and are exposed too 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 focusing 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 focused 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 focused 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.

Learning anaesthesia induction - how to facilitate anaesthetists -professional development
Participants: Jan Larsson, Professor Andrew Smith, Department of Anaesthesia, Royal
Lancaster Infirmary, Lancaster, UK
This research project aims to study how trainees’ learning of anaesthesia induction can be improved in a powerful way. We will study how trainees and specialist anaesthetists perform anaesthesia induction and we will explore how they think about it. Our aim is to understand the variation in thinking about induction that lies behind the variation in how anaesthetists perform and learn induction. Qualitative research methods, appropriate for this kind of research, will be used.

So far we have carried out focus group interviews with nurse anaesthetists from four hospitals to get their narratives on how anaesthetists perform induction.

This research is important because the induction of anaesthesia can serve as a model for learning the practical work of giving anaesthetics: it is an often repeated procedure, it is associated with a number of potential risks for the patient, and it combines needs for practical skills and theoretical knowledge. It is our hypothesis that this procedure must be learnt by transfer of knowledge from the experienced anaesthetist to the trainee; that is includes the development of tacit knowing; and that the process may be disturbed by the trainee focusing too much on explicit knowledge. With this project we aim to increase our knowledge about how teachers of anaesthesiology can facilitate such trainees’ practical learning.

Towards improved medication use: Increasing understanding of professional efforts

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

According to Swedish law, every county council is required to have a local drug and therapeutics committee (DTC). The aim of this study was to explore the variation of conceptions of the role of the DTCs among committee Chairs and to compare the results with a previous study. Data were collected by questionnaires and telephone interviews with committee chairs, which were analysed using a phenomenographic approach. Four conceptions were identified, namely: traditional, influential, patient-aware, and holistic and cooperative, which all involved prescribers. Patients were involved in two conceptions. Comparison with the earlier study showed a trend toward higher patient awareness and a higher agreement on DTC goals with an increased focus on quality issues.

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 analyzed. 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.

One 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 analyzed by a qualitative inductive method. Five themes were identified - “Public health work includes pharmacy activities”; “Apoteket AB (the employer)
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.

The aim of this research is to investigate, describe and analyze patients’ and pharmacy customers’ drug use behavior and the factors influencing this behavior.

Randomized clinical trials with interventions as well as mapping of behavior have been used to study the different phenomena in question. Quantitative as well as qualitative data collection and analyze 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 counseling in community pharmacy it was 108 shown that 16 % of the patients were not asked necessary questions nor received necessary information when purchasing their prescribed medicine at a community pharmacy. Counseling 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 behavior. There is room for improvement when it comes to pharmacist, and other health care workers performance. A change towards a more patient-centered 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 physiotherapists working in new contexts
Participants: Madeleine Boll, Urban Rosenqvist, Eva Boström
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 organizations. In Study I seven physiotherapists in primary care working with health promotion in compulsory schools have been interviewed. In Study II twenty one physiotherapists now working on organizational levels in health care organizations have been interviewed about their understanding of their work. The overall aim of these studies was to investigate how physiotherapists understand and approach their work when working with health promotion and organizational developments in health care services. Qualitative methods have been used in the two studies. These two studies were included in a Licentiate thesis examination 2009-12-01.

Telenursing in SWEDEN: Can competence and safety be developed?
Participants: Annica Ernesäter, Elenor Kaminsky, Inger Holmström, Urban Rosenqvist, Marta Röing
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 focused on telenurses’ experiences of working with computerized decision support from different angles. Qualitative methods were used to analyze interviews with telenurses. One analysis resulted in three main categories and two formed a theme: Being strengthened, but simultaneously controlled and inhibited. The decision support was perceived to be incomplete and lacking information, and not fully adapted to telenurses way of working. Yet it was a useful tool that provided a sense of security.

Despite that a large number of citizens call for advice, there are no studies regarding adverse events within this expanding service. During 2007 we analyzed 450 incident reports regarding perceived errors within the context of Swedish Health Care Direct (SHD). Data were collected from all county councils that participated in SHD and the data collection yielded 426 incident reports describing 452 errors. The most frequent outgoing incident regarded Accessibility Problems and the most frequently incoming ones regarded Incorrect Assessment. Telenurses have limited possibilities to refer the caller to their primary health care provider or specialist, which may cause telenurses to over-triage/under-triage callers’ need for care. This may in turn cause other health care providers to report Incorrect Assessment to SHD. Owing to this, we
decided to further investigate errors and the next step will be to analyze communication in the telephone calls that has resulted in a malpractice claim, aiming at identifying communicative strategies and possibly identify errors within communication that contributed to the malpractice claim.

One third to 40% of calls to telenursing services is estimated to be about children. A study of 110 telephone calls between mothers / fathers and telenurses, and described call length, word spoken by each part respectively, reasons for and results of calls and gender aspects regarding parents and children. The results revealed that 73% of callers were mothers and median call length was 4.38 minutes. Most common reasons for calls were ear-, skin problem and fever. Median children age was 3.5 (5 days - 14.5 years). Telenurses had word count dominance to a 52.7% extent when self-care advice was the result of calls and callers had word count dominance to a 56.3 % extent when referral was the result. Almost half of the results were the telenurses’ self-care advice to the callers and referral results were 50.8%. It seems from the study that mother callers were more likely to receive self-care advice. Currently we run an interview study about parents’ expectations and experiences of calling Swedish Healthcare Direct about paediatric health issues.

During 2009 we published a study about Swedish telenurses’ understanding of work. Data from 17 interviews 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. Telenurses who expressed the fifth way included all other ways of understanding. The categories can be seen as a telenursing work map. They are all valuable and can be used for reflection, to expand the understanding of work, when developing tomorrow’s telenursing profession.

Furthermore, ethical dilemmas and gender related problems in Swedish telenursing have been studied. Both theses 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 life world 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 life world 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 life world 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’ organization 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-centeredness is beneficial for patients and probably for the outcome of health care, but patients are dissatisfied with their encounters with physicians. In Balint group’s general practitioners study and gain further understanding of the physician-patient relationship by reflection on their own experiences. A patient-centered 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 defenses 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 defenses 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 dichotomized 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.

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 14% 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.

Privatization of Swedish elderly care: Underlying mechanisms and effects on care quality
Participants: Ragnar Stolt, Ulrika Winblad

One of the major policy trends in recent decades has been the privatization of social services. Particularly, in the elderly care sector the share of private providers has increased from 1% in 1990 to 14% in 2008. The on-going privatization of elderly care in Sweden and many other countries has raised important questions regarding the consequences of this policy transformation.
In this research project we investigate the mechanisms behind privatization as well as the resulting effects on care quality. Preliminary results imply that privately managed elderly care has established itself mainly in metropolitan areas dominated by right-wing regimes. Surprisingly, neighbouring municipalities tend to follow these pioneers irrespective of their political colour or economic situation. In fact, after shifting political power many of those neighbouring municipalities dominated by left-wing regimes not only maintain an abundance of private contractors but also encourage a continued process of contracting out publicly managed elderly care units. As a result, clusters of municipalities with an increasing degree of privatization arise despite political and economic differences.

Regarding care quality our findings indicate that privatization has indeed resulted in significant differences. The number of employees per resident is significantly smaller (-10%) among private regimes. On the other hand participation (+7%), share of elderly with a reasonable length of nightly fast (+15%), and number of food alternatives (+26%) are significantly in favour of private contractors. Our conclusion is that private care providers emphasize service aspects rather than structural prerequisites for good care.

Still, there are many questions unanswered, in ongoing studies we focus on outcome quality for example elderly satisfaction and bedsores. Are there any differences between private and public regime in this aspect? The overall aim with this project is not only to investigate the effects of privatization but also to use these findings to build exploratory models that explain these quality differences and can be used as important tools to improve care quality.

Political governance and control of Swedish health care

Participants: Ulrika Winblad, Mio Fredriksson

One specific feature of the Swedish health care governance is the high degree of local and regional self-determination, which in 1991 was reinforced through the Local Government Act. Another specific feature is the strong tradition of what may be termed consensus-based governance, where the intentions of the Swedish state are carried through in negotiations with local government rather than through binding legislation. However, this model has been challenged recently. The Swedish state has made efforts to increase equivalence in the whole country by imposing more binding regulations and by standardizing health care practice. Examples are the development of national quality registers, open comparisons, national guidelines and introduction of legislated choice in primary care (from 2010). At the same time, many of the county councils emphasize their self-determination and focus more on regional political collaboration. The conflict of interest between the national and local political government is studied in this project, as well as the consequences for health care services. The research questions are investigated from several empirical angels. For example, the implementation of the patient choice reform from 2001 is studied, a recommendation that the county councils are not obliged to implement although it is often presented as a “patient right”. The results so far indicate that there is extensive geographic variation among the county councils regarding the degree of support for patent choice. Within this broad research project the doctoral thesis “Political governance in Swedish health care – relations between national equality and local democracy” is written. Generally, the thesis inquires into the effects of different forms of political governance in Swedish health care. More specifically, the effects on the tensional relations between national equality on the one hand and local democracy, or local self-governance, on the other hand is analyzed. In Sweden both local self-governance and national health care equality are supported by national law, which makes this tension an everyday part of health care governance. Politically it is a balancing act; how much freedom shall the county councils have and to what extent shall health care be equal throughout the entire
Kidney recipients’ way to transplantation. A comparison between living and deceased kidney donor recipients in Stockholm, Sweden

Participants: Margareta Sanner

This is a project run in collaboration with the diabetes and kidney patients’ associations and the departments of nephrology and transplantation surgery in Storstockholm.

It is well known that there is a lack of kidney transplants, and many patients with end-stage renal disease (ESRD) have to wait for transplantation for a long time. Meanwhile they are treated with dialysis, which is an expensive treatment, and mostly implies considerable restrictions on the patient’s life. There are two possibilities to receive a transplant: from a deceased or living donor. In Sweden, there are as many living kidney donors as deceased donors per year. In January 2009, 452 patients were on the waiting list for a deceased donor kidney. During 2008, 419 ESRD patients were transplanted, 136 with a kidney from a living donor and 283 from a deceased donor.

A kidney from a living donor is optimal. The dialysis period can be minimized or totally eliminated. Against this background living donation is desired. Two prerequisites for living donation are that the risks for the donors are negligible and that the decision to donate is voluntary. The perioperative mortality rate is about 0.03% and the rate of serious complications about 0.2%. Long-time morbidity seems to be low.

In 2008 the associations of kidney and diabetes patients in Greater Stockholm (Stockholm with suburbs) initiated a study on how kidney recipients experienced the circumstances around the donation in order to discuss ameliorations of the donation process.

The aim of the study was to explore kidney recipients’ own experiences of the way to transplantation, identify factors related to whether the actual donor of the recipients was living or deceased and describe circumstances that needed attention in the quality work.

Adult kidney recipients who had been transplanted at the Karolinska University Hospital from January 2004 to July 2008 were included in the study sample. A specially constructed questionnaire was sent to the 246 recipients of living and deceased kidneys. The questionnaire was tested in a pilot study on kidney recipients. The response rate, 87%, indicates that the participants were eager to announce their views on organ donation and transplantation.

The results indicate that six conditions were problematic:

- Most living donor kidney recipients perceived the evaluation period for the donors as too long.
- Although a living donor was available, most living-donor recipients had to undergo dialysis for a relatively long period.
- A majority of the patients perceived it difficult to ask for a donation. The patients wanted advice and support from the healthcare personnel in finding a donor. Deceased donor kidney recipients were least satisfied with the offered support in finding a donor.
- Patients perceived fear as the main reason for potential donors to refuse donation; information to potential donors about living donation might be incomplete.

- About one fourth of living donor kidney recipients thought that the donors were abandoned by healthcare after nephrectomy.

- Older patients and singles were least likely to receive a living donor kidney.

Checking these issues can be used in quality control when analysing kidney donation at local and national levels.
Oxidative Stress and Inflammation

Research Group Leader: Samar Basu, M.Sc., PhD., Associate Professor

The research group “Oxidative Stress and Inflammation” is newly established in January 2009 and previously was a part of research groups Geriatrics, and later Clinical Nutrition and Metabolism. The main research area of this group is “Oxidative stress and Clinical Inflammation”.

This research group “Oxidative Stress and Inflammation” is dedicated to research on inflammation in physiology and in disease state specifically with bioactive eicosanoids. Additionally, oxidative stress which reflects increased levels of free radicals in the body that implicated both in ageing and several inflammatory diseases is also a key research area. Lipid peroxidation products catalysed by free radicals and cyclooxygenases have revealed to be of importance in many inflammatory and oxidative stress related diseases. Bioactive prostaglandin formation by cyclooxygenases from arachidonic acid and their contribution to physiology and inflammation is well-described by our group in the past years in addition to the role of free radicals-mediated products isoprostanes in a range of diseases. The research group has developed crucial assays through raising specific antibodies against isoprostanes indicating oxidative injury and prostaglandin F$_2\alpha$ indicating inflammatory response, and is also involved in development of assays on anti-inflammatory resolvins etc. In addition, we have also established immunohistochemical methods using specific antibodies to study organ damage following an acute or chronic inflammation and oxidative stress. These novel eicosanoids are imperative in healthy individuals and also in development of different human diseases. Collectively, the research group is devoted to experimental, clinical, epidemiological studies and also development of methodology specifically on eicosanoids. The research group has many national and international collaborative projects within the research vicinity.

Members of the research group in 2009

Samar Basu, M.Sc., PhD, Associate Professor
Johanna Helmersson, MD, PhD, Researcher
Elisabet Rytter, PhD student
Maria Agnedal, BMA, Bio Medical Technician
Maria Palm, MD, PhD student
Emma Lindström, M Sc., PhD student
Diana Larsson, MD, PhD student
Adriana Miclescu, MD, PhD

The major projects include:

The sustainable aquafeeds to maximise the health benefits of farmed fish for consumers
Collaborators: Samar Basu, Johanna Helmersson, Philip Calder
Financed by the European Union (6th. Framework)

The project is performed in collaboration with Southampton, Granada, Bergen and China
Effect of fish oil in functional food, capsules or fish in the blood lipids and markers of oxidative stress in mice and humans
Collaborators: Samar Basu, Rune Blomhoff and Liver Frøyland
Financed by The Norwegian Research Council, Norway
The project is performed in collaboration with Oslo Medical Faculty and Bergen University, Norway

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.

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.

Polymorphisms in the PLA2, COX-2, PG endoperoxide reductase, 15-PGDH, 13-reductase, 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.

Polymorhisms 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 Helmerson 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 Helmerson 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 pregnancy, parturition and under normal menstrual cycle
Collaborators: Maria Palm, Ove Axelsson, Anders Larsson and Samar Basu
The project is a PhD project and 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.

**Prenatal food and multiple micronutrient supplementation and effects on child body composition, metabolic markers and mortality; mechanisms of early programming**

**Collaborators:** Lars-Åke Persson, Eva-Charlotte Ekström, Shama Arifeen, Rubanna Ruqib, Samar Basu.

This is a PhD project and financed by The Swedish Research Council.

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

Collaborators: Johanna Helmersson, Anders Larsson and Samar Basu

The project is 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 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 in collaboration with the University in Copenhagen, Denmark and Uppsala University.

**Oxidative stress and neuroprotection following cardiac arrest by different therapy**

Collaborators: Samar Basu and Lars Wiklund

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

**Oxidative stress and neuroprotection following cardiac arrest by hypothermia**

Collaborators: Samar Basu and Sten Rubertsson

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

**Antibody and assay development on resolvins**

Collaborators: Samar Basu and Charles Serhan

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

**Free radicals, inflammation during heart surgery**

Collaborators: Mika Lahtinen, Samar Basu

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

**Association between diet, obesity, oxidative stress and inflammation**

Collaborators: Samar Basu, Bengt Vessby, David Jacobs, Alan Sinaiko

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

**Association of oxidative stress and inflammation in coronary revascularisation and NSAID**

Collaborators: Samar Basu, Kirsti Berg, Per Jynge
The project is performed in collaboration with Norwegian University of Science and Technology, Trondheim, Norway.

**F-isoprostane metabolism and detection of oxidative stress**
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), USA.

**In situ localisation of oxidative stress and inflammation in the Alzheimer’s patients brain**
Collaborators: Samar Basu, Mark Smith with colleagues
The project is performed in collaboration with Case Western Reserve University, Ohio, USA.

**Systemic and in situ localisation of oxidative stress and inflammation in allergen-induced asthma**
Collaborators: Sofia Jonasson, Josefine Hjoberg, Göran Hedenstierna and Samar Basu
The project is performed in collaboration with the Department of Medical Sciences, Uppsala University.

**Effects of antioxidants on oxidative stress, inflammation and metabolic control in humans.**
Collaborators: Elisabet Rytter, Rikard Åsgård, Lennart Möller, Anders Sjödin, Lilianne Abramson-Zetterberg, Bengt Vessby and Samar Basu
The project is a PhD project, Uppsala University.

Birth weight and inflammation in later life, a follow-up study of 70-80 years in a Swedish population
Collaborators: Johanna Helmersson, Liisa Byberg, Samar Basu, Ilona Koupilova, Anders Larsson, David Leon.
The project is performed in collaboration with Clinical Chemistry and Pharmacology, Uppsala University Hospital, Department of Surgical Sciences, Uppsala University, Epidemiology unit, London School of Hygiene and Tropical Medicine, UK and Centre for Health Equity Studies, Karolinska Institute/Stockholm University, Sweden.

**Complicated pregnancy and inflammation**
Collaborators: Samar Basu and Osamu Ishihara
The project is performed in collaboration with Saitama Medical School, Tokyo, Japan.

**Blood pressure, oxidative stress and genetics**
Collaborators: Samar Basu, Nicola Fenty and Michael Brown
The project is performed in collaboration with Temple University, Philadelphia, USA.
Conjugated linoleic acid and oxidative stress
Collaborator: Samar Basu, IU Brouwer and Martijn B. Katan
The project is performed in collaboration with VU University, Amsterdam, Holland

Dietary fatty acids and oxidative stress
Collaborators: Samar Basu and Anders Sjödin
The project is performed in collaboration with Copenhagen, Denmark

Funding over 100,000 SEK
European Union (EU, 6th Framework)
The Swedish Research Council
The Norweigian Research Council

Dissertation 2009

1) Adriana Miclescu. Cerebral protection in experimental cardiopulmonary resuscitation, Uppsala University, 2009

Publications 2007-2009


Reviews


Book chapters

Preventive Medicine

Research Group Leader Johan Hallqvist, MD, PhD, BSc, Professor

The chair in preventive medicine was established in 2008 when Johan Hallqvist was installed as the first professor in preventive medicine at Uppsala University. At present cooperation with preventive activities in the county council and the regional primary communes are under development. The research focuses on mechanisms explaining the social inequalities in risk of disease and the aim is to contribute to evidence based health policy development, health promotion and risk management. Research areas of special interest:

- theories of the life course approach in current epidemiology and pertinent empirical topics like the combined effect of early life and later life risk factors on health and morbidity
- the role of social context in the causation of disease and how it interacts with human biology
- risk factors triggering the onset of health problems

Publications 2007-2009


Dissertations 2007-2009


Ongoing PhD-projects

Kristiina Rajaleid: Early and later effects on cardiovascular disease. Supervisors: Johan Hallqvist and Denny Vågerö (CHESS, Stockholm University).


Lena Lundholm: Use of psychoactive substances as a risk factor for extrovert and introvert violence. Supervisors: Ingemar Thiblin (Forensic medicine, Uppsala University), Johan Hallqvist, Claudia Fahlke (Psychology, Gothenburg University).
Emma Björkenstam: Socioeconomic inequalities in mental illness Epidemiological life course studies of morbidity, medication and mortality. Supervisors: Rickard Ljung (KI), Christina Dalman (KI), Johan Hallqvist.

Charlotte Björkenstam: Socioeconomic inequalities in the risk of suicide – epidemiological studies of school grades, criminal records, and medications in young adults. Supervisors: Rickard Ljung (KI), Johan Hallqvist, Gunilla Ringbäck (SoS), Peter Nordström (KI).


**Other ongoing research projects**

Several of these projects are external collaborations but founded on joint applications for funding.

1. **Case-crossover projects**

In these projects we aim to identify triggers of acute health events, that is, risk factors with very short induction times, and to quantify their effects. We use the novel epidemiological methodology called the case-crossover design. In the first four case-crossover projects we are trying to apply the design to data bases extracted from Swedish National registers.

   a. Side-effects of drugs. The first aim is to identify harmful side-effects of pharmaceutical drug use and the second aim is to potentially develop a system for surveillance. We use a record linkage between the new drug prescription register (exposures and sometimes also outcomes) and the hospital discharge register (outcomes). Collaborators: Jette Möller (KI), Johan Hallqvist, Mauricio Malfert (KI), Johan Fastbom (KI), and Kristina Johnell (KI).

   b. Psychiatric care as acute deterrent or trigger of suicide. The study is based on record linkage between inpatient, outpatient and cause-of-death registers. Collaborators: Jette Möller (KI), Johan Hallqvist, Mauricio Malfert (KI), Christina Dalman (KI), Susanne Wicks (KI), Eleonor Mittendorfer-Rutz (KI).

   c. Surgical procedures as triggers of myocardial infarction. Based on record linkage between hospital registers and myocardial infarction incidence registers. The trigger effect is well known and a RCT testing beta blockers as prophylaxis is ongoing. We aim to quantify the risk with different types of surgical procedures. Collaborators: Jette Möller (KI), Johan Hallqvist, Mauricio Malfert (KI), and Anders Ekbom (KI).

   d. Acute life events (like death of close relative) as triggers of acute diseases like myocardial infarction and stroke. Based on record linkage between multigenerational register and the hospital and the cause of death registers. Collaborators: Jette Möller (KI), Johan Hallqvist, Mauricio Malfert (KI), Anders Ekbom (KI).

   e. TUFs (Swedish acronym for triggers triggers of sickness absence). Part of Hanna Hultin’s thesis work. Based on extensive data collection from more than 1000 spells of sickness absence at six work places. Collaborators: Jette Möller (KI), Johan Hallqvist,
Kristina Alexandersson (KI), Ingvar Lundberg (Occupational medicine, Uppsala University), Christina Lindholm (KI), Olle Lundberg (CHESS, Stockholm University).

f. TOFA (Triggers of falling). Based on data collected from old men and women with hip fractures. Collaborators: Lucie Laflamme (KI), Jette Möller (KI), Johan Hallqvist, Karin Engström (KI).

g. Psychoactive substances as triggers of violence. Lena Lundholm’s thesis work. Based on data collection from individuals in custody in Stockholm because of criminal activities including violence (The Stockholm Social Medicine Custody Project). Collaborators: Anders Thiblin (Forensic medicine, Uppsala University), Lena Lundholm, Claudia Fahlke (Psychology, Gothenburg University), Johan Hallqvist.

h. Air pollution triggering myocardial infarction. Based on the Onset part of the SHEEP study with data on air pollution added. Collaborators: Niklas Berglind (KI), Johan Hallqvist, Petter Ljungman (KI), Tom Bellander (KI), Göran Pershagen (KI), Jette Möller (KI).

2. Life Time Health: the effect of fetal exposures, social trajectories and social transitions on health and health behavior.

The aim is to study trajectories and transitions as important features of the life course and to find out how health related parameters are influenced and through which mechanisms. In this project we use the new Stockholm Public Health Cohort (SPHC) with repeated questionnaires and all kinds of register information for approx 65000 participants. In associated projects we use the SHEEP data base and the Uppsala Birth Cohort to investigate the combined effects of fetal growth impairment, cognitive development, social trajectories and adult obesity on cardiovascular disease. Collaborators: Johan Hallqvist, David Blane (London University), Jette Möller (KI), Mauricio Malfert (KI), Christina Halford (Uppsala University), Kristiina Rajaleid and Denny Vågerö (Stockholm University).

3. Pain in the body and the soul

The aim is to identify life course influence on psychological well-being, psychological ill-health, depression and musculoskeletal pain. In this project we also use the new Stockholm Public Health Cohort (SPHC) and national register data bases. Part of the funding is from FAS’s Women’s Health Program. Kyriaki Kosidou’s thesis work is part of this project but there are also other sub-projects. Collaborators: Cecilia Magnusson (KI), Johan Hallqvist, Christina Dalman (KI), Lars Alfredsson (KI), Eva Skillgate (KI).


Based on register information for all children in specific birth cohorts and their parents. Collaborators: Anna Månsdotter (KI), Lars Lindholm (Umeå University), Johan Hallqvist, Michael Lundborg (KI), Aki Tsuchiya (Sheffield University).

5. Etiologic and prognostic risk factors in myocardial infarction.

Based on SHEEP, which is a very large case-control study of myocardial infarction (2246 cases) that also has follow-up data for approx 8 years. The extensive exposure information makes it possible to study new questions. Collaborators: Imre Janszky (KI), Staffan Ahnve (KI), Rickard Ljung (EpC), Anders Ahlbom (KI), Johan Hallqvist.

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6. How much of the population burden of disease can be attributed to socioeconomic inequality.

Several meta-analyses are first conducted to obtain estimates of the necessary parameters and then calculations of attributed disability adjusted live years (DALYs) will be made. Collaborators: Tahereh Moradi (KI), Johan Hallqvist, Colin Mathers (WHO), Peter Allebeck (KI), Edison Garcia (KI), Anna Sidorchuk (KI).

7. Psychosocial work environment and stroke.

Investigates this question in several different data bases. Collaborators: Sanna Toivanen (CHESS, Stockholm University), Johan Hallqvist, Birgitta Stegmayr (EpC), Petra Lindfors (Psykology, Stockholm University), Urban Janlert (Umeå University), Tomas Hemmingsson (KI). Örjan Hemström (Board of higher education).

Other projects

The work environment and musculoskeletal disease.

A project set up by SBU – The Swedish Council on Technology Assessment in Health Care to examine the amount of scientific evidence supporting a causal effect of various work environment characteristics on risk of musculoskeletal diseases. The aim is to establish the evidence base for health promotion, prevention and for decisions regarding health and social insurance. Chaired by Christer Edling. Experts: Maria Feychtling, Johan Hallqvist, Carina Nordander, Jorma Styf, Kjell Thorén, Ewa Wigeus-Törnquist.

SINGS (Stockholm Interdisciplinary Graduate School in Register Based Research)

This graduate school in epidemiology received funding from the Swedish Research Council to become the teaching support to the research group nodes that were created at different universities as a result of the Swedish Research Council’s SIMSAM grant application call in 2008. Hallqvist is a member of the steering committee which is chaired by Olof Akre (KI).
Psychosocial Oncology and Supportive Care

Research Group Leader Louise von Essen, Professor

Members of the group during 2009

Iman Alaie, Senior student in clinical psychology at Department of Psychology, Uppsala University, Research assistant, Department of Public Health and Caring Sciences, Uppsala University

Per Carlbring, Associate professor, Department of Behavioural Sciences and Learning, Linköping University

Martin Cernvall, MSc, PhD student, Department of Public Health and Caring Sciences, Uppsala University

Gunn Engvall, MSc, PhD student, Department of Women’s and Children’s Health, Uppsala University

Gunnar Larsson, PhD, Researcher, Department of Public Health and Caring Sciences, Uppsala University

Kristina Haglund, PhD, Senior lecturer, Department of Neuroscience, Uppsala University

Lena Högbäck Heden, 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 and Department of Public Health and Caring Sciences, Uppsala University

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

Gustaf Ljungman, Associate professor, Department of Women’s and Children’s Health, Uppsala University

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

Elisabet Mattsson, PhD, Researcher, Department of Public Health and Caring Sciences, Uppsala University

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

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

Publications 2007-2009


Dissertations 2007-2009

Agencies that support the work/Funding 2007-2009
2007
The Swedish Children’s Cancer Foundation: 2,100,000 SEK
The Swedish Cancer Society: 400,000 SEK
The Vårdal Institute: 60,000 SEK

2008
The Swedish Children’s Cancer Foundation: 1,700,000 SEK
The Swedish Cancer Society: 500,000 SEK
The Swedish Research Council: 370,000 SEK
Indevelop: 50,000 SEK

2009
The Swedish Children’s Cancer Foundation: 500,000
The Swedish Cancer Society: 500,000 SEK
The Swedish Research Council: 370,000 SEK
Anna Cederbergs Stiftelse: 25,000 SEK

Projects
Project: Cancer during adolescence. Psychosocial and health economic consequences
Principal investigator: Louise von Essen. Co-workers: Gunn Engvall, Gunnel Larsson, Gustaf Ljungman, Elisabet Mattsson, Inger Skolin

Aim
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 seven assessments from one month to ten 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.

Project: Occurrence and development of posttraumatic stress disorder among parents of children with cancer
Principal investigator: Louise von Essen. Co-workers: Annika Lindahl Norberg, Björn Lindgren, Gustaf Ljungman, Susanne Lorenz, Ulrika Pöder

Aim
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, and (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.

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, 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 are collected from parents over the telephone and from registries.

Project: Treatment of traumatic stress among parents of children with cancer with cognitive behavioral therapy over the Internet
Principal investigator: Louise von Essen. Co-workers: Iman Alaie, Per Carlbring, Martin Cernvall, Björn Lindgren, Gustaf Ljungman

Aim
The overall aim is to, among parents of children with cancer: evaluate the clinical efficacy and cost-effectiveness of an Internet-based CBT treatment for cancer-related traumatic stress among parents of children with cancer. A second aim is to evaluate the clinical efficacy and cost-effectiveness of the treatment when initiated six vs. seventy weeks after the child’s diagnosis.

Methods
The study is based on an experimental design with two conditions to which parents are randomly assigned approximately five weeks after their child’s diagnosis: an Internet-based CBT treatment program starting approximately a) six or b) seventy weeks after the child’s diagnosis. Parents (N=120) are included at all six Swedish centres for paediatric oncology. Assessments take place shortly before, shortly after and twelve months after each treatment. The last assessment takes place approximately thirty-three months after the child’s diagnosis. Data are collected over the Internet and the telephone.

Research projects on procedural pain in children with cancer
Principal investigator: Gustaf Ljungman. Co-workers: Louise von Essen, Lena Högberg Heden

Aim
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 one of four different pharmacological interventions vs. placebo.

Methods
The effect 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 Visual Analogue Scales.

Project: Health-related quality of life and needs of care and support among adult Tanzanians with cancer
Principal investigators: Louise von Essen and PhD, Senior lecturer Lena Wettergren, Department of Neurobiology, Care Science, and Society, Karolinska Institutet. Co-workers: Thekla Kohi, RN, PhD, Head of Nursing School and Golden Masika, RN, Master student at Nursing School, Muhimbili University College of Health Sciences, Dar es Salaam, Tanzania.

Aim
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 have been interviewed in focus groups (n=32) and have answered questionnaires (N=101).
Research Ethics and Bioethics

Research Group Leader Mats G. Hansson, Professor

We conduct research on Research Ethics, Bioethics and Medical Law. Research Ethics involves the application of ethical principles and values to a variety of research topics. It aims to create good research, while at the same time studying what good research is. Bioethics, on the other hand, includes philosophical, theological, legal and social scientific aspects of medicine and biology.

Centre for Research Ethics & Bioethics

Director: Mats G. Hansson

Research Ethics and Bioethics has become increasingly important for Uppsala University. As a result, the Centre for Research Ethics and Bioethics was established on January 1 2008. The centre is placed at the Faculty of Medicine and administratively associated to the Department of Public Health and Caring Sciences.

Our research profile includes research ethics, bioethics and medical law. More specifically, we conduct research on animal and environmental ethics, investigate autonomy, the ethics of biobanking, dual-use issues related to biosafety and biosecurity, codes and guidelines for research, clinical ethics, enhancement of human performance, genetic information and testing, medical law, neuroethics and the philosophy of mind, ethics at the beginning of life, priorities in health care and quality of life issues.

Research ethics involves the application of ethical principles and values to a variety of scientific research topics. It has both a practical and a theoretical side. It aims to create good research, while at the same time studying what good research is.

Bioethics includes philosophical, theological, legal and social scientific aspects of medicine and biology. It deals with norms and value conflicts in health care and the biosciences. For example, it looks at ethical questions that arise in connection with priorities in health care, informed consent, palliative care, neurobiological explanations of human consciousness, animal welfare and the use of biotechnology.

Medical law spans a wide range of traditional branches of law and is associated to the Centre through our collaboration with the Department of Law at Uppsala University.

Members of the group during 2009

Ashkan Atry, MA, PhD student

Ewa Axelsson, LLM, LLD student

Stefan Eriksson, ThD, Associate Professor of Research Ethics, Senior researcher

Lilianne Eninger, PhD, Associate Professor of Psychology, Senior researcher

Kathinka Evers, PhD, Associate Professor of Philosophy, Senior researcher

Josepine Fernow, BA, Co-ordinator

Joanna Forsberg, MD, PhD student
Maria Gottvall, RN, PhD student
Bo Hanson, ThD, Associate Professor of Ethics, Senior Lecturer
Mats G. Hansson, ThD, Professor of Biomedical Ethics, Director
Anna T. Höglund, ThD, Associate Professor of Ethics, Senior Lecturer
Li Jalmsell, MD, PhD student (employed since January 2010)
Linus Johnsson, MD, PhD student
Ulrik Kihlbom, PhD, Senior lecturer
Sofia Kälvemark Sporrong, PhD, Associated researcher
Frida Kuhlau, BA, PhD student
Malin Masterton, MSc, PhD student
Alina Rodriguez, PhD, Senior researcher
Elisabeth Rynning, LLD, Professor of Medical Law, Senior researcher
Pär Segerdahl, PhD, Associate Professor of Philosophy, Senior researcher
Anna Lydia Svalastog, PhD, Associate Professor of Religious Studies, Associated researcher

Publications 2007-2009


12. Evers, K, Toward a philosophy for neuroethics. An informed materialist view of the brain might help to develop theoretical frameworks for applied neuroethics, EMBO reports 8, S1, S48– S51 (2007).


25. Helgesson G, Eriksson S, Against the principle that the individual shall have priority over science, Journal of Medical Ethics 2008:34:54-56.

32. Höglund AT, Holmström I, Ethical issues in telenursing, International Hospital Equipment and Solutions (34) 7: 18-19, 2009
40. Kihlbom U, Autonomy and negatively informed consent, Journal of Medical Ethics 2008;34;146-149.

Reviews 2007-2009 (last 3 years)
None

Dissertations 2009
The first dissertation from this group will be defended on May 29 2010 by Malin Masterton, MsC (PhD project 7 “Retrospective DNA technologies an integrity for historical persons” in the list below)
Agencies that support the work/Funding 2009

Centrum för Idrottsforskning 100 000
Prevention of doping through increased understanding of the sense of fairness in sport

Vinnova 544 500
COMBINE (collaboration with Karolinska Institutet)

European Union 381 512
Cancer Control using Population-based Registries and Biobanks (CCPRB)

Autocure 300 000

The Swedish Childhood Cancer Foundation 500 000
At the intersection of curative and palliative treatment in pediatric oncology

Swedish Childhood Cancer Foundation, Riksbankens Jubileumsfond (Bank of Sweden Tercentenary Foundation) and the Vårdal Foundation for Health Care and Allergy Research 175 000
Symposium “End of Life Decisions: End of Life Decisions: Ethics in clinical practice, research and policy”

The Swedish Research Council 700 000
CODEX – Rules and Guidelines for Research

Total: 2 701 012

CRB also received 56 700 from the Swedish Research Council for Anna Höglund’s publication “Gender and the War on Terrorism. The Justification of War in a Post-9/11 Perpective”

1. PhD Project: Prevention of doping through increased understanding of the sense of fairness in sport

Collaborators:
Ashkan Atry, MA, PhD student
Mats G. Hansson, Professor of biomedical ethics, supervisor
Bo Hanson, Associate professor of ethics, supervisor
Ulrik Kihlbom, PhD, supervisor

This PhD project studies if, and in what sense doping is incompatible with fairness in sport and whether notions of fairness and fair play may function as a foundation upon which arguments opposing doping in sport can be based on in a constructive manner.

Doping sometimes is perceived as an admissible method used in order to render the sport fairer by levelling an otherwise unfair dispersal of natural talents in sport. In this view, those with less talent are given a possibility to compensate by means of doping and this will make sport fairer.
However, the term fairness seems to have different meanings in the arguments concerning doping in general and gene-doping in particular.

This project constitutes an attempt to achieve an “inside-out” perspective in regard to ethical and philosophical questions concerning performance enhancement in sport. This entails that by understanding sport as a form of social activity, and by placing this activity within the broader social context, this project aims at addressing ethical and philosophical issues by considering, as a starting point, qualities that are inherent to sport.

2. PhD project: Ethical aspects of biobank research – Individual rights vs. the public good?

Collaborators:
Joanna Forsberg, MD, PhD student
Mats Hansson, Professor of biomedical ethics, supervisor
Stefan Eriksson, Associate professor of research ethics, supervisor

The purpose of this project is to use bioethical methods and theories to analyze the implications and tenability of viewing biobank based medical research from a public health perspective. The relationship between rights and duties of individuals and society in the context of healthcare and medical research will be investigated. Consequences of adapting a public health view on biobank research will be analyzed, for instance regarding the issues of consent and returning individual results. Possible prerequisites for accepting such an approach will also be explored, primarily in association to confidentiality. This research project is undertaken from an applied ethics perspective, and its focus will therefore be on practical consequences and policy implications of different philosophical positions, rather than on their theoretical underpinnings.

3. PhD project: Vaccine against HPV – Ethical and social aspects: Survey, exploration and intervention

Collaborators:
Maria Gottvall, RN, PhD student
Tanja Tydén, Professor of caring sciences, supervisor
Anna T. Höglund, Associate Professor of Ethics, supervisor
Margareta Larsson, Associate Professor, Department of Women’s and Children’s Health, supervisor

Cervical cancer is caused by the human papillomavirus (HPV). Today, there are more than 100 different variants of HPV; of these, HPV types 16 and 18 are the most common oncogene virus types, which cause approximately 70% of all cases of cervical cancer. This cancer affects about 450 women annually in Sweden. HPV is even related to vaginal and anal cancer and to known cancers in the vulva, penis and pharynx.

Recently, two very effective vaccines against HPV have been registered. The National Board of Health and Welfare has recommended that the new vaccine should be included in the general vaccination program for children and youths in Sweden. The vaccine is very expensive and the recommendation was preceded by an intense debate on its cost effectiveness. The new HPV vaccine raises many questions from both ethical and gender perspectives, e.g., how youths and their parents should be informed; what effects the vaccine would have on youngster’s sexual habits; and how boys might be informed on HPV as the vaccine will only be given to girls.

The purposes of this project are:

- To survey youth’s knowledge on sexually transmitted infections and their consequences, together with their views on the use of condoms, with special focus upon HPV and the new vaccine against it.
• Through an explorative interview study, using focus group method, examine how midwives and school nurses view their task of informing youths and their parents on the vaccine against HPV.
• With these results as a base, carry out a targeted intervention, with the aim of increasing youth’s knowledge of STIs in general and of HPV in particular.
• To present constructive suggestions of clinical guidance for midwives and school nurses concerning the social and ethical aspects of the new HPV vaccine.

4. PhD project: At the intersection of curative and palliative treatment in paediatric oncology

Collaborators:
Li Jalmsell, MD, PhD student
Mats G. Hansson, Professor of biomedical ethics, supervisor
Britt-Marie Frost, Department of Paediatric Oncology, Uppsala University Hospital (Akademiska sjukhuset), supervisor

Today there is no clear picture about how children in terminal care and their families perceive the meaning and importance of palliative care in the Nordic countries. How patients and their families see the distinction between curative and palliative treatment has primarily been a focus for retrospective interviews with parents and there is a lack of knowledge in particular regarding the clinical and moral significance of hope.

The degree of activity for patients in the terminal phase of care varies, but there is only anecdotal evidence available. We need to understand how different paediatric oncology departments manage the intersection of curative and palliative treatment and how children and their relatives perceive the different activities offered to them.

In this project, we will
• examine to what extent there is a distinctive focus on palliative treatment in departments of paediatric oncology in Denmark, Finland, Norway and Sweden.
• examine how children in terminal care and their families perceive the meaning and importance of palliative care
• give an account of the clinical and moral significance of hope in paediatric oncology

The project is designed with an integration of three different methodologies. It has a descriptive, a qualitative and a philosophical/theological component.

5. PhD project: Autonomy and trust in biobank research (part of project 9, Autocure)

Collaborators:
Linus Johnsson, MD, PhD student
Mats G. Hansson, Professor of biomedical ethics, supervisor
Stefan Eriksson, Associate professor of research ethics, supervisor

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 contemporaray
attitude surveys. The concepts of autonomy and trust will be analyzed, their role in informed consent procedures elucidated, and their ethical value discussed.

6. PhD project: Dual use and responsible life science research – A bioethical approach
Collaborators:
Frida Kuhlau, MA, PhD student
Anna T. Höglund, Associate professor of ethics, supervisor
Stefan Eriksson, Associate professor of research ethics, supervisor
Kathinka Evers, Associate professor of philosophy, supervisor

This project will examine the responsibility of biomedical researchers in circumventing 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 minimize the risk of proliferation and, if so, what does that responsibility entail, what is the response to proposed obligations among life science researchers, and how is security consciousness to be implemented in life science research?

7. PhD project: Retrospective DNA technologies an integrity for historical persons
Collaborators:
Malin Masterton, Msc, PhD student
Mats G. Hansson, Professor of biomedical ethics, supervisor
Stefan Eriksson, Associate professor of research ethics, supervisor
Anna T. Höglund, Associate professor of ethics, supervisor

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?

8. PhD project: At the intersection of curative and palliative treatment in paediatric oncology
Collaborators:
Li Jalmsell, MD, PhD student
Mats G. Hansson, Professor of Biomedical Ethics
Britt-Marie Frost, Department of Paediatric Oncology, Uppsala University Hospital (Akademiska sjukhuset)

Today there is no clear picture about how children in terminal care and their families perceive the meaning and importance of palliative care in the Nordic countries. How patients and their families see the distinction between curative and palliative treatment has primarily been a focus for retrospective interviews with parents and there is a lack of knowledge in particular regarding the clinical and moral significance of hope.

The degree of activity for patients in the terminal phase of care varies, but there is only anecdotal evidence available. We need to understand how different paediatric oncology
departments manage the intersection of curative and palliative treatment and how children and their relatives perceive the different activities offered to them.

In this project, we will

1. examine to what extent there is a distinctive focus on palliative treatment in departments of paediatric oncology in Denmark, Finland, Norway and Sweden.

2. examine how children in terminal care and their families perceive the meaning and importance of palliative care

3. give an account of the clinical and moral significance of hope in paediatric oncology

The project is designed with an integration of three different methodologies. It has a descriptive, a qualitative and a philosophical/theological component.

9. Research project: AutoCure - Curing autoimmune rheumatic diseases

Collaborators:
Mats G. Hansson, Professor of biomedical ethics
Linus Johnsson, MD, PhD student

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 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 Klareskog at Karolinska Institutet is co-ordinator of AutoCure.

In addition to providing an ethics management structure, the Centre for Research Ethics & Bioethics 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) 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.cancerbiobank.org/](http://www.cancerbiobank.org/).

10: Research project: Cancer control using population based registries and biobanks (CCPRB)

Collaborators:
Mats G. Hansson, Professor of Biomedical Ethics

CCPRB is an EU network of excellende. 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/.

11. Research project: Ethical aspects of longitudinal studies involving children

Collaborators:
Mats G. Hansson, Professor of biomedical ethics
Stefan Eriksson, Associate Professor of ethics
Johnny Ludvigsson, Professor, Linköping University
Gert Helgesson, Associate professor, Karolinska Institutet
Ulrika Gustafsson Stolt, PhD, Linköping University

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.

The project is a collaboration between researchers at the Centre for Research Ethics & Bioethics and the ABIS group at the Department of Molecular and Clinical Medicine, Linköping University. More information: http://www.abis-studien.se/

12. Research project: Children's assent and participation in a longitudinal cohort study of child health

Collaborators:
Mats G. Hansson, Professor of Biomedical Ethics
Anders Nordgren, Professor of Bioethics, Director of the Centre for Applied Ethics, Linköping University (PI)
Johnny Ludvigsson, Professor and PI of the ABIS-study and Chairman for Diabetes Research Centre, Linköping University
Ulrica Swartling, PhD, Senior researcher, Division of Paediatrics, Linköping University
This is a collaboration with the Centre for Applied Ethics and representatives of the ABIS study at Linköping University, funded by the Swedish Research Council.

In this project will investigate how 11-year-old children in a longitudinal type-1-diabetes study look upon their participation in research studies.

We have studied ethical and psychosocial issues within this context since 2000. The ABIS study (All Babies in Southeast Sweden) is a population-based prospective cohort study in which newborn infants have been followed from birth and onwards with regular biological samples and questionnaires. The children will now be invited back for the 11-year control. From a developmental perspective, this age group is of great interest, standing on the threshold of adolescence and having reached a significant level of maturity, both cognitively and morally.

In this project we will investigate how these 11-year olds perceive medical research, what kind of information they would like and if they would like to assume a more active role as research partners when they participate in research. From this empirical vantage point, we will critically examine the tradition of designing children's assent to research on the elements of informed consent and explore the possibility of a more participatory approach.

Methodologically the design includes focus groups and postal questionnaires. We believe that a participatory model of the kind proposed is worth exploring as a good way to show respect for children as persons.

13. Research project: Are codes and guidelines the right way to go? On ethical competence in medical practice

Collaborators:
Stefan Eriksson, Senior Researcher, Associate Professor
Anna T. Höglund, Senior Lecturer, Associate Professor
(Project leader)
Gert Helgesson, Senior Lecturer, Associate Professor, Department of Learning, Management and Ethics (LIME), Karolinska Institutet

The number 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.

14. Research project: How do patients prioritize in situations of limited resources?

Collaborators:
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.

15. R&D project: Empower the patient: Hip fracture as outpatient care

Collaborators:

Leif Ryd (Principal Investigator), Karolinska University Hospital, Huddinge
Mats G. Hansson, Professor of Biomedical Ethics
Lilianne Eninger, Associate Professor, Senior Researcher, Department of Psychology, Uppsala University

This is a research and development 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 CRB. 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.

16. Research collaboration: Ethical dilemmas in telenursing

Collaborators:
Anna T. Höglund, Associate Professor of Ethics, Senior Lecturer, Centre for Research Ethics & Bioethics
Inger Holmström, Associate Professor, Department of Public Health and Caring Sciences, Health Services Research

This is a research collaboration between members of the health services research group and CRB.

A qualitative interview study revealed that telenurses experience a wide range of ethically troubling situations, covering subjects such as autonomy, integrity and prioritizing. Although several of the identified dilemmas also occur in other areas of nursing it is reasonable to argue that these situations are particularly challenging in telenursing, as the encounter with the patient is faceless and the nurse cannot be sure of the callers’ identity.

A similar study has investigated how gender impacts the encounter between the caller and the telenurse. The results revealed several aspects of how gender norms are present in telenursing. Questions of power relations, the picture of the mother/woman as the primary care taker of small children and distrusting men in their parental role were particularly highlighted.

17. Research collaboration: Patient participation – implications for myocardial infarction care

Collaborators:
Anna T. Höglund, Associate Professor of Ethics, Senior Lecture
Judy Arnetz, Associate Professor, Social Medicine
Ulrika Winblad Spångberg, PhD, Health Services Research

This is a collaboration with members of the social medicine and health services research groups.

The project investigates how the demand for involving the patient in the decision-making process concerning his/her treatment and care can be achieved in all phases of myocardial infarction care, from the acute phase to the secondary prevention process. In a qualitative study, made with focus group interviews, patients’ and personnel’s understanding of patient participation is investigated. Similarly, whether they see it as a desirable concept and if there are situations when participation is not appropriate is studied. Preliminary results show that often patient participation is interpreted as being equivalent to informing the patient or obtaining informed consent from the patient, without involving the patient in the medical decision-making. To seek participation from a patient suffering from acute myocardial infarction poses great ethical challenges upon the staff. To inform the patient in such a situation might be seen as one way to fulfil the legal demand for patient participation in health care.
18. Research collaboration: Neuroethics

Collaborators:

Kathinka Evers, Associate Professor of Philosophy, Senior Researcher

Neuroethics has important clinical perspectives. We are part of the Swedish Brain Power Network aiming at earlier diagnosis and more effective treatments of dementia and other neurodegenerative disorders.

19. Coming research

In 2009 we received funding from the Swedish Cancer Society for two projects that will start in 2010:

1. **Factors associated with participation in phase 1 and phase 3 oncology trials:** The aim of this project is to understand on what premises Swedish patients decide to participate in phase 1 and phase 3 oncology trials with emphasis on their attitudes regarding risk, own benefits and benefits for future patients. We will also investigate the implications of this understanding for information and consent procedures used when recruiting patients to such trials.

2. **Developing clearer definitions and clinical guidelines for Do Not Resuscitate (DNR) orders in oncology care:** The aim of this project is to investigate attitudes to and perceptions of ‘Do Not Resuscitate’ (DNR) orders in oncology care among Swedish oncologists and oncology nurses. Further the experiences of education in DNR and understanding of DNR orders among students in nursing and medical school will be investigated.
Social Medicine
Research Group Leader Bengt Arnetz, MD, PhD, Professor

The Division of Social Medicine focuses on three major and inter-related research areas. A common factor for all our research is enhancing the scientific understanding of risk- and resiliency factors, as well as related bio-psycho-social mechanisms, of relevance for sustained and equitable occupational and social health and well-being. The Division’s health systems research concerns determinants of and effective use of limited financial and human resources, and its implications for major health care stakeholders, including patients, staff, and third-party payers.

1. Bio-psycho-social mechanisms contributing to health disparity, resource utilizations and Healthy organizations.

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. We are especially interested in furthering the understanding of determinants of sustained health. A new research project is focusing on identifying post-displacement contextual and individual factors related to occupational and social integration of refugees. 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 project aims at comparing policy, cost-effectiveness, and public health outcomes among Iraqi refugees forcibly displaced to Sweden and the United States, respectively.

In collaboration with the Department of Business Studies we have started a new research project focusing on how Management control systems (MCS) influence the human body in terms of health, well-being and performance in organizations.

In the domain of tobacco health risks, we have also initiated studies concerning the role of water pipe (hookah) smoking as a possible gateway drug, along with cigarettes, alcohol, and marijuana, and its trajectories to heavier drugs and other risky behaviour.

In the area of domestic violence and health, we have conducted a pilot study investigating the prevalence of domestic violence among a convenience sample of Iraqi immigrant women.

In collaboration with The Swedish Social Insurance Administration and the Primary Health Care sector, we evaluated “the Pathway to Work” process. Different research projects are developed and strategies to decrease sick leave, improve the sick leave processes and facilitate people’s return to work are evaluated. The Pathway to Work focuses on assisting people on sick leave to become more independent and to earn a living by targeting some of their health-related barriers and by providing financial support.

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

Some of our projects focus on the impact on health and well-being from our technology-driven society. We are involved in pioneering research assessing the functionality of wireless sensor technologies and mobile phones to assess stress-related mental and cardiovascular responses in real-time. The purpose is to collect more detailed and up-to-the-minute information as to how our physiological system, especially the cardiovascular system, is affected by environmental stressors in inner-city people as well as in women in high-pressured leadership roles.
Another important area of research concerns the impact of acute and chronic stress on the health and performance among first responders, including police, fire fighters, EMS, coast guards, and the military. These groups of professionals are critical to maintaining a civil society and to counteract acts of violence and terrorism. However, to date, little targeted work to strengthen first responders’ health and well-being has been carried out. In collaboration with the management and unions of Sweden’s First Responder organizations and Kungafonden, we have identified major high-intensity and low-intensity stressors among First Responders, and strategies used to counteract adverse health and performance effects. Kungafonden, “The Swedish Royal Foundation”, is a national foundation founded during the Second World War specifically focusing on providing financial support to injured First Responders, as well as First Responder research. Based on these data, we are now preparing for the first nationally representative epidemiological survey of First Responder stress and resiliency.

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

A number of studies aimed at evaluating the implications of current structural and economic changes to patients, employees, health care organizations and society have been carried out. We look at the implications of enhanced patient involvement for staff, patients and hard treatment outcome, including cost, morbidity and mortality. We also study the inter relationship between health care environment and quality of care patient care.

As part of the multi-year, multidisciplinary research program, The Impact of Religion, financed by the Swedish Research Council, Vetenskapsrådet, we are looking at the organizational and individual role of spirituality and existential factors in promoting health and well-being among health care staff as well as in patients. We are also interested in how health care personnel utilize patients’ spiritual belief in the diagnostic and treatment processes.

Another area of substantial interest to the Division’s researchers concerns the implication of patient involvement and “patient centred care” on patient alignment with treatment goals, treatment outcomes, and, possible implications for health care staff work environment and professional role. These studies make use of both self-rated as well as electronic medical records based data, thus allowing for the comparison of patient-based and health system-based outcomes. Part of this research is done in collaboration with the Uppsala Clinical Research Center.

In 2009, Professor Bengt Arnetz was appointed Chair of the Scientific Review Group for REHSAM. REHSAM is a strategic national project, financed by the Swedish Government, and managed financially and administratively by the Swedish Social Insurance Administration, focusing on funding controlled intervention Return-to-Work research studies. The overall budget for this multi-year program is some 100 million SKR (approximately USD 15 million).

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 of improving basic and applied scientific understanding of the mechanisms behind, and effective treatment and prevention of stress-related disorders. The Center also evaluates and treats patients referred from the health care sector. The Center is truly translationary in nature, with a multidisciplinary composition of researchers and clinicians.

Members of the Group in 2009

Ingrid Anderzén, PhD
Bengt Arnetz, PhD, Professor
Judith Arnetz, PhD, Associate Professor
Christina Halford, MD, doctoral student
Ann-Sophie Hansson, PhD
Anna Liljestam Hurtigh, Research assistant
Per Lytsy, MD, MD, Doctoral student,
Clairy Wiholm, PhD, Research Associate

External
Lisa Ekselius, MD, PhD, Professor
Lena Frenzel, MPH, Administrative Head
Lars Frimanson, PhD
David Hallman, Doctorial Student
Kerstin Hedborg, doctoral student
Henna Hasson, PhD,
Lena Hillert, PhD, Associate Professor
Anna Höglund, PhD, Associate Professor
Per Johansson, PhD, Professor
Bo Karlsson, MD, doctoral student
Niles Kuster, PhD, Professor
Mark Lumley, PhD, Professor
Eugene Lyskov, PhD, Associate Professor
Anna Löfgren, Psychologist
Anna Finnes, Psychologist
Johan Lökk, MD, PhD, Associate Professor
Arne Loweden, PhD, Assistant Professor
Scott Moffat, PhD, Associate Professor
Carin Muhr, docent, överläkare
Weisong Shi, PhD, Professor
Kurt Svärdsudd, MD, PhD, Professor
Eva Vingård, MD, PhD, Professor
Ulrika Winbladh, PhD, Assistant Professor
Annica Åbring, Occupational Therapist
Torbjörn Åkerstedt, PhD, Professor

Publications 2007-2009


Dissertations and Awards 2007-2009
Henna Hasson, Nursing Staff Competence, Psychosocial Work Environment and Quality of Elderly Care: Impact of an Educational Intervention, ISSN 1651-6206, Department of Public Health and Caring Sciences, Uppsala University 2007. Supervisor: Judith Arnetz


Awards: The Personal Renewal project was awarded the Uppsala County County’s Public Health Award (Projektet NySatsa/ Uppsala Läns Folkhällopsris, 2008).

Agencies that support the work/Funding 2007-2009
The Royal Foundation of Sweden (Kungafonden) SEK 1,400,000
The Swedish Research Council (Impact of Religion Program, Program Leader, Professor Anders Bäckström) Total SEK 50,000,000
The Swedish Council for Working Life and Social Research SEK 2,100,000
The Municapility of Södertälje SEK 2 100 000
The Swedish Social Insurance Agency in Uppsala SEK 1 940 000
The Swedish Public Employment in Uppsala SEK 1 095 000
The Coordination Association Haninge SEK 1 400 000
Uppsala County Council SEK 1 500 000
The European Social Fund (ESF) SEK 4.655 000
Riksbankens Jubileumsfond, SEK 2 920 000
Dagmar (The Swedish Health Insurance System, The Uppsala County Council), Söderström Königska foundation, ALF.
50% research fellowship at the Gävle high school/university, 50% research fellowship at the Uppsala University, Selander`s foundation, and research funds from the Uppsala University.

Project 1: Spiritual and existential moderators of the stress – health relationship
Participant: Bengt Arnetz
This project concerns the adaptation and development of scales to assess to whether and to what extent existential and spiritual factors modify individuals and organizations response to stress. Furthermore, we will explore whether health care staff utilize patients’s existential and spiritual belief in the diagnostic and treatment processes. This project entails collaboration with Swedish and American researchers and study participants represent both countries as well. This project is part of a large, multi-year Linne’ research grant awarded to Uppsala University under the leadership of Professor Anders Bäckström.

Project 2: The importance of post-displacement institutional and stressors and resiliency factors and its implications for refugee post-displacement mental health

Participant: Bengt Arnetz

This is a comparative study of the importance of post-displacement stressors and resiliency factors in Iraqi refugees in the United States versus Sweden. In addition, there are plans to carry out policy and cost-benefit analysis of the two countries refugee integration program.

Project 3: Stress and global Self-Rated Health: Exploration of Possible Psychophysiologival Mechanisms and Implications for Public Health

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

The main aim of this longitudinal project is to investigate associations between psychobiological markers of daily-life stressors and global self-ratings of health, in 200 healthy adult men and women. Among men, associations between SRH and endocrine variables were observed, with a decrease in SRH below the level of good significantly associated with differences in levels of testosterone and prolactin. In women some elements of the hypothesis, i.e., effects of coping resources and psychological strain variables on SRH, were supported, whereas other elements, i.e., effects of endocrine measures on SRH, were not.

Project 4: “Network of stress researchers concerning measurements and analyses of cortisol reactivity focusing on cortisol levels from ambulatory saliva sampling” 2007-2009

Participant from Uppsala: Christina Halford

The project, supported by the Swedish Research Council, includes 19 researchers from three Scandinavian countries. The aim of the network has been to discuss research issues concerning measurements and analyses of cortisol reactivity, focussing on ambulatory measurements of cortisol in saliva. Collaboration within the network has resulted in an e-book, which is under progress, and to be published during 2010.

Project 5: Management control systems and stress: interdisciplinary field experiments

Participants: Ingrid Anderzén, Lars Frimanson

Management control systems (MCS) in organizations have become more complex. They measure performance on more objects, with new and more measurements, they provide information more frequent and quicker, and they are used at lower levels in organizations. But we do not know how these complex MCS influence the human body. Do they improve health, well-being and performance in organizations? Or do they make people develop insomnia, stress and other unhealthy outcomes that are economically and socially costly?
Research in social medicine has shown a clear association between psychosocial factors in the organization, stress, and performance. This interdisciplinary research program combines two fields of knowledge; social medicine and MCS. The purpose is to examine and explain how MCS design affects psychosocial factors in the organization, stress, and performance. This is important because MCS are used for planning and evaluation in organizations. MCS can thus be expected to influence the psychosocial factors in organization that are associated with negative stress reactions, work-related health, and performance outcomes.

Project 6: “NySatsa Haninge” – 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, Anna Liljestam Hurtigh

The project ”NySatsa Haninge” has the overall aim to support individuals to return to working life through individual guidance. Fifty 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 started in July 2008. So far we have results from the follow up after 6 months showing that 60% of the participants have returned to working life. The study shows that’s long term sick absence due to diffuse and subjective health problems is not a permanent condition even in participants with substantial work absences periods. A cognitive approach to make individuals self participate and develop a rehabilitation plan seems to be an effective method if combined with close interaction with other rehabilitation agents. The results in this study also support the idea that return to work is an important contributor to a better self-perceived and mental health for people who have been outside the labor market for a long time. The project will finally be evaluated in August year 2010.

Project 7: “SAMKLANG”: In Cooperation – Acceptance, motivation and return to work among long-term sick listed.

Participants: Ingrid Anderzén, Anna Liljestam Hurtigh, Anna Finnes, Annica Åbring, Anna Thunell

The project “SAMKLANG” is founded by The European Social Fund (ESF) and the project is in cooperation with The Swedish Social Insurance Administration, The Swedish Public Employment Service and The Study Promotion Association. The aim of the project is to support individuals to return to working life. Sixty participants on long term sick leave have been treated with Acceptance and commitment therapy (ACT) by a Psychologist during three months. A reference group of 25 participants are followed during the same time. The project will finally be evaluated in January 2011.

Project 8: “NySatsa 2” – A project to support individual’s on long term sick leave to return to working life through individual development and guidance.

Participants: Ingrid Anderzén, Per Lytsy, Anna Lögren and Annica Åbring

The project ”NySatsa 2” has the overall aim to support individuals to return to working life through both group and individual guidance. Fifty participants on long term sick leave have been given the opportunity to personal development and training through both individual and group therapy. 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. After six months the results showed that 62% of the participants had return to work or were in work related activities. The collaboration with employees from The Swedish Social Insurance Administration and The Swedish Public Employment Service was a supporting factor.

**Project 9: Low impact stress among first responders. Implications for Health and Performance**

**Participants:** Bengt B Arnetz, Sarah Thomsen, Dana Nevedal, Matt Ventimiglia

Low impact stress among first responders (first line employees within the military, coast guard, customs control, and the police) are at increased 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 were used to develop a First Responder specific epidemiological survey. It will be distributed to a representative sample of Sweden’s First Responders in 2010. This unique epidemiological survey will collect representative prevalence data on specific low and high impact stressors, their relationships to health and performance and effective means to increase stressor resiliency. The research is done in close collaboration with Kungafonden (“The Swedish Royal Foundation”), and senior management and unions representing all of Sweden’s major First Responders professions, including the police, defence, coast guard, and customs.

**Project 10: Real-time assess of psychophysiological stress responses**

**Participants:** Bengt b Arnetz, Clairy Wiholm, Mark Lumley, Weisong Shi

Despite epidemiological research linking psychosocial stress to cardiovascular disease and other stress-related disorders, we still lack convincing evidence about the biological mechanisms linking stress to cardiovascular disease. In a collaborative study between researchers at Uppsala University and Wayne State University, we have developed a prototype of a wireless heart rate sensor and Smartphone system that allows for the immediate transmission of heart rate data to a central server. The central server is programmed to send text messages to the phone when the heart rate deviates from a normal average. Text messages concerns stress and related questions of interest to identify possible reasons for the heart rate response. The pilot study will be critical for the design of a system at will subsequently be used to trace cardiovascular and emotional responses in inner-city inhabitants as well as female managers: a high-risk group for stress-related disorders.

**Project 11: The involved patient: implications for treatment outcome and secondary prevention of myocardial infarction.**

**Group 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.
Sociomedical epidemiology
Research Group Leader Ragnar Westerling, Professor

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 2009
Ragnar Westerling, Professor
Annika Åhs, Dr. Med Sci, Researcher.
Marcus Westin, Med Dr, Research physician
Stefan Kunkel, Dr. Med. Sci.
Marianne Hanning, Dr Med Sci
Peter Berg, Doctoral Student, Research physician
Per Lytsy, Doctoral Student, Research physician
Ulrika Paulsson, Doctoral student
Lars-Age Johansson, Dr. Med. Sci
Achraf Daryani, Dr. Med. Sci. Researcher
Mikael Skärlund, Research assistant
Susanne Sundell Lecerof, Research engineer, collaboration with Lunds University

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2. Berg P, Westerling R. A decrease in both mild and severe bicycle related head injuries in 
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3. Westin M, Westerling R. Social capital and inequality in health between single and couple 

2007;67(1-2):143-50

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Public Health and Caring Sciences, Social Medicine, Uppsala University (Submitted)

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University, Uppsala 2007. (submitted)

10. Kunkel S. Quality Management in Hospital Departments : Empirical Studies of 
Organisational 
Models.Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of 
Medicine, 2008:309

11. 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, 

12. Johansson LA. Targeting Non-obvious Errors in Death Certificates Digital Comprehensive 
Summaries of Uppsala Dissertations from the Faculty of Medicine 2008:305

13. Westerling R. Socialmedicinskt redaktörskap i tiden. (In Swedish;Timely Sociomedical  

Nationella medicinska indikationer. Nyckeln till evidensbaserad, rättvis och tillgänglig vård
(In Swedish; National medical indications. The key to evidence-based, just and accessible
care) Läkartidningen. 2008 Feb 6-12;105(6):363-6

15. Hernes E, Johansson LA, Fosså SD, Pedersen AG, Glattre E. High prostate cancer mortality

Swedish; Fatigue syndrome--a diagnosis with scientific shortages). Lakartidningen. 2008

17. Lytsy P, Burell G, Westerling R. Views on treatment necessity, harm and benefit in a statin

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Akademiiska sjukhuset. Institutionen för folkhälso- och vårdvetenskap, Uppsala Universitet.


27. Lytsy P, Burell G, Westerling R. How do prescribing physicians anticipate the effect of
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28. Westerling R. Socialmedicin som medicinsk specialitet. Socialmedicinsk tidskrift
29. Westerling R. Samarbete i Europa - specialiteten i socialmedicin gäller i hela EU
33. Lytsy P, Berglund L, Sundström J. A Proposal for an Additional Clinical Trial Outcome Measure Assessing Preventive Effect as Delay of Events. (Submitted)
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**Dissertations 2007-2009**


**Agencies that support the work/Funding 2007-2009**

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


Avoidable mortality in the European Union: towards better indicators for the effectiveness of health systems (European partnership;our part). European Union: Programme for community action in the field of Public Health 1150 tkr, 2008-2011

Project 1: Health and health care utilization among the unemployed
Annika Åhs, Gunilla Burell, Mikael Skärlund, 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 recent study we have found that the unemployed experience 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. Presently we are analysing the social and health related factors that may predict the chances that the unemployed will be employed one year after the unemployment period started.

Project 2: Health and health care utilization among lone parent families
Marcus Westin, Claes Sundelin, Ragnar Westerling

We have studied 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. In the project we also analyse 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. Presently, the social and health related situation of the families is followed up in a longitudinal study.

Project 3: Bicycle helmet use among school-children
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 has 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. We have 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.

**Project 4: Quality systems in hospital departments**

**Stefan Kunkel, Urban Rosenqvist, Ragnar Westerling**

In a recent thesis 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.

**Project 5: Targeting non-obvious errors in cause of death statistics**

**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, a 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.
Project 6: Patients and physicians expectations on lipid-lowering drugs
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 statins 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. In an ongoing study the health related habits of statin users compared to non-statin users are analysed.

The study is part of a doctoral project for Per Lytsy. In a recent study the physicians expectations and attitudes towards statin treatment has also been analysed showing some gender differences in the prescription habits among physicians. 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.

Project 7: Studies of Avoidable mortality and diffusion of innovations
Ragnar Westerling, Marcus Westin

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.

Our research group is one of the partners of a European research initiative aiming at further developing the method. (Main partner is professor Mackenbach's group at the Department of Public Health at Erasmus University in Rotterdam). Several European countries such as Estonia, France, Germany, The Netherlands, Spain, Sweden, and the United Kingdom, are represented in the project group. The project includes a systematic review of the literature to assess the extent to which different causes of death can now, in the light of available evidence, be considered avoidable, in order to update a set of avoidable mortality-based indicators of the effectiveness of health systems which can be used in surveillance systems. The project also include trend analyses as well as analyses of the timing of introduction of innovations, i.e. whether these coincides with measurable declines in deaths from the corresponding causes. Furthermore the potential influence of changes and variations in cause of death classification rules will be assessed.
Project 8: Health promoting information among immigrants to Sweden
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 Refuge Fund. In the longitudinal study, Ragnar Westerling is jointly supervising research engineer Susanne Sundell Lecerof.

Furthermore, a project has started in Uppsala, in which information about health issues and the Swedish health care is developed for study groups among immigrants in Uppsala. This project is supported by The Public Health Fund in Uppsala.

Project 9: Unhealthy life habits and vulnerability among school-children
Ulrika Paulsson, Birgitta Edlund, Ragnar Westerling

The objective of this project is to study factors that influence health behaviours in general among schoolchildren. We analyse the associations between different health related behaviours, socio-demographic factors and psychosocial vulnerability. Health related behaviours included in the study are alcohol habits, smoking, exercise and food habits. Furthermore, we analyse the influence of health information in school on these different factors.

The study is based on two questionnaires to school children in school classes 7-9. The first is the survey Life and Health conducted by the county of Uppsala. This material includes data from about 10 000 pupils in 2007. The second is a questionnaire developed for this project and directed to a strategic sample of schools in Sweden. Structural equation models is used in order to analyse the relation between sociodemographic factors, psychosocial vulnerability factors, health behaviours in general as well as specific health related behaviours. The studies will be included in a doctoral thesis by Ulrika Paulsson.